

On the Universality of Intrusive Resumption: Evidence from Chamorro and Palauan

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Abstract

The literature on resumptive pronouns (RPs) has given rise to a rich taxonomy of the phenomenon. Despite the fact that RPs invariably have the morphosyntactic form of ordinary pronouns, they vary widely in distribution and function. In some languages RPs are grammatically licensed; depending on the language and the syntactic context, they might or might not realize traces, compete with gaps, exhibit reconstruction effects, and so on. In other languages, notably English, RPs are ‘intrusive’ (Sells, 1984). Kroch (1981), Asudeh (2004), Morgan and Wagers (2018), and others have proposed that intrusive RPs in English are ungrammatical products of the performance system -- productions that satisfy local well-formedness but not global well-formedness. This account predicts that in every language, regardless of whether it has grammatically licensed RPs, intrusive RPs could also be found. Here we test this prediction against evidence from Chamorro and Palauan. Previous accounts have maintained that Chamorro does not have RPs and Palauan has only RPs. On the basis of corpus and elicited production data from Chamorro, and a re-examination of the Palauan evidence, we argue that both languages have grammatically licensed RPs, as well as intrusive RPs. Their grammatically licensed RPs differ in form and distribution. At least in Chamorro, the distribution of intrusive RPs produced is similar to that in English.

Keywords: resumptive pronouns, Chamorro, Palauan, elicited production

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1. Introduction

The literature on resumptive pronouns (RPs) has given rise to a rich taxonomy of the phenomenon. RPs invariably have the morphosyntactic form of ordinary pronouns in the language (McCloskey 2002, 2006). Despite this, they vary widely in distribution and function. According to Sells (1984), RPs in some languages, notably English, are *intrusive*, but RPs in other languages are grammatically licensed (bound by an A-bar operator). Depending on the language and the syntactic context, these grammatically licensed RPs might or might not realize traces (e.g. Engdahl 1982 on Swedish, Koopman 1982 on Vata, McCloskey 1990 on Irish), compete with gaps (e.g. Sichel 2014, 2018 on Hebrew), exhibit reconstruction effects (e.g. Aoun, Choueri, and Hornstein 2001 on Lebanese Arabic), exhibit weak crossover effects (e.g. Hendrick 2005 on Tongan), and so on.

An idea with a long history is that intrusive RPs are ungrammatical products of the performance system (Kroch 1981, Erteschik-Shir 1992, McCloskey 2017b, Morgan and Wagers 2018; see Goodall 2017 for a different view). One particular version of this idea, which we subscribe to, is that sentences that contain intrusive RPs are productions that satisfy local well-formedness but not global well-formedness, in the sense of Asudeh (2004, 2012) (cf. Tyler and Warren 1987). A more general version of the idea is that speakers sometimes use sentences that the grammar provides no legal derivation for. And indeed, there is a persistently observed disconnect between individual speakers' introspective judgments about the grammaticality of sentences that contain intrusive RPs and their seemingly commonplace occurrence. Suppose we take this disconnect seriously and assume that, whatever aspects of real-time language processing are responsible for it—for example, differential demands on memory systems (Wagers 2013, Chacón 2019)—those aspects do not vary across languages. Then we would expect the grammars of individual languages to differ in whether, and in what contexts, they have grammatically licensed RPs, but we would not expect a dichotomy between “true RP languages” versus “intrusive RP languages.” Instead, we would expect intrusive RPs to be found in the productions of every language.

Here we test this prediction against evidence from Chamorro and Palauan, two Austronesian languages of Micronesia whose closest relatives within the Western Malayo-Polynesian subfamily are unknown. Chamorro and Palauan are head-initial, verb-first languages with null and overt pronouns. Both languages have A-bar dependencies with the hallmarks of wh-movement. These dependencies are sensitive to certain islands, exhibit strong crossover effects, and are flagged morphosyntactically by wh-agreement (Chung and Georgopoulos 1988). Previous work has placed these languages on opposite ends of the spectrum as far as RPs are concerned. Chung (1998) maintains that Chamorro has no RPs, whereas Georgopoulos (1985; 1991, Chap. 3) maintains Palauan has *only* RPs, meaning that its A-bar dependencies are not created by wh-movement but rather involve syntactic variable binding of a base-generated (null or overt) RP by a base-generated A-bar operator. On the basis of new Chamorro evidence and a re-examination of Georgopoulos' Palauan evidence, we contend that both languages have grammatically licensed RPs as well as intrusive RPs.

In section 2, we first review the evidence that some RPs are intrusive. We then survey the A-bar dependencies of Chamorro and Palauan and the evidence that they are created by wh-movement. Next, zooming in, we show that Chamorro grammar licenses (null) RPs in exactly one syntactic context: as the realization of traces of wh-movement of the possessor (Section 3). Then we examine data from an elicited production experiment we conducted in 2014 in the U.S. Commonwealth of the Northern Mariana Islands (CNMI), and corpus data from the Chamorro New Testament (NT) (Section 4). These types of production evidence reveal that over and above its grammatically licensed RPs, Chamorro has intrusive RPs—RPs that are overt or null, produced far less frequently than grammatically licensed RPs but in a wider range of syntactic contexts, and highly similar in their distributional profile to intrusive RPs in English. Finally, turning to Palauan (Section 5), we propose a reanalysis of its A-bar dependencies that splits them into two types. One type of dependency is created by wh-movement and leaves traces, which are spelled out as overt RPs in exactly one syntactic context: when the trace is in the oblique case. The other type of dependency involves intrusive RPs—null or overt RPs inside islands and other contexts traditionally associated with intrusive resumption. Our reanalysis of Palauan RPs, which is based exclusively on

Georgopoulos’s data, is intended as a proof of concept and cannot conclusively settle the status of these RPs. Nonetheless, we show that our proposal has slightly greater empirical coverage than her account. It therefore challenges the exceptionality of Palauan as an “RP-only” language.

What emerges from the investigation is that Chamorro and Palauan are languages in which RPs arise in two ways, via grammatical licensing or—separately—as intrusive productions. We speculate about the larger significance of this result in the conclusion (Section 6).

2. Basics

2.1. Resumptive Pronouns

The distinction between grammatically licensed RPs and intrusive RPs goes back to Sells (1984). For him, ‘true’ RPs are base-generated pronouns that are syntactically bound by an A-bar operator. These grammatically licensed RPs, he claims, occur in some languages (e.g. Swedish, Hebrew, and Irish) but not others (e.g. English). Although Sells does not discuss this, grammatically licensed RPs can also arise in a different way, as the morphological realization of traces of wh-movement. Grammatically licensed RPs of this second type pattern like wh-traces for the purposes of island constraints and other constraints on movement (see e.g. Koopman 1982: 368 on Vata). According to Georgopoulos’s analysis, Palauan’s grammatically licensed RPs should be classified as ‘true’ RPs in Sells’ sense (but see Section 5). The grammatically licensed RPs we discuss in Chamorro are realizations of wh-traces.

The study of intrusive RPs was initiated by Ross (1967) and Prince (1990). Ross (1967: 432-434) observed that in “a dialect of English”, relative clauses that contain an RP rather than a gap are grammatical and can violate island constraints. Prince, who characterized intrusive RPs in English as “officially ungrammatical...but...in fact not uncommon in speech” (1990: 482), documented a number of their properties in relative clauses. Her study, which drew on corpus data collected by Anthony Kroch from various sources, “from casual conversation to classroom discourse to radio and TV newscasts to the New Testament” (Prince 1990: 487), gave a semantic-pragmatic account of intrusive RPs in some relative clauses and attributed RPs in the others to “extralinguistic reasons—memory lapse, distraction—whatever reasons lead to disfluency in simple sentences” (1990: 494). Asudeh (2012) refers to intrusive RPs as “processor resumptives,” a term which highlights the idea that they can occur in expressions without being generated by any grammatical derivation. He further suggests that processor resumptives “are an instance of a processing strategy that is generally available cross-linguistically: a resumptive element, typically but not necessarily a pronoun, is inserted where a gap would lead to ungrammaticality or processing difficulty” (Asudeh 2012: 41).

Within both of these general classes—grammatically licensed RPs and intrusive RPs—finer distinctions are necessary (cf. Sichel 2014), but the key idea underlying the notion of an intrusive RP is the same: sometimes speakers produce RPs to preserve local well-formedness (Asudeh 2012, Morgan and Wagers 2018, Chacón 2019), but the productions are themselves ungrammatical.

We can find a closely related but distinct view expressed by Shlonsky (1992), who describes “last resort” RPs as those that rescue an “otherwise ungrammatical derivation” (1992: 443). RPs in Hebrew and Northern Palestinian Arabic have this character, but nonetheless, according to Shlonsky, they are inserted via language-specific rules—the language has to allow pronouns to function resumptively in the first place. Safir (1986) gives an English example (*the guy who we wondered whether *(he) was sane*) in which the version with a gap would be ungrammatical, and the insertion of the RP rescues the derivation.

However, the idea that intrusive RPs serve to rescue otherwise ungrammatical derivations has been challenging to validate using acceptability judgments. Generally speaking, sentences containing RPs receive low acceptability ratings, even if the RP appears in a context that supports intrusion/rescue. Alexopoulou and Keller (2007) used magnitude estimation to establish the acceptability of RPs across a variety of structures in English, German, and Greek. They found that sentences containing RPs were never more acceptable than variants containing gaps. Many researchers have validated or extended their

findings (e.g. Heestand, Xiang, and Polinsky 2011; cf. Ackerman, Frazier, and Yoshida 2018). Han et al. (2012) found that, at least for some island violations, gap-containing sentences are rated lower than RP-containing ones (specifically, for subject positions inside islands, i.e. classical ECP-violation configurations)—but no studies have found that sentences ‘rescued’ by RPs receive ratings characteristic of grammatical sentences.

While it has proved consistently challenging to get comprehenders to judge sentences with a (non-obligatory) RP as acceptable, it has proved consistently easy to get producers to utter, or write, sentences with an RP—either when they would otherwise have to produce an island violation (Ferreira and Swets 2005) or in situations of production complexity, such as long dependencies (Morgan and Wagers 2018). Generally speaking, filler-gap dependences require the processor to encode, maintain, and periodically re-access the filler while simultaneously coordinating other parts of the utterance (Wagers 2013, Chacón 2019). If, during production, the processor loses the ability to re-access the filler or, indeed, ‘forgets’ that there even is one, then instead of producing a licit structure hosting a gap, they will produce something else—a production which, by hypothesis, will not flout local selectional restrictions. This provides a convenient view of why speakers sometimes produce RPs that are not generated by the grammar (Asudeh 2012).

Whether or not one adopts the specifics of this view, the claim that intrusive RPs are extragrammatical makes the strong prediction that they should be possible in every language. This prediction is consistent with several recent studies that have shown that the same complexity factors that promote the production of intrusive RPs in languages like English, which putatively has only intrusive resumption, are at work in languages with grammatically licensed RPs, like Hebrew or Irish. For example, Fadlon et al. (2019) found that Hebrew speakers produced RPs in direct object position, where RPs are optional, at a considerably higher rate in contexts that would render a relativized argument less accessible in memory (cf. Ariel 1999). In their experiments, such contexts included nonrestrictive relative clauses or relative clauses in which multiple NPs share semantic features. And surprisingly, even in Hebrew, such optional RPs are rated lower than their gap counterparts (Meltzer-Asscher, Fadlon, Goldstein, and Holan 2015). McCloskey (2017b) arrived at a comparable result for direct object RPs in Irish, which have been considered optional. His corpus analysis shows that direct object RPs occur very infrequently in Irish; moreover, in almost all of these infrequent occurrences, the direct object RP is linked to an animate filler, a context that is well known to be difficult to process (Gennari, Mirković, and MacDonald 2012). Finally, Hladnik (2015) shows that some types of RPs in Slovene are obligatorily conditioned by the syntactic environment. But, in a coordinated corpus and acceptability study, he identifies a distinct class of optional RPs that show the hallmarks of intrusive resumption.

These results, while far from conclusive, begin to suggest a consistent broader picture. We claim that all languages, including languages which have grammatically licensed RPs, may also have intrusive RPs. These intrusive RPs are produced either when a grammatically licensed continuation is impossible, or when a grammatically licensed continuation is possible, but the complexity of the expression leads the producer to lose track of the filler in a filler-gap dependency (Asudeh 2012, Chacón 2019). Expressions containing intrusive RPs will be relatively infrequent, often judged unacceptable, and not necessarily accurately interpreted by the comprehender.¹ The current investigation contributes to this line of inquiry by adding to the evidence that languages with grammatically licensed RPs can also have intrusive RPs.

¹ Our discussion proceeds from the assumption that productions that are consistently judged by speakers to be degraded or ungrammatical, such as sentences containing intrusive RPs, are not generated by the grammar. Other initial assumptions are conceivable. For instance, one could assume that the grammar generates sentences containing intrusive RPs, but identifies them as highly marked. Proceeding from that alternative starting point, our claim would be that all languages have RPs that are routinely produced (and, by assumption, generated by the grammar) but not validated by speakers’ introspective judgments of grammaticality.

It is sometimes claimed that intrusive RPs can facilitate comprehension (Hofmeister and Norcliffe 2013). However, there is no clear evidence that intrusive RPs are routinely interpreted as bound by the

2.2. Chamorro and Palauan

2.2.1. Morphosyntactic Profile

Chamorro and Palauan are languages spoken in the Western Pacific. Palauan is one of the official languages of the Republic of Palau; Chamorro is one of the official languages of the U.S. Commonwealth of the Northern Mariana Islands (CNMI) and the unincorporated U.S. territory of Guam. Both are Austronesian languages and usually classified as members of the Western Malayo-Polynesian subfamily (which consists of some 500-600 languages; see Blust 2013: 31). However, they are isolates within that subfamily, so they are not particularly closely related to other Western Malayo-Polynesian languages or to each other. This subsection gives thumbnail sketches of their morphosyntax. For more detail, see e.g. Topping 1973, Chung 1998, and Chung 2020 on Chamorro, and Josephs 1975, Georgopoulos 1991, and Nuger 2016 on Palauan.

Chamorro is a head-initial language that allows predicates of all major category types. When the predicate is a verb, the default word order is VSO, but the order of arguments after the verb is flexible.² DPs are inflected for unmarked, oblique, or local case. The language has a small inventory of determiners and prepositions. Verbs agree in person and/or number with the subject; this subject-verb agreement (in bold in (1)) also encodes mood and transitivity, and is realized as a prefix, infix, or proclitic. Nouns agree in person and number with the possessor; this possessor-noun agreement (underlined in (1)) is realized as a suffix.³

- (1) *Chamorro clause*
Hu hunguk bingbing gi talanga-hu.
AGR *hear* sound LCL *ear-AGR*
'I hear a sound in my ear.' (CD, entry for *bingbing*)

filler, and some recent research indicates they are often *wrongly* interpreted (Morgan et al. 2018). We further emphasize that there is language processing evidence that speakers treat (obligatory) grammatically-licensed RPs differently from intrusive RPs. For instance, Hebrew comprehenders actively predict RPs inside island domains when there is an A-bar operator (Keshev and Meltzer-Asscher 2017), but English speakers do not (Chacón 2015, 2019).

² Predicates that are adjectives pattern like verbs for the purposes of word order and agreement, so we use the term *verb* to refer to both in the text.

³ The examples cited are from published works, the unedited database for the *Revised Chamorro-English dictionary* (abbreviated CD), *Nuebu Testamento* (the Chamorro New Testament, abbreviated NT), or—if not attributed to any source—from our Chamorro fieldwork. The following abbreviations are used in the morpheme-by-morpheme glosses. For Chamorro: AGR = agreement, AP = antipassive, COMP = complementizer, EMP = emphatic, FUT = future, L = linker, LCL = local case, NM = unmarked case, OBL = oblique case, PASS = passive, PL = plural, PROG = progressive, Q = question, WH[OBJ] = object wh-agreement, WH[OBL] = oblique wh-agreement, WH[SBJ] = subject wh-agreement. For Palauan: COMP = complementizer, FUT = future, IM = imperfective, IR = irrealis, L = linker, NEG = negative, P = preposition/oblique case, PF = perfective, R = realis, RECIP = reciprocal, as well as 3S = third singular, 1P = first plural, etc. (for other persons and numbers). Palauan inflectional morphology is so complex that we did not try to develop a uniform set of glossing conventions for the two languages. Instead, we reproduce Georgopoulos' (1985, 1991) morpheme-by-morpheme glosses for the Palauan examples, with adjustments in the glosses of a handful of examples for uniformity. Readers should note that orthographic *y* in Chamorro is a voiced alveolar affricate; orthographic *ch* in Palauan is glottal stop.

Palauan is a head-initial language in which predicates can be verbal or nominal. When the predicate is a verb, the word order of the clause is VOS (Georgopoulos 1991, Nuger 2016). Nonpronominal DPs begin with *a* (unglossed in the examples) or with a demonstrative. Palauan is sometimes described as having no case marking and just one preposition, *er* (Georgopoulos 1985, 1991). Just as plausibly, one could describe the language as having no prepositions, but a radically reduced case system with just one overt case marker, the oblique marker *er* (cf. Nuger 2016).⁴ Verbs agree in person and number with the subject; this subject-verb agreement (in bold in (2)) also encodes mood, and is analyzed by Georgopoulos as a prefix. In the perfective aspect, transitive verbs also agree with a direct object that is human or definite singular; this object-verb agreement (underlined in (2)) is realized as a suffix.

- (2) *Palauan clause*
Te-chillebed-ii a bilis a rengalek.
 R.3P-PF.hit-3S dog children
 ‘The kids hit the dog.’ (Georgopoulos 1991: 30, (15a))

Both languages have null pronouns as well as overt pronouns, and regulate the distribution of these types of pronouns in similar ways. There are two basic generalizations. First, Chamorro pronouns that are objects of prepositions must be overt; the same is true of Palauan pronouns marked with *er* (which, depending on the analysis, are either objects of prepositions or else DPs in the oblique case). Second, pronouns that control agreement in person must be null (Georgopoulos 1991: 26, 30-31, 43-44, 52-54, Chung 1998: 30-31). In Chamorro, some types of agreement involve person and number, and others involve number alone. Subjects of transitive verbs, subjects of irrealis verbs, and possessors control person-and-number agreement, so pronouns occupying these positions must be null. In Palauan, all agreement involves person and number. Subjects, direct objects in the perfective aspect, and possessors control agreement, so pronouns occupying these positions must be null.⁵ (Null pronouns are not represented in the language material in the examples, except that null RPs—like other null gaps—are represented by an underscore.)

- (3) a. *Chamorro possessor pronoun*
 Agupa’ i kumplihaños-ña (*guiya).
 tomorrow the birthday-AGR s/he
 ‘Tomorrow is his birthday.’ (Chung 1998: 31, (21b))
- b. *Palauan subject pronoun*
 Ng-chillebed-ii a bilis (*ngii).
 R.3S-PF.hit-3S dog s/he
 ‘S/he hit the dog.’ (Georgopoulos 1991: 26, (7c))

⁴ Nuger (2016) analyzes *er* as a case marker when it introduces direct objects or possessors, and as a preposition otherwise. He shows that the *er* that introduces direct objects is a differential object marker that contrasts with the preposition *er* along various dimensions (Nuger 2016: 104-124). We will propose later that *er* in all its functions is a case marker, not a preposition. For us, the contrasts uncovered by Nuger reveal that this case marker patterns differently when it marks direct objects than when it marks locatives, goals, and other oblique DPs. Josephs (1975: 26, 39, 276-298) identifies *er* as a ‘relational word’, a term consistent with a preposition analysis or a case marker analysis.

⁵ Two details concerning possessor agreement: (a) In Chamorro, a possessor that is a pronoun must control agreement on the possessed noun; see section 3.1. (b) In Palauan, certain nouns—primarily borrowed words and words describing parts of the natural environment—realize their possessors as DPs introduced by *er*; these possessors do not control agreement (Josephs 1975: 69-70).

Over and above this, Chamorro has a third requirement: inanimate pronouns that are not reflexive must be null. Palauan has no similar requirement; its inanimate singular pronouns can be null or overt. The fact that the distribution of null versus overt pronouns is regulated to this extent will become important later.

2.2.2. Evidence for Wh-Movement

The A-bar dependencies of Chamorro and Palauan have been discussed extensively (see e.g. Chung 1982, 1998 and Georgopoulos 1985, 1991). They occur in constituent questions, relative clauses, and focus constructions in Chamorro, and in various Palauan constructions analyzed by Georgopoulos (1991) as involving relative clauses. As noted earlier, these dependencies satisfy many of the classic diagnostics for wh-movement—that is, for A-bar movement in constituent questions, relative clauses, focus constructions, and similar dependencies (see Chomsky 1977 and many subsequent works). We illustrate this here for constituent questions in Chamorro and relative clauses in Palauan.

To begin with, the dependency in these constructions holds between a displaced constituent, or *filler*, and the position from which it is displaced, which we refer to pretheoretically as a *gap*. Consider the following examples, in which the filler and gap are coindexed, the filler is underscored if it is overt, and the gap is represented by an underscore if it is null. In the Chamorro embedded question in (4), the filler is the interrogative phrase *kuantu más na táotao* ‘how many more people’ and the gap is the subject of the verb *hunguk* ‘hear’.

- (4) *Chamorro constituent question*
 Ti hu tungu’ [kuantu _____ más na táotao; h<um>unguk _____].
not AGR know how.many? more L person <WH[SBJ]>hear
 ‘I don’t know how many more people have heard it.’

In the Palauan relative clause in (5a), the filler is the head NP *chad* ‘man’ and the gap is the subject of the verb *omechar* ‘buy’. Palauan also has null-headed relative clauses—relative clauses in which the filler is a null NP that can be translated ‘one, thing’. In the null-headed relative clause in (5b), the gap is the direct object of the verb *meleseb* ‘burn’. (Null-headed relative clauses do not have an overt complementizer. In the null-headed relative clauses in the examples, the gap is annotated with an index but the filler is not represented.)

- (5) a. *Palauan relative clause*
 a chad_i [el milcher-ar tia el buk _____]
man COMP R.PF.buy-3S that book
 ‘the person that bought that book’ (Georgopoulos 1991: 63, (2a))
- b. *Palauan null-headed relative clause*
 a [le-silseb-ii _____ a sechel-ik]
IR.3-PF.burn-3S friend-1S
 ‘the (thing) which my friend burned down’ (Georgopoulos 1991: 73, (27b))

Second, a potentially unbounded distance can separate the filler from the gap. This is illustrated for Chamorro by the constituent question in (6), and for Palauan by the relative clause in (7).

- (6) *Chamorro constituent question*
 Háyi_i s<in>anganen-ña si Juan [malago’-ña [para u bisita _____]]?
who? <WH[OBJ]>tell-AGR NM John WH[OBL].want-AGR FUT AGR visit
 ‘Who did Juan tell (us) that he wants that he might visit?’ (Chung 1998: 211, (8a))

- (7) *Palauan relative clause*

a bung_i [el l-ulemdasu a del-ak [el l-omekeroul _i a Mary
flower COMP IR.3-*think* *mother-1S* COMP IR.3-IM.*grow* *Mary*
 er a sers-el]]
 P *garden-3s*
 ‘the flowers that my mother thought Mary was growing in her garden’ (Georgopoulos 1991: 91, (52))

Third, the dependency between filler and gap is sensitive to islands. In Chamorro, these islands include embedded questions and relative clauses (Chung 1998: 208-219)—both ordinary relative clauses and so-called existential relative clauses, which modify the pivot of an existential sentence and have special complementizer forms (Chung 1987). (8) illustrates that the gap cannot be inside one of these islands when the filler lies outside. (Like Palauan, Chamorro has null-headed relative clauses. The existential relative clause in (8c) has a null head.)

(8) Chamorro islands

a. *Embedded question*

*Hâfa_i ti un tungu’ [hâyi para u tinaitai _i]?
what? not AGR *know* *who?* FUT AGR PASS.*read*
 (‘What don’t you know [who is going to read _]?’)

b. *Relative clause*

*Hâfa_i un nisisita [palão’an [ni siña ha sugun _i]]
what? AGR *need* *woman* COMP *can* AGR *drive*
 (‘What do you need [a woman who can drive _]?’)

c. *Existential relative clause*

*Hâyi_i guaha [<mu>na’nalâlu’ _i]?
who? AGR.*exist* <WH[SBJ]>*make.angry*
 (‘Who is there [(someone) who angered _]?’)

In Palauan, the relevant islands include adjunct clauses and coordinate structures (Georgopoulos 1991: 107-108, 115-117; see Section 5 on the status of relative clauses). The null-headed relative clauses in (9) show that the gap cannot be inside one of these islands when the null NP filler lies outside.⁶

(9) Palauan islands

a. *Adjunct clause*

*Ng-nger a [chomurael er a party [le uchul rebek el chad a meruul _i]]
 R.3S-*what* IR.2.*left* P *party* *because* *every* L *man* R.*do*
 (‘What was (the thing) which you left the party [because everyone was doing _]?’)
 (Georgopoulos 1991: 117, (25d))

b. *Coordinate structure*

*A del-ak a uleker er ngak el kmo ng-nger [[a sensei a milsk-ak
mother-1S R.IM.*ask* P *me* COMP R.3S-*what* *teacher* R.PF.*give-1S*

⁶ Following Georgopoulos (1991: 69-75), we take constituent questions in Palauan to be clefts in which the predicate is an interrogative phrase and the subject is a null-headed relative clause. The free translations of Georgopoulos’ examples of questions have been augmented to make the presence of the null-headed relative clause more transparent in English.

a buk] me [a rubak a ulter-ur _i er ngak]].
book and old.man R.PF.sell-3S P me
 ('My mother asked me what was (the thing) which [the teacher gave me a book] and [the old man sold _ to me].') (Georgopoulos 1991: 107, (7))

Fourth, the dependency exhibits strong crossover effects. In both languages, a gap can be coindexed with a pronoun that it c-commands, but the reverse is not possible: a gap cannot be coindexed with a pronoun that c-commands it. In (10a) and (11a), the gap is the matrix subject and the coindexed pronoun is inside the embedded clause; in the ungrammatical (10b) and (11b), the gap is inside the embedded clause and the coindexed pronoun is the matrix subject. (The gap in (11b) is realized as an RP; see section 5. Evidence that the gap in this example is in the embedded clause as opposed to the matrix clause is provided by wh-agreement; see the discussion below.)

(10) Strong crossover in Chamorro

a. *Matrix subj gap coindexed with embedded (null) subj pronoun*

Hây_i s<um>angâni _i hao [na linalât_i (gui'_i) as nanâ-ña]?
who? <WH[SBJ]>tell you COMP AGR.PASS.scold he OBL mother-AGR
 'Who_i told you that he_i was scolded by his_i mother?'

b. *Embedded subj gap coindexed with matrix null subject pronoun*

*Hây_i s<in>anganen-ña **pro_i** nu hâgu [na linalât_i _i as nanâ-ña]?
who? <WH[OBJ]>tell-AGR OBL you COMP AGR.PASS.scold OBL mother-AGR
 ('Who_i did he_i tell you was scolded by his_i mother?')

(11) Strong crossover in Palauan

a. *Matrix subj gap coindexed with embedded obj pronoun*

Ng-techa_i a [omdasu [el kmo ak-mengull er ngii_i] _i]?
R.3S-who R.think COMP R.1S-respect P 3S
 'Who_i is the one who thinks that I respect her_i? (Georgopoulos 1991: 192, (26b))

b. *Embedded obj gap (RP) coindexed with matrix null subject pronoun*

*Ng-techa_i a [l-omdasu [el kmo ak-mengull er ngii_i] **pro_i**]?
R.3S-who IR.3-think COMP R.1S-respect P 3S
 ('Who_i is the one who she_i thinks I respect?') (Georgopoulos 1991: 192, (25b))

Taken together, these diagnostics make a good case that Chamorro constituent questions and Palauan relative clauses are created by wh-movement.⁷

Over and above this, the two languages have special morphological agreement that signals the presence of a gap created by wh-movement. This agreement, which is known as wh-agreement, will play a key role in the discussion below. It is realized on the verb, preempts the normal subject-verb agreement, and registers the grammatical relation (Case) of the gap (Chung 1982, 1991a, 1994, 1998, Georgopoulos 1985, 1991, Chung and Georgopoulos 1988, Baier ms.).

In Chamorro, wh-agreement employs morphology otherwise found in various nonfinite forms to register whether the gap is a subject, direct object, or oblique (Chung 1994). When the gap is the subject of a realis transitive verb, wh-agreement is realized as the infix *-um-*, which is also found in transitive

⁷ Other diagnostics for wh-movement are either absent or underdocumented. Neither Chamorro nor Palauan has weak crossover effects (Chung 1989: 162, note 9, Georgopoulos 1991: 197-198). Chamorro has no parasitic gaps, and the Palauan items identified as parasitic gaps by Georgopoulos (1991: 111-114) could conceivably be ordinary (null or overt) pronouns. Although Chamorro has reconstruction effects, these have not been documented well enough to be discussed here.

infinitives. (Note that this overt realization of subject wh-agreement is obligatory in questions and the focus construction, but optional in relative clauses.) When the gap is the direct object of a transitive verb, wh-agreement is realized—optionally—by the combination of nominalizing the verb plus the infix *-in-*. When the gap is an oblique, wh-agreement is realized by simply nominalizing the verb. (Nominalized verbs agree with their subjects via possessor-noun agreement.) See (12), where the verbs that show wh-agreement are in bold.

(12) Chamorro wh-agreement

- a. *Realis transitive subject gap: wh-agreement realized by -um-; no subject-verb agreement*

Hâyi_i **g<um>aiya** si Maria _i ?
who? <WH[SBJ]>love NM Maria
 ‘Who loves Maria?’

- b. *Object gap: wh-agreement realized (optionally) by -in- plus nominalizing the verb*

Hâyi_i **gu<in>aiyam-mu** / un guaiya _i ?
who? <WH[OBJ]>love-AGR AGR love
 ‘Who do you love?’

- c. *Oblique gap: wh-agreement realized by nominalizing the verb*

Hâyi_i **mahalâng-mu** _i ?
who? WH[OBL].lonely-AGR
 ‘Who are you lonely for?’

In Palauan, wh-agreement employs morphology that otherwise encodes mood to register whether the gap is a subject or nonsubject (Georgopoulos 1991: 84-90). When the gap is the subject of a realis clause, wh-agreement is realized as the realis form of the verb minus the normal subject-verb agreement (Baier ms.). When the gap is a nonsubject of a realis clause, wh-agreement is realized as the irrealis form of the verb, including irrealis subject-verb agreement, but the clause is semantically interpreted as realis.⁸

(13) Palauan wh-agreement

- a. *Subj gap: wh-agreement realized as realis verb form without subj-verb agreement*

a **chad_i** [el **milcher-ar** tia el buk _i]
man COMP R.PF.buy-3S that book
 ‘the person that bought that book’ (Georgopoulos 1991: 63, (2a))

- b. *Nonsubj gap: wh-agreement realized as irrealis verb form and irrealis subj-verb agreement*

a **buk_i** [el **l-ulcher-ar** _i a chad]
book COMP IR.3-PF.buy-3S man
 ‘the book that the man bought’ (Chung and Georgopoulos 1988: 255, (10))

An important property of wh-agreement is that it is local. Wh-agreement on higher verbs of a long-distance dependency does not register the grammatical relation (Case) of the gap, but rather the Case of

⁸ The semantic distribution of realis vs. irrealis mood in Palauan is regulated as follows. Certain types of clauses are always in the irrealis mood; namely, negated clauses that are complements of the negative verb *diak* ‘not’, antecedent clauses of conditional sentences, certain adverbial clauses, and imperatives (Josephs 1975: Chapters 18 and 19; Georgopoulos 1985: 77, note 19). All other types of clauses, including e.g. future clauses, are always in realis mood, but their mood morphology can be overridden by wh-agreement. (The mood morphology of clauses that require the irrealis mood, such as negated clauses, cannot be overridden by wh-agreement; see Georgopoulos 1991: 89-90 and Josephs 1975: 375, (28a) and (28b)).

the local CP argument that contains the gap. To see this locality at work, consider the Chamorro long-distance questions in (14). Both involve wh-movement out of the CP complement of the verb *tungu* ‘know’. The gap in (14a) is a subject, so the embedded verb (*såkki* ‘steal’) shows subject wh-agreement; the gap in (14b) is a direct object, so the embedded verb (*hunguk* ‘hear’) shows object wh-agreement. But the higher verb *tungu* (in bold) shows object wh-agreement in both examples, because the CP argument that contains the gap serves as this verb’s direct object. (Recall from (12) that object wh-agreement in Chamorro is realized optionally.)

(14) *Chamorro wh-agreement in long-distance questions*

- a. Håyi_i **un** *tungu*’ [s<um>åkki _i i salappe’-mu]?
who AGR *know* <WH[SBJ]>*steal* *the* *money*-AGR
 ‘Who do you know had stolen your money?’
- b. Kuântu na kumplen_i put guiya [t<in>ingo’-mu
how.many? L *complaint* *about* *him* <WH[OBJ]>*know*-AGR
 [h<in>ingok-ña si Juan]]?
 <WH[OBJ]>*hear*-AGR NM *Juan*
 ‘How many complaints about himself do you know that Juan heard?’

The same pattern can be observed in Palauan, as can be seen from the long-distance relative clauses below. The null-headed relative clause in (15a) involves wh-movement out of the CP complement of *omes* ‘see’; the headed relative clause in (15b) involves wh-movement out of the CP complement of *omdasu* ‘think’. The gap in (15a) is a subject, so the embedded verb (*menguiu* ‘read’) shows subject wh-agreement; the gap in (15b) is a direct object, so the embedded verb (*omekeroul* ‘grow’) shows nonsubject wh-agreement. But once again, the higher verb (in bold) shows nonsubject wh-agreement in both examples, because the CP complement that contains the gap serves as this verb’s direct object.

(15) *Palauan wh-agreement in long-distance relative clauses*

- a. a [l-**ilsa** a Miriam [el milnguiu er [a buk er ngii]]]
 IR.3-saw *Miriam* COMP R.*read* P *book* P *her*
 ‘the one who Miriam saw was reading her book’ (Georgopoulos 1991: 91, (53))
- b. a bung_i [el **l-ulemdasu** a del-ak [el l-omekeroul a Mary
flower COMP IR.3-think *mother*-1S COMP IR.3-IM.grow *Mary*
 er a sers-el]]
 P *garden*-3s
 ‘the flowers that my mother thought Mary was growing in her garden’ (Georgopoulos 1991: 91, (52))

We claim that in both languages, wh-agreement realizes agreement of T, or perhaps C, with an argument that is, or contains, a wh-trace (see the references cited earlier for specific proposals). The idea that wh-agreement is agreement with a wh-trace will be crucial in what follows.

3. Grammatically Licensed RPs in Chamorro

Chamorro grammar does not license overt RPs (Chung 1998: 210, 217, 221). The A-bar dependencies in constituent questions, relative clauses, and focus constructions have a gap that must be null; see the examples cited earlier and (16a). This gap cannot be filled by an overt pronoun, whether it is an independent pronoun (as in (16b)) or a weak pronoun (as in the relative clause in (16c)).

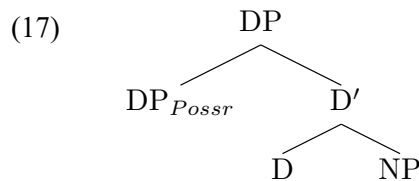
(16) *Chamorro gaps versus overt RPs*

- a. Hâyi_i ma'a'ñão-mu _i ?
who? WH[OBL].*afraid*-AGR
 'Who are you afraid of?'
- b. *Hâyi_i ma'ã'ñao hao nu guiya_i?
who? AGR.*afraid* you OBL *him*
 ('Who_i are you afraid of him_i?')
- c. atyu i taotao_i [ni hu li'i' (*gui'_i)]
that the person COMP AGR *see him*
 'that person_i that I saw (*him_i)'

However, given that the language has null as well as overt pronouns, it is reasonable to ask whether Chamorro grammar countenances RPs that are null. (Following a suggestion by Boris Harizanov, we assume that null RPs differ from *wh*-traces in that a null RP is a syntactic object distinct from the filler, whereas a *wh*-trace is (a different instance of) the same syntactic object as the filler.) Here we show that null RPs are grammatically licensed, and must occur, in exactly one syntactic context: when the gap is created by *wh*-movement of a possessor.

3.1. Wh-Movement of Possessors

In Chamorro, DPs formed from common nouns consist of a determiner, its NP complement, and an optional possessor DP, which are linearized in that order. We assume that the possessor occupies the specifier of *D*, so that the hierarchical structure of DP, ignoring left-to-right order, is as shown below.



Possessors can be realized morphosyntactically in two ways. Either they appear in the unmarked case and control person-and-number agreement on the possessed noun, as shown in (18a), or else they are 'joined' prosodically to the possessed noun by the morpheme called the linker, as in (18b).

- (18) Chamorro possessors
- a. *Possessor-N agreement*
 i karetã-**ña** si Maria
the car-AGR NM *Maria*
 'Maria's car'
- b. *Linker*
 i kareta-**n** Maria
the car-L *Maria*
 'Maria's car'

Possessors that are pronouns must control person-and-number agreement on the possessed noun; they cannot make use of the linker option. Since pronouns that control agreement in person must be null (see section 2.2.1), it follows that possessor pronouns are always null.⁹

Chamorro grammar allows A-bar dependencies in which the gap is a possessor. These A-bar dependencies are created by wh-movement. For instance, the distance between the filler and the gap is apparently unbounded, but sensitive to islands, as can be seen from (19). (The possessive DPs in the examples below are enclosed in brackets.)

(19) Wh-movement of Chamorro possessors

a. *Relation between filler and gap is unbounded*

Hâyi_i malago'-mu [para un risibi [kattân-ña _i]]?
who? WH[OBL].want-AGR FUT AGR receive letter-AGR
 'Who do you want that you should receive a letter of?'

b. *Relation between filler and gap is unbounded*

Hâyi na tâotao_i ti ha tungu' si Carmen [na un lipâra
who? L person not AGR know NM Carmen COMP AGR notice
 [karetâ-ña _i] gi lanchu]?
 car-AGR LCL farm
 'Which man does Carmen not know that you noticed the car of at the farm?'

c. *Relation between filler and gap observes relative clause islands*

*Hâyi_i un hassu i kantun tâsi [ni hu lasa
who? AGR remember the edge.L ocean COMP AGR massage
 [tatalo'-ña _i]]?
 back-AGR
 ('Who do you remember the beach where I massaged the back of?')

A-bar dependencies of type (19) also exhibit wh-agreement. In (19a), the higher verb *malagu'* 'want' shows oblique wh-agreement, as expected, because this verb's oblique complement is the CP that contains the possessor gap.¹⁰

Although Chamorro allows wh-movement of possessors, this movement is also tightly constrained. In order for it to occur at all, the possessive DP—the DP that has the possessor as its specifier—must satisfy three conditions (Chung 1991b: 107-110, 1998: 281-299). We call these conditions the argument structure condition, the locality condition, and the D condition.

First of all, the possessive DP must be an internal argument. More specifically, it must be the direct object of a transitive verb or the subject of a passive verb, unaccusative verb, or nonverbal predicate (i.e. AP, DP, or PP). This argument structure condition can be seen at work in the questions of the possessor in (20). These questions are grammatical when the possessive DP is a direct object (as in (20a)) or the subject of an unaccusative verb (20b), but not when it is a locative DP (20c), even when the locative DP is the argument of an existential verb (20d).

(20) Wh-movement of Chamorro possessors: argument structure condition

a. *Possessive DP = direct object*

⁹ Possessor-N agreement is not a form of clitic doubling. The forms of this agreement have the morphophonology of suffixes (Chung 1983) and the morphosyntax of agreement (Chung 1998). The profile of Chamorro clitics, including pronominal clitics, is quite different (Chung 2003).

¹⁰ The embedded verb does not show wh-agreement, because possessor gaps—like e.g. intransitive subject gaps—are not signaled by overt wh-agreement.

Hâyi_i un risibi [kattân-ña _{-i}] nigap?
who? AGR *receive* *letter-AGR* *yesterday*
 ‘Whose letter did you receive yesterday?’

- b. *Possessive DP = subject of unaccusative*

Hâyi_i mahluk [painen-ña _{-i}]?
who? AGR.*broken* *comb-AGR*
 ‘Whose comb is broken?’

- c. *Possessive DP = locative*

*Hâfa_i (na) tumatayuk hao gi [hilo’-ña _{-i}]?
what? COMP AGR.*jump.PROG* *you* LCL *top-AGR*
 (‘What are you jumping on top of?’)

- d. *Possessive DP = locative argument of existential verb*

*/?Hâfa_i guaha bâsu gi [fi’on-ña _{-i}]?
what? AGR.*exist* *glass* LCL *beside-AGR*
 (‘What is there a glass next to?’)

Second, the possessor must be the specifier of this internal argument; it cannot be more deeply embedded within that specifier. This locality condition lies behind the contrast between the questions of the possessor in (21). In the grammatical (21a), the possessor is the specifier of the internal argument of the existential verb. But in (21b-c), the possessor is the specifier of the specifier of the internal argument, and the result is ungrammatical.

- (21) Wh-movement of Chamorro possessors: locality condition

- a. *Possessor is the specifier of the internal argument*

Kuântu na famagu’un_i guaha [tanu’-ñiha _{-i}]?
how.many? L *children* AGR.*exist* *land-AGR*
 ‘How many children is there land of (i.e. how many children have land)?’

- b. *Possessor is embedded within the specifier*

*Hâyi_i guaha [tanu’-ñiha [famagu’un-ñiha _{-i}]]?
who? AGR.*exist* *land-AGR* *children-AGR*
 (‘Who (pl.) is there land of children of (i.e. whose children have land)?’)

- c. *Possessor is embedded within the specifier*

*Kuântu na tãotao_i guaha [karetan [hagan-ñiha _{-i}]]?
how.many? L *person* AGR.*exist* *car.L* *daughter-AGR*
 (‘How many people are there cars of daughters of (i.e. how many people’s daughters have cars?)’)

Third and finally, the D of the possessive DP must be the null indefinite (nonspecific) article; it cannot be an overt article, demonstrative, or quantifier. This D condition is illustrated by the contrast between the grammatical examples (20a-b) and (21a) and the following:¹¹

¹¹ The D condition seems to be enforced less strictly for the definite article *i* than for other overt articles, demonstratives, and quantifiers. We have encountered some speakers who allow *i* in examples like (22b); see also section 4.2. We note without further comment that the null indefinite article can be used felicitously in contexts in which it is common knowledge the possessee is unique relative to the possessor (Chung 2018).

- (22) Wh-movement of Chamorro possessors: D condition
- a. *D = esti 'this'*
 *Hâyi_i esta ma taitai [esti na lipblon-ña _i]?
who? already AGR read this L book-AGR
 ('Who have they already read this book of?') (Chung 1998: 286)
- b. *D = the definite article i or the null indefinite article*
Hâyi_i ti manmaguf [(*) famagu'on-ña _i]?
who? not AGR.happy the children-AGR
 'Who are (*the) children of not happy?'
- c. *D = palu 'some'*
 *Kuântu na tãotao_i guaha [palu salåppi'-ñiha _i] gi bangku?
how.many? L person AGR.exist some money-AGR LCL bank
 ('How many people have some money (lit. is there some money of) in the bank?')

These conditions arguably follow from the hypothesis that the A-bar dependencies in (19-22) are created by wh-movement.¹² For instance, wh-movement respects the Phase Impenetrability Condition (Chomsky 2001). The locality condition illustrated in (21) follows from this plus the fact that DPs in Chamorro are phases (Chung 1991b: 107-110, 1998: 285-286). Wh-movement out of DPs is known to exhibit a specificity effect, meaning that movement out of specific DPs is degraded (e.g. Chomsky 1977, Fiengo and Higginbotham 1981); some language-specific versions of this effect also distinguish between overt and null determiners (Karimi 1999). The D condition illustrated in (22) is a specificity effect of this second type. Finally, it is widely believed that complements and their constituents are more freely accessible to wh-movement than are noncomplements and their constituents (e.g. Chomsky 1981, Huang 1982). This broad generalization, however it is accounted for, lies behind the argument structure condition illustrated in (20).¹³

All this could be taken to suggest that the argument structure condition, the locality condition, and the D condition flow from properties of universal grammar and therefore do not have to be stated separately as part of Chamorro grammar. Nonetheless, we will continue to refer to them as if they were separate conditions, because that will facilitate the exposition in section 4. What is important here is that speakers have firm introspective judgments that sentences of the types shown (20c-d), (21b-c), and (22a-c) are ungrammatical (though see note 11 on (22b)).¹⁴ In other words, the possessors that can legally undergo wh-movement in Chamorro are restricted to a relatively narrow distributional slice of the possessors in the language.

3.2. Possessor Gaps as Null RPs

We turn next to the evidence that these possessor gaps, though created by wh-movement, are realized as null RPs (Chung, Wagers, and Borja 2012).

¹² In versions of Principles and Parameters theory that include the ECP or a head government requirement, all three conditions would follow directly from the hypothesis that these dependencies are created by wh-movement. In minimalist syntax, the locality condition follows directly, but it is not clear how the specificity effect and the restrictions on extraction of, and out of, specifiers are best handled.

¹³ Note, though, that sentential subjects, and subjects more generally, are not islands in Chamorro (Chung 1991a, 1991b).

¹⁴ The data discussed in this section were provided over the years by nine Chamorro speakers—six in Saipan and three (originally from Guam) in California. Their current age range would be 60-77 years.

Chamorro grammar systematically bans transitive clauses with certain combinations of subject and direct object (Chung 1998, 2014, Clothier-Goldschmidt 2015). Among the excluded clause types are transitive clauses whose direct object is higher than the subject on the person-animacy hierarchy shown in (23). We refer to the restriction that enforces this ban as the PAH.¹⁵

- (23) *Chamorro person-animacy hierarchy*
 2 > 3 animate pronoun > animate > inanimate

The PAH is reminiscent of constraints found in languages with direct-inverse systems (Aissen 1997, 1999, and much literature since). At the same time, it exhibits arbitrary quirks that are arguably more characteristic of post-syntactic morphological spell-out than of operations in narrow syntax. First person pronouns, both exclusive and inclusive, are unaffected by the PAH; so are clauses whose verbs show any type of agreement other than the default subject-verb agreement. We gloss over these details; see Chung 2014 for discussion.

What is relevant here is how the PAH responds to (second and third person) pronouns. When the direct object of the clause is a second person pronoun, the subject must be first or second person as well. The subject cannot be third person, whether a pronoun or nonpronoun, because then it would be lower than the direct object on the person-animacy hierarchy. See (24).

- (24) Chamorro subject-object combinations
- 1 pers. subject / 2 pers. object*
- a. Bai hu aligao hao gi giput.
 AGR look.for you LCL party
 ‘I’m going to look for you at the party.’
- b. *3 pers. pronoun subject / 2 pers. object*
 *Kao ha kuentusi hao antis di u hãnao?
 Q AGR speak.to you before AGR go
 (‘Did he speak to you before he left?’)
- c. *Nonpronoun subject / 2 pers. object*
 *Kao para u bisita hao si Juan agupa’?
 Q FUT AGR slap you NM Juan tomorrow
 (‘Is Juan going to visit you tomorrow?’)

Similarly, when the direct object is a third person animate pronoun, whether overt or null, the subject must be an animate pronoun as well; see (25a). The subject cannot be a nonpronoun, because then it would be lower than the direct object on the person-animacy hierarchy; see (25b).¹⁶ However, when the direct object is an inanimate pronoun, the PAH imposes no restrictions on the subject, as (25c) is intended to suggest. (The object pronoun in (25c) is null because all inanimate nonreflexive pronouns in Chamorro are null; see 2.2.1.)

- (25) Chamorro subject-object combinations
- a. *Pronoun subject / 3 pers. animate pronoun object*

¹⁵ The PAH is occasionally violated by speakers in elicitation contexts and can be outcompeted by other pressures in comprehension (Wagers, Borja, and Chung 2018). However, Clothier-Goldschmidt’s (2015) corpus study of connected discourse has shown that it is a hard constraint in production.

¹⁶ Irrelevantly, the string of words in (25b) is grammatical under other interpretations. When the 3sg. pronoun *gui*’ is present, the clause must be interpreted as reflexive (‘Maria scolded herself’); when *gui*’ is absent, *Maria* must be interpreted as the direct object (‘He scolded Maria’.)

Kao un sodda' gui' nigap?
 Q AGR *find* him yesterday
 'Did you find him yesterday?'

b. *Nonpronoun subject / 3 pers. animate pronoun object*

*Ha lalâtdi (gui') si Maria.
 AGR *scold* him NM *Maria*
 ('Maria scolded him.')

c. *Nonpronoun subject / inanimate pronoun object*

Ha fa'maolik si Maria.
 AGR *fix* NM *Maria*
 'Maria fixed it.'

Although the PAH is sensitive to the featural content of the subjects and objects it compares, it is generally insensitive to the features of their subconstituents. This can be seen from the clauses below, each of which contains a DP with a second person possessor. The PAH excludes (26a) because the direct object is second person but the subject is third person; it has no effect on (26b) because the direct object is inanimate. Had the features of the possessor been taken into account, the results would have been reversed.

(26) Chamorro subject-object combinations

a. *Nonpronoun subject with 2 pers. possr. / 2 pers. object*

*Kao para u patmâda hao [si tatâ-mu]?
 Q FUT AGR *slap* you NM *father-AGR*
 ('Is your father going to slap you?')

b. *Nonpronoun animate subject / inanimate object with 2 pers. possr.*

Kao ha fâhan si Antonio [i karetâ-mu] nigap?
 Q AGR *buy* NM *Antonio the car-AGR* yesterday
 'Did Antonio buy your car yesterday?'

There is, however, one curious exception to this generalization. Exactly when the direct object DP has the null indefinite (nonspecific) article as its D and a possessor that is a pronoun, the PAH ignores the direct object's features, and instead compares the features of the subject with the features of the direct object's *possessor* (Chung 2014). Consider the clauses in (27), which have direct objects of this type. The PAH excludes (27a) because the *possessor* of the direct object is second person but the subject is third person; it excludes (27b) because the *possessor* of the direct object is an animate pronoun but the subject is a nonpronoun. Crucially, this pattern emerges only when the D of the direct object is the null indefinite article; compare (27) with (26b).¹⁷

(27) Possessor of bare DP object in Chamorro subject-object combinations

¹⁷ For reasons of space, we observe but do not discuss the following. First, the PAH never accesses the features of the possessor of the subject. This is because external arguments must be specific, so the subject DP of a transitive clause cannot have the null indefinite (nonspecific) article as its D (Chung 1998: 104). Second, although clauses like (27a) are occasionally accepted by speakers in elicitation contexts, a corpus search of the Chamorro New Testament reveals that clauses of this type—with a third person subject and a DP object with a null indefinite D and a second person possessor—are systematically absent. As is usual with PAH violations, the corresponding passive clauses occur instead. In other words, even in its interaction with possessors, the PAH is a hard constraint in production; see note 15.

- a. *Nonpronoun subject / 2 pers. possr. of bare DP object*
 *Kao ha fâhan si Antonio [karetâ-mu] nigap?
 Q AGR buy NM Antonio car-AGR yesterday
 ('Did Antonio buy your car yesterday?')
- b. *Nonpronoun subject / animate pronoun possr. of bare DP object*
 *Ha fâhan si Jose [karetâ-ña] nigap.
 AGR buy NM Jose car-AGR yesterday
 ('Jose bought her car yesterday.')

These rather intricate patterns could be handled in various ways. The account that we sketch here relies on the following assumptions, most of which are uncontroversial. First, the PAH relies on agreement operations—either the Agree of narrow syntax or comparable morphological agreement operations in the post-syntax—that cause T to be valued for features of the subject and small v to be valued for features of the direct object. The features in question are (the privative features) [1st], [2nd], [Pronoun], [Animate], and [Specific]. Second, we claim that T and small v probe for the feature [Specific]—more precisely, when they encounter a head that is [Specific], they record this feature and as many of the other features just mentioned as that head bears. Subjects of transitive clauses in Chamorro must be specific (see note 17). This means that when T probes, it will invariably be satisfied by the subject's [Specific] feature and will be valued for the subject's other relevant features as well. But when small v probes, it may encounter a direct object that is nonspecific. In such cases it will probe further, into the direct object's specifier (= the possessor), and—if that DP is specific—will be valued for its relevant features.¹⁸

The result of these operations is that all the featural information required by the PAH is encoded on two heads in the clausal spine—T and small v. We propose that these two heads share this featural information, in such a way that the features of the subject, on the one hand, and the features of the direct object or its possessor, on the other, are kept distinct (Anderson 1992). The PAH can then be implemented as a set of well-formedness conditions on the complex featural make-up of one or the other of these heads; see Chung 2014 for one specific proposal.

We are now ready to return to the main point. The subcase of the PAH illustrated in (25), which involves pronoun direct objects and nonpronoun subjects, can be used as a diagnostic for whether the gaps in various types of Chamorro A-bar dependencies are pronouns—more precisely, null RPs. Consider wh-questions of the direct object, such as (28). The gap in this example is construed as animate, so if it were also a pronoun, the PAH should require the subject to be an animate pronoun as well. The fact that no such requirement is imposed argues that this gap is not a null RP, but rather a wh-trace (see e.g. Chomsky 1981 on the nonpronominal character of wh-traces).

- (28) *Chamorro constituent question with a direct object gap*
 Hây_i ha lalâtdi si Miguel _i?
 who? AGR scold NM Miguel
 'Who did Miguel scold?'

The situation is different when the gap is the possessor of the direct object (and therefore the D of the direct object is the null indefinite article), as can be seen from the wh-questions of the possessor in (29). Then the pattern attributed to the PAH re-emerges: when the gap is construed as animate, the subject must be an animate pronoun (see (29a-b)), but when the gap is construed as inanimate, no such restriction is imposed (see (29c)).

- (29) Chamorro constituent questions with a gap that is possessor of direct object

¹⁸ Small v does not probe beyond the direct object's possessor, because DPs in Chamorro are phases.

- a. *Pronoun subject / gap understood to be animate*
Hây_i un dulalak [patgon-ña _i]?
who? AGR chase child-AGR
 ‘Whose child did you chase?’
- b. *Nonpronoun subject / gap understood to be animate*
 *Hây_i ha dulalak si Jose [patgon-ña _i]?
who? AGR chase NM Jose child-AGR
 (‘Whose child did Jose chase?’)
- c. *Nonpronoun subject / gap understood to be inanimate*
Mānu na kareta_i ha fa’māolik si Jose [makinâ-ña _i] nigap?
which? L car AGR repair NM Jose engine-AGR yesterday
 ‘Which car did Jose fix the engine of yesterday?’

Speakers unequivocally judge questions of type (29b) to be ungrammatical, but questions of type (29c) to be well-formed. We take this as evidence that in *wh*-movement of the possessor, the possessor gap is a null pronoun.¹⁹ The conclusion can be sharpened a bit. Recall that the PAH is quite likely imposed in the post-syntax, as part of morphological spell-out. Accepting this, what the evidence reveals is that the possessor gap is realized as a null RP at this relatively late stage of the derivation.

At this point, the question arises of how the *wh*-trace of a Chamorro possessor is realized as a null RP. The more general theoretical question is how *wh*-traces can come to be spelled out as RPs in any language. Although we cannot answer this question definitively, the Chamorro material just discussed suggests the following scenario (see McCloskey 2017a for a different view). In general, the *wh*-traces that are realized as RPs form the tail of an A-bar dependency and can be identified by grammatical relation (Case; see note 25). Let us assume that *wh*-traces are instances of the same syntactic object as the moved constituent, but pronouns—including RPs—are distinct syntactic objects. Then for a *wh*-trace to be realized as an RP, some operation in the post-syntax must detach the lowest instance of the moved constituent—the instance in the position where the moved constituent’s Case is checked—so that it forms a distinct syntactic object. We conjecture that the syntactic object so formed is a ‘minimal’ copy of the moved constituent: it consists of just a category feature, a referential index, and the features otherwise associated with pronouns in the language (cf. Harley and Ritter 2002). In Chamorro, the detachment operation affects all and only moved constituents that are possessors, i.e. bear genitive Case. Suppose now that when T and v probe for the feature [Specific], as we proposed above, they do so in the post-syntax, where they recognize ‘minimal’ copies as pronouns. Then when the PAH is imposed, as part of morphological spell-out, it will produce the pattern seen in (29). Otherwise, ‘minimal’ copies will be spelled out in the same way as other pronouns. In Chamorro, this spell-out will have the result that possessor RPs—like all possessor pronouns—are null.

To sum up: Chamorro grammar limits the possessors that can undergo *wh*-movement to a small distributional slice of the possessors in the language. We claim that the possessor gaps left by this movement are realized as null RPs.

4. Chamorro RPs in Performance

We are now in a position to ask whether, over and above these grammatically licensed null RPs, Chamorro has intrusive RPs. Speakers’ introspective judgments do not provide a good way of getting at this question, so we turn to evidence from production. Section 4.1 discusses evidence from an elicited

¹⁹ The ungrammaticality of (29b) makes it clear that the possessor has not undergone an intermediate step of raising to object before *wh*-movement occurs. If that had happened, the PAH ought to respond in the same way to (28) and (29b), contrary to fact.

production experiment conducted in the U.S. Commonwealth of the Northern Mariana Islands (CNMI) in 2014; section 4.2 discusses corpus evidence from the Chamorro New Testament. Both types of evidence reveal that Chamorro speakers do indeed produce RPs even when they are not grammatically licensed.

4.1. Experimental Evidence

Together with our Chamorro team member, Manuel F. Borja, we conducted an elicited production experiment on Chamorro in the three inhabited islands of the CNMI (Rota, Saipan, and Tinian) in September 2014. Our aim was to learn which types of relative clauses speakers would produce when performing a simple description task. Relative clauses have various types of realizations in Chamorro: the relative clause can be prenominal or postnominal, the head NP can be overt or null, the verb of the relative clause might or might not show overt wh-agreement, and so on (Wagers, Borja, and Chung 2018).

The method we used involves a guided conversation in Chamorro between the participant and the experimenter (Borja). Each participant is seated across from the experimenter and presented with a sequence of pairs of pictures—14 pairs in all. Each pair of pictures depicts actions involving two characters: one picture shows character X acting on character Y, while the other picture shows Y acting on X. One of the characters wears different identifiers—for instance, a lei or a hat—in the pictures. In Figure 1, for instance, one picture shows a gecko jumping over a frog wearing a hat, and the other picture shows a frog wearing a lei jumping over a gecko. This feature is adapted from other production experiments which were designed to elicit relative clauses (e.g. Gennari, Mirković, and MacDonald 2012).

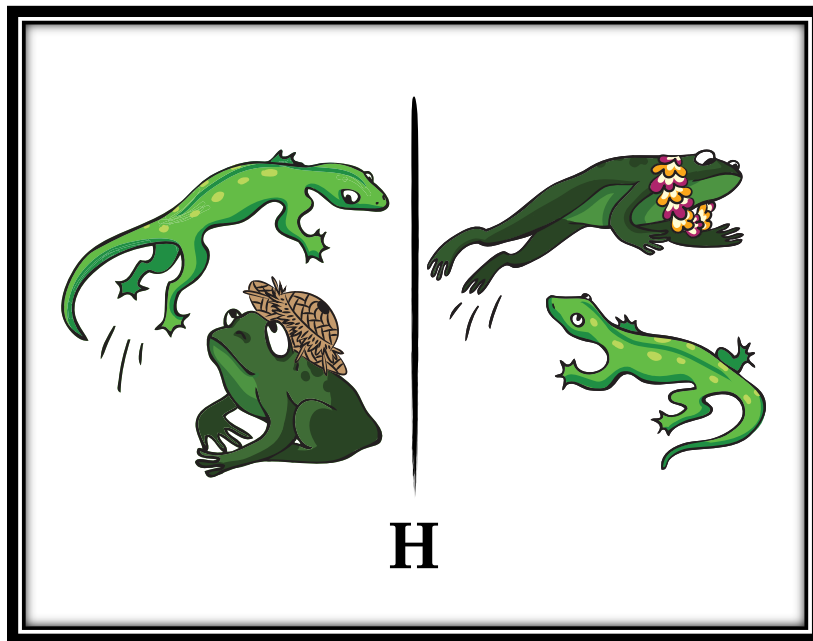


Figure 1

In dialogue with the experimenter, who cannot see the pictures, the participant describes the picture in which the character is wearing a particular identifier—for instance, the picture in which the frog is wearing a lei. Participants were instructed not to point at the pictures and not to use location or direction terms (e.g. *kåtãan* ‘north’, *akakgui* ‘left’). The dialogue was digitally recorded.²⁰

²⁰ Participants provided positive verbal consent for the audio recording before the experiment began. During the debriefing, they were given an information sheet in Chamorro and English that gave a brief lay

Forty-four Chamorro speakers served as participants: 24 from Rota, 19 from Saipan, and 1 from Tinian. Twenty-six of the participants were female and 18 were male; they ranged in age from 18 to 70 years. Data from one participant who was not a native speaker was excluded; the median age of the other participants was 44 years.

Among the results that emerged from the experimental data was one we did not expect. Of some 728 relative clauses that participants produced, 38 (5.2%) are not grammatically licensed, meaning that they contain an RP that violates the conditions on wh-movement in Chamorro. These productions plausibly involve intrusive RPs, either overt or null. More specifically, they include:

- One relative clause with an overt RP (in bold) in the local case, cited in (30).²¹ (In the examples cited in this section, indicates a hesitation or pause.)

(30) *Chamorro overt RP in the local case*

atyu na **palão'an_i** [i guaha kulu giya **guiya_i** or
that L woman COMP AGR.exist shell LCL her
 gi fi'on-ña]
 LCL *beside-AGR*
 'that woman_i that there's a shell on her_i or beside her' (R002/B1)

- Nine relative clauses with a null RP inside an island, where the island is either a relative clause (1 production), an existential relative clause (6 productions), or a coordinate structure (2 productions). Representative examples are cited in (31). We note that given the restrictions on how Chamorro pronouns are realized (see 2.2.1), just one of these nine RPs could potentially have been overt. Seven must be null, because they are cross-referenced by agreement in person; one is null because it refers to an animal (see (31c)), and animals that are not personified are treated as inanimate.

(31) *Chamorro null RPs inside islands*

a. *RP possessor of locative inside relative clause island*

i [gaigi [i kulu' [nai mapega gi [hilo'-ña i]]]]
the AGR.be.at the shell COMP AGR.PASS.place LCL top-AGR
 'the (coconut grater_i) that the shell that is placed on top of it_i is there' (R015/V1)

b. *RP subject inside existential relative clause island*

atyu i **palão'an_i** [ni ha li guaha ... [para u lila ...litrātu i]]
that the woman COMP AGR AGR.existFUT AGR take.photo
 'that woman_i that...there's something...that she_i's going to...take a photo of' (R011/P1; note that *li* and *lila* are incomplete words, followed by a restart)

c. *RP source/locative inside existential relative clause island*

i guaha na lâhi ... [para u chuli' letchi i]]
the AGR.existL man FUT AGR take milk
 'the (cow_i) that there's a man who's going to take milk (from)' (S005/M1)

d. *RP possessor of object inside coordinate structure island*

i [[matâta'chung lokkui' i taotao] ya [ha fofoksi [i litchen-ña i]]]

description of the purpose of the experiment, stated that participation was anonymous, and provided contact information for each of the three researchers. Each participant was compensated with a high-capacity flashdrive. Participants' productions were transcribed by the three of us in the CNMI and coded later.

²¹ For the sake of completeness, we note that this case-marked overt RP is one conjunct of a coordinate structure whose other conjunct contains a null RP possessor.

the AGR.sit.PROG *also* *the person* *and* AGR milk.PROG *the milk*-AGR
 ‘the (cow_i) that the man is sitting too and he’s milking its_i milk’ (R024/M1)

e. *RP subject inside existential relative clause island*

i *guaha* [pâtgun [ha na’ ...gi chachaga’-ña ha na’châchalik _i]]
the AGR.exist *child* LCL *thigh*-AGR AGR *make.laugh*.PROG
 ‘[That woman is...] the (one_i) who there’s a child that...at her thigh that she_i’s making laugh’
 (R002/A1)

- Twenty-eight relative clauses with a null RP possessor that violate the argument structure condition, because the possessive DP is a locative.²² (These RP possessors must be null because they are cross-referenced by agreement in person.) Seven of these relative clauses also violate the locality condition; one also violates the D condition (with the overt indefinite article *un* ‘a, one’). See the small selection of examples below, as well as (31a).

(32) Chamorro null RPs that violate the conditions on possessor gaps

a. *RP possessor of locative (violates the argument structure condition)*

atyu *i* [gumupu *i* *guali’ik* *gi* [hilo’-ña _i]]
that *the* AGR.fly *the* *gecko* LCL *top*-AGR
 ‘the one_i that the gecko is flying on top of it_i’ (R005/H1)

b. *RP possessor of possessor of locative (violates the argument structure and locality conditions)*

i palão’an_i [ni *gaigi* *gi*... *i* *maleta* *gi* [fi’un [ilu-ña _i]]
the *woman* COMP AGR.be.at *the* *luggage* LCL *beside*.L *head*-AGR
 ‘the woman_i that the luggage...is next to her_i head’ (S019/S1)

c. *RP possessor of locative (violates the argument structure and D conditions)*

esti na luga_i [i *istretchu* *hulu’*] [ni *guaha* [[kumukunanaf]
this L *wall* COMP AGR.narrow *up* COMP AGR.exist AGR.crawl.PROG
tinanum] *gi* [un *bandân-ña* _i]]
plant LCL *a* *side*-AGR
 ‘this wall_i that’s straight up that there’s a plant growing on a side of it_i’ (S001/T1)

As shown earlier, speakers’ introspective judgments establish that wh-movement in Chamorro does not cross island boundaries (section 2.2.2), does not allow overt RPs (section 3), and allows null RP possessors only in the narrow range of contexts delimited by the argument structure condition, the locality condition, and the D condition. Therefore, the types of RP productions illustrated in (30-32) are not grammatically licensed (i.e. they are ungrammatical). Their frequency in our data was initially surprising to us. We think what may have happened is that our experimental method unintentionally replicated certain aspects of the method of Ferreira and Swets (2005), whose production experiments were explicitly attempting to elicit island violations and RP repairs. In their case, this involved explicitly triggering the production of embedded wh-questions. In our case, the discriminating features of our illustrations may have been spatial in nature, and thus locative PPs may have been frequently used to plan a response (even though, for each scenario, we had transitive verbs in mind that we thought could have been used).

Ferreira and Swets (2005) found that, when speakers produced RPs in islands, production latencies increased (speakers produced the utterance at a slower rate). They concluded that the production of such utterances was correlated with greater processing demands. While the design of our experimental task did

²² The locative possessive DP is an argument of the existential verb *guaha* ‘exist’ in 18 productions, an argument of *gaigi* ‘be (in a location)’ in 8 productions, and associated with an intransitive verb of motion in 2 productions.

not allow us to systematically measure production latencies, we were able to code speakers' productions for disfluencies, e.g. pauses, incomplete words, or hesitations followed by a restart. Interestingly, we found that disfluencies were more common in utterances in which at least one relative clause contained an intrusive RP. Table 1 gives a cross-tabulation of utterances containing relative clauses by the presence vs. absence of apparent disfluency and the presence vs. absence of (at least one) intrusive RP. (Utterances with an 'apparent disfluency' included a noticeable pause or restart, indicated by ... in the examples cited above.) Disfluencies were more likely when an intrusive RP was produced: a (slim) majority of utterances containing an intrusive RP included at least one disfluency, whereas there were relatively fewer disfluencies in utterances that contained no intrusive RPs (log-likelihood ratio test of independence, $G(1): 4.3, p < .05$).

	No Intrusive RP	Intrusive RP	Total
No apparent disfluency	330	15	345
At least one disfluency	252	23	275
	582	38	620

Table 1 Disfluencies and intrusive RPs are positively associated in Chamorro RC production
Utterances containing at least one RC were cross-tabulated according to whether or not a disfluency was apparent, and whether or not an intrusive RP was produced.

This correlation provides us with indirect evidence about the status of the utterances that we claim involve intrusive RPs. Even though judgments from fieldwork establish that wh-movement in Chamorro is island-sensitive, and wh-movement of possessors is quite restricted, it remains a possibility that our participant sample included individuals with more permissive grammars. We do not know how our participants would have judged the acceptability of their own productions, as this was not part of the experimental design. But the fact that they produced more disfluencies in utterances containing an intrusive RP suggests that they found such utterances unnatural or complex in some way, or perhaps more processing resources were required to produce them.

A different kind of indirect evidence suggests that the null intrusive RPs illustrated in (31-32) are indeed pronouns, not traces of a more permissive wh-movement. Recall from section 3.2 that wh-traces count as nonpronouns, but RPs count as pronouns, for the PAH. If the gaps illustrated in (31-32) were wh-traces, they should be able to occur as animate (possessors of) direct objects even when the subject is a nonpronoun. Interestingly, productions of this type are absent from the experimental data. For instance, the data include 17 productions in which an animate null RP is the possessor of the internal argument of a transitive verb root. All these productions conform to the PAH as if the RP is a pronoun. Either the clause is passive, so the PAH is evaded, or else the clause is transitive and its subject (the external argument) is also a pronoun. In the rightmost clause of the relative clause in (31d), for instance, the null RP is the possessor of the direct object, but the subject is also a pronoun, so the PAH is respected whether the RP (which refers an animal) is treated as animate or inanimate.

Finally, the distributional profile of the intrusive RPs in the experimental data closely tracks what previous research has established about the distribution of intrusive resumption in English and other languages. This research indicates the following four generalizations. First, intrusive RPs are commonly found in relative clauses, especially nonrestrictive relatives (Prince 1990). (Whether intrusive RPs occur to the same extent in other A-bar dependencies, such as constituent questions, has not been systematically investigated.) Second, intrusive RPs are more common inside islands (Ross 1967, Morgan and Wagers 2018) and in other contexts in which the RP is syntactically 'distant' from the filler (Erteschik-Shir 1992, Hofmeister and Norcliffe 2013). Third, intrusive RPs occur when the RP is focused (Sichel 2014); see the discussion in 4.2 below. Fourth and finally, an intrusive RP can be replaced by a DP with descriptive content which is referentially related to the filler, and which can be interpreted as containing a semantic variable bound by the filler (Prince 1990, McCloskey 2017b). Cf. Prince's (1990: 492) example *You assigned me to a paper which I don't know anything about the subject*.

All 38 of the ungrammatical RP productions in the data from this experiment are found in relative clauses. Although this fact is consistent with the overall profile of intrusive resumption, we note that our experimental method did not elicit other types of A-bar dependencies. More significantly, some of these RP productions are embedded in an island that separates them from the filler; many occur in other contexts in which they are syntactically distant from the filler. Finally, consider the production in (33), a null-headed relative clause that describes a picture in which the identifier—a shell—appears among taros displayed for sale in a shed. A young man is sitting on the ground below the shed; the taros and the shell are visible above him. One taro has fallen from the display and is about to hit his head. In the relative clause, the filler (a null NP) refers to taros; if there were a gap or RP, it would be the intrusive null RP possessor of the locative DP *pâpa* ‘bottom, under, below’. This intrusive RP is replaced by a DP with descriptive content (*soko* ‘shed, storage place’, in bold) that is referentially related to the filler. Just as in Prince’s (1990) and McCloskey’s (2017) examples, this DP can be interpreted as containing a semantic variable bound by the filler, as in ‘the taros with the property λx [a boy is sitting below [the shed associated with x]]’ or ‘the taros with the property λx [a boy is sitting below [the shed where x is]]’.

- (33) *Chamorro relative clause with no gap*
 atyu [ni matâta’chung dei un pâtgun lâhi gi [papa’ **soko**’]
 that COMP AGR.sit.PROG a child.L male LCL below.L shed
 ‘[the taros that the shell is near are] those (taros_i) that a boy is sitting below the (taros_i) shed’
 S002/Q1

These similarities strengthen the case that the ungrammatical RPs in (30-32) are intrusive RPs—not grammatically licensed but rather artifacts of performance.

4.2. Corpus Evidence

The claim that the Chamorro RPs discussed in section 4.1 are extragrammatical productions leads us to expect that they will also be produced in contexts outside the experimental setting. Corpus evidence reveals that this expectation is borne out.

The largest searchable corpus of Chamorro that we have access to is the Chamorro New Testament (*Nuebu Testamento*, henceforth NT), which was published in 2007. NT is a translation into Chamorro of the New Testament chapters of the New American Bible. It is the result of a multi-year project undertaken by a small group of fluent Chamorro speakers in the CNMI, led by the late Bishop Tomas A. Camacho, who was a prolific Chamorro orator, writer, and translator. NT is an excellent example of a somewhat formal register of the contemporary Chamorro language.

We mined the electronic version of NT for instances of RPs, using a two-pronged strategy that combined two systematic searches for null RP possessors with the collection of other RPs encountered by chance in our searches for various types of relative clauses. The searches for null RP possessors were made possible by the fact that possessor-noun agreement is written with a hyphen in standard Chamorro orthographies. We searched systematically for the third person possessor agreement suffixes *-ña* ‘3 sg.’ and *-ñiha* ‘3 pl.’, and then identified by hand the subset of possessors that were null RPs. We were particularly interested in null RP possessors because they are grammatically licensed in some syntactic contexts but not others. Our first search for RP possessors was limited to relative clauses, which are more frequent than other A-bar dependencies in this corpus. In a second search, we rechecked the relative clause data and extended our data collection to null RP possessors in constituent questions and focus constructions.²³

²³ In the focus construction, a syntactically focused DP or PP appears at the left edge of CP. Most instances of the focus construction in Chamorro have two possible analyses, one involving wh-movement of the syntactically focused constituent and the other involving a cleft construction in which the focused constituent is a predicate whose subject is a null-headed relative clause. However, in some cases, only one

Our systematic search for null RP possessors uncovered 164 instances of restrictive or nonrestrictive relative clauses with possessor gaps. The null RPs in 147 of these relative clauses are grammatically licensed; that is, their possessive DP satisfies the argument structure condition, the locality condition, and the D condition. Some examples are given below, with translations from the New American Bible (Revised Edition) as well as more literal translations.²⁴

(34) Chamorro null RPs that are grammatically licensed

a. *Possessive DP = subject of unaccusative*

un táotao_i [ni ma'lak [magagugu-ña _i]]:1
a person COMP AGR.bright clothes-AGR.PROG

‘a man in dazzling robes (lit. a man that the clothes of were bright)’ (NT, Acts 10:30)

b. *Possessive DP = subject of DP predicate*

isao_i [ni ti para finatai [uttimon-ña _i]]
sin COMP not FUT death end-AGR

‘sin that is not deadly (lit. sin that the end of will not be death)’ (NT, 1 John 5:17)

c. *Possessive DP = subject of passive*

atyu ha' i [manmatugi' [na'an-ñiha _i] gi lepblun i Kinilu]
that EMP the AGR.PASS.write name-AGR LCL book.L the lamb

‘only those...whose names are written in the Lamb’s book’ (NT, Rev 21:27)

d. *Possessive DP = object of existential verb*

i taotao siha_i [ni guaha [prubleman-ñiha _i]]
the person PL COMP AGR.exist problem-AGR

‘those in distress (lit. the people that there are problems of)’ (NT, 1 Tim 5:10)

e. *Possessive DP = object of transitive verb*

si Juan_i, [ni hu utut [aga'gá'-ña _i]]
NM John COMP AGR cut throat-AGR

‘John whom I beheaded (lit. John, who I cut the throat of)’ (NT, Mark 6:16)

The null RPs in 17 relative clauses are not grammatically licensed, because their possessive DP violates at least one of the three conditions. Four violate the argument structure condition, because the possessive DP is a locative (3 instances) or an external argument (1 instance); two violate the locality condition, because the gap is embedded within the specifier of the possessive DP; eleven violate the D condition, because the possessive D is the indefinite article *un* (1 instance) or the definite article *i* (10 instances). The fact that there are speakers who allow *i* to satisfy the D condition (see note 11) suggests that relative clauses of this last type should be set aside. We claim that the null RPs in the remaining 7 relative clauses, 4 of which are cited below, are intrusive.

(35) Chamorro null RPs that violate the conditions on wh-movement of possessors

a. *Possessive DP = locative (violates the argument structure condition)*

un á'paka' na á'tchu'_i [ni matutugi' gi [hilo'-ña _i] un
a white L stone COMP AGR.PASS.write.PROG LCL top-AGR a
 nuebu na nã'an]

analysis is possible (Chung 1998: 268-275). The example of the focus construction cited later in (36) has only a wh-movement analysis. A cleft analysis is not possible for this example, because the focused constituent, *maseha háyi* ‘whoever’, does not occur independently as a predicate.

²⁴ Examples from NT are cited in the 2010 version of the CNMI’s standard Chamorro orthography.

new L *name*

‘[I shall also give] a white amulet upon which is inscribed a new name (lit. a white stone_i that a new name is written on top of it;)’ (NT, Rev 2:17)

- b. *Possessive DP = external argument (violates the argument structure condition)*

i *isklābu siha_i* [*ni* *manmanhonggi* [*amun-ñiha* *_i*]]

the slave PL COMP AGR.AP.believe *master-AGR*

‘those whose masters are believers (lit. the slaves_i that their_i masters have belief)’ (NT, 1 Tim 6:2)

- c. *RP is possessor of possessor of object of existential verb (violates the locality condition)*

i *MamPagānu_i*, [*ni* *tāya*’ [*bali-ña* [*i* *hinassun-ñiha* *_i*]]]

the Pagans COMP AGR.not.exist *worth-AGR* *the thought-AGR*

‘the Gentiles...in the futility of their minds (lit. the Pagans_i, that there is no value of their_i thought)’ (NT, Ephes 4:17)

- d. *D = un ‘a, one’ (violates the D condition)*

un *tāotao_i* *ni* [*mātai* [*un kannai-ña* *_i*]]

a person COMP AGR.die *a hand-AGR*

‘a man...who had a withered hand (lit. a man_i that a hand of his_i was dead)’ (NT, Mark 3:1)

These intrusive RPs are highly similar in distribution to the intrusive RP productions in our experimental data.

Our second systematic search for null RP possessors also uncovered 31 instances of focus constructions with possessor gaps. The null RPs in 29 of the 31 focus constructions are grammatically licensed: their possessive DP satisfies the argument structure condition, the locality condition, and the D condition. The null RP in one focus construction, cited in (36), violates the argument structure condition, because the possessive DP is a locative; we claim that this null RP is intrusive. The null RP in another focus construction violates the D condition, because the possessive D is the definite article *i*; we set it aside for reasons described in the preceding paragraph. No instances of constituent questions with possessor gaps were encountered.

- (36) *Chamorro focus construction with null RP that violates the argument structure condition*

Maseha hāyi ni *ha honggi i Lahin Yu’us_i* *gaigi* *esti na*

at.all who COMP AGR believe *the son.L God* AGR.be.at *this L*

testimuniu gi [*kurason-ña* *_i*].

testimony LCL heart-AGR

‘Whoever believes in the Son of God has this testimony within himself (lit. [Whoever that believes in the Son of God]_i, this testimony is in his_i heart).’ (NT, 1 John 5:10)

Furthermore, in this and other corpus searches of NT, we randomly encountered a number of other types of extragrammatical RPs that amplify the picture considerably. These other RPs, though impressionistically infrequent, have a wider syntactic distribution than the RPs in our experimental data: they can be null or overt, have a range of grammatical relations, and occur in argument and adjunct positions—essentially, wherever ordinary pronouns can occur. As might be expected by now, these RPs have the profile of intrusive resumption. Specifically, they are found:

- In relative clauses, both restrictive and nonrestrictive. Consider the overt RPs (in bold) in the nonrestrictive relative clauses in (37).

- (37) *Chamorro RPs in nonrestrictive relative clauses*

- a. *Overt RP subject*

Hirodes_i, [ni gaigi **gui**'_i lokkui' giya Hirusalen guenna na tiempu]
Herod COMP AGR.be.at *he* also LCL Jerusalem LCL.that L time
 'Herod_i who (lit. who he_i) was in Jerusalem at that time' (NT, Luke 23:7)

b. *Overt RP object of preposition*

Maria Magdalena_i [ni Ha dulalak ginin **guiya**_i sietti na aniti]
Mary Magdalene COMP AGR chase from her seven L devil
 'Mary Magdalene_i, out of whom he had driven seven demons (lit. who he had chased seven demons from her_i)' (NT, Mark 16:9)

- Inside islands and in other contexts involving syntactic distance of the RP from the filler, such as relative clauses in which a syntactically focused constituent intervenes between the filler and the RP. This is illustrated by the null and overt RPs in the relative clauses in (38).

(38) Chamorro RPs inside islands

a. *Null RP object inside existential relative clause island*

i pipitas mustâsa_i ni [[guaha [ch<um>uli' _i]] ya [ha sâtpi _i
the seed.L mustard COMP AGR.exist <WH[SBJ]>take and.then AGR sow
 gi gualu']]
 LCL field
 'a mustard seed that a person took and sowed in a field (lit. the mustard seed_i that there is someone who took it_i and then he sowed it_i in the field)' (NT, Matt 13:31)

b. *Overt RP object inside existential relative clause island*

i bi'uda_i [ni guiguia ha' na maisa], [ni [tâya'
the widow COMP she.PROG EMP L self COMP AGR.not.exist
 [umadadahi **gui**'_i]]
 <WH[SBJ]>care.for.PROG her
 'the real widow, who is all alone (lit. the widow_i who is by herself, who there is no one who is taking care of her_i)' (NT, 1 Tim 5:5)

c. *Null RP subject inside relative clause that contains a syntactically focused direct object*

si Alehândro, atyu i [che'chu'luluk bidâda-ña _i]
 NM Alexander that the work.L metal WH[OBJ].do-AGR.PROG
 'Alexander the coppersmith (lit. Alexander, that (one_i) who metal work (is what) he_i was doing)' (NT, 2 Tim 4:14)

d. *Null RP object inside relative clause that contains a syntactically focused subject*

i lalâhi_i [ni Guiya mismu esta <um>atyik _i]
the men COMP he same already <WH[SBJ]>choose
 'those whom he wanted (lit. the men_i who he himself (was who) had chosen them_i)' (NT, Mark 3:13)

- When the RP is focused. The overt RP subject in (39a) and the prepositional phrase with the overt RP object in (39b) occur in the syntactic focus position at the left edge of the relative clause CP.

(39) Chamorro RPs that are focused

a. *Overt RP subject*

si Abraham_i [ni **guiya**_i r<um>isibi i prumesan Yu'us']
 NM Abraham COMP he <WH[SBJ]>receive the promise.L God
 '[him] who had received the promises (lit.[him_i,] Abraham_i, who it was he_i; who had

received God’s promise)’ (NT, Heb 7:6)

b. *Overt RP object of preposition*

i che’lu-mu_i [ni put **guiya_i** na mâtai i Kristu]
the sibling-AGR COMP because.of him COMP AGR.die the Christ
 ‘the brother for whom Christ died (lit. the brother_i of yours that it was because of him_i that Christ died)’ (NT, 1 Cor 8:11)

Once again, the PAH provides indirect evidence that the intrusive RPs illustrated above are pronouns, not traces of a more permissive wh-movement. There are no null RPs in the corpus data which are (possessors of) direct objects and which pattern like wh-traces (nonpronouns), as opposed to pronouns, for the purposes of the PAH. Our systematic searches for null RP possessors uncovered 16 relative clauses or focus constructions in which an animate null RP is the possessor of the internal argument of a transitive verb root. All these constructions conform to the PAH as if the null RP is a pronoun. Either the clause is passive, or else the clause is transitive and its subject (the external argument) is also a pronoun. The corpus data also include 3 relative clauses of type (38) in which a transitive verb root has an animate intrusive RP as its internal argument and a wh-trace (a nonpronoun) as its external argument. These clauses too conform to the PAH as if the RP is a pronoun. One clause is passive; in the other two, the verb shows overt wh-agreement, so the PAH—which takes effect only when the verb shows the default subject-verb agreement—is evaded. See (38b), (38d), and the discussion in 3.2.

Finally, in the relative clause in (40), the expected gap or RP is replaced by a DP with descriptive content (*i dos* ‘the two’) that can be interpreted as containing a semantic variable bound by the filler, as in ‘the group consisting of father and son with the property λx [[the two individuals in x] work for the gospel]’.

(40) *Chamorro relative clause with no gap*

i tata_i yan i [lahi-ña_i] [ni macho’chu’ **i dos_{i+j}** put i
the father and the son-AGR COMP AGR.work the two because.of the
ibangheliu]
gospel

‘as a child with a father he served along with me in the cause of the gospel (lit. [as if he and I were] the father and his son who the two work because of the gospel)’ (NT, Phil 2:22)

Socioculturally, it is a very delicate matter to attempt to elicit speakers’ introspective judgments on the grammaticality of sentences from a sacred text. We have not attempted this sort of elicitation. However, we did ask one speaker to help us with the English translation of the sentence from NT that is cited in (41a). In this sentence, a null-headed relative clause contains a null RP that is the possessor of the possessor of the subject of an unaccusative verb—a violation of the locality condition on wh-movement of possessors. We provided the speaker with the Chamorro sentence, the information that it was from NT, the corresponding English sentence from the New American Bible, and some candidates for a more literal English translation. The speaker ignored the English translations and instead responded, “To me, the Chamorro sentence is a bit awkward to begin with. The difficult meaning here is *u fâttu chi-ña* because it does not go well with *baban kurason-ña*. I can’t translate it comfortably, actually.” The speaker then suggested two Chamorro sentences as possible alternatives to (41a). One contains a relative clause with a subject gap; the other, cited in (41b), contains relative clause with a null RP possessor that does not violate the conditions on wh-movement of possessors.

(41) a. Gof adahi ya mungnga na u guaha giya hamyu [u fâttu
very be.careful and.then don’t COMP AGR exist LCL you.PL AGR arrive
 [chi-ña [baban kurason-ña _i]].
limit-AGR bad.L heart-AGR

‘Take care that none of you have an evil heart (lit. Take care and let it not be that there is (one_i) among you who the limit of his_i evil heart will be reached).’ (NT, Heb 3:12)

- b. Gof adahi ya mungnga na u guaha giya hamyu [u fãttu
very be.careful and.then don't COMP AGR exist LCL you.PL AGR arrive
 [chi-ña _i] gi baba na hinassu].
limit-AGR LCL bad L thought
 ‘Take care and let it not be that there is (one_i) among you that his_i limit will be reached in evil thought.’

This response strongly suggests that (41a) is degraded. The speaker’s intuition that the sentence is awkward because the parts of the relative clause do not go well together is typical of Chamorro speakers’ reactions to e.g. island violations. For us, this is one small piece of independent evidence that the null RP possessor in (41a) is intrusive.

4.3. Interim Summary

The experimental evidence and the corpus evidence converge to make a strong case for the presence of two types of RPs in Chamorro: grammatically licensed RPs, on the one hand, and intrusive RPs, on the other. The grammatically licensed RPs are null and limited to exactly one syntactic context—possessors whose the possessive DP satisfies the three conditions on wh-movement of possessors. The intrusive RPs can be null or overt; they have a broader syntactic distribution than the grammatically licensed RPs, but are far less frequent, as is clear from the corpus data. Finally, the intrusive RPs have the distributional profile associated with intrusive resumption in other languages. All this is what we would expect if the grammars of individual languages differ in whether, and in what contexts, they have grammatically licensed RPs, but intrusive RPs—RPs that we view as extragrammatical artifacts of performance—are found in every language.

5. Grammatically Licensed and Intrusive RPs in Palauan

Our investigation of Chamorro raises the question of whether languages at other end of the RP spectrum distinguish between grammatically licensed RPs and intrusive RPs. Here we motivate an account of Palauan’s A-bar dependencies that relies on this distinction. Our analysis, which differs significantly from that offered by the late Carol Georgopoulos, is based exclusively on her fieldwork data (see Georgopoulos 1985 and 1991).

5.1. Georgopoulos’ Analysis

Georgopoulos observed that the gaps in A-bar dependencies in Palauan are either null or filled by an overt RP. Overt RPs occur as objects of *er*, which she analyzed as Palauan’s only preposition, but which could equally well be treated as Palauan’s only overt case marker (see 2.2.1). Otherwise, the gaps are null. For reasons to be discussed immediately, Georgopoulos proposed that Palauan’s A-bar dependencies are not created by wh-movement, but instead always involve a base-generated RP that is syntactically bound by a base-generated A-bar operator. Specifically, she claimed that the gaps in examples like (5), (7), (13) and (42a) are null RPs, while the gaps in (42b-c) are filled by an overt RP.

(42) Palauan A-bar dependencies as analyzed by Georgopoulos

- a. *Null RP subject*
 A sensei a [omes er a rengalek _i].
teacher R.IM.look P children

‘The one who is looking at the children is the teacher.’ (Georgopoulos 1991: 84, (42a))

- b. *Overt RP object of P (i.e. overt RP in the oblique case)*
 a buk_i [el l-ulemechar er ngii_i a Helen]
book COMP IR.3-IM.buy P 3S Helen
 ‘the book that Helen bought’ (Georgopoulos 1991: 64, (3a))
- c. *Overt RP object of P (i.e. overt RP in the oblique case)*
 A rengalek a [l-omes er tir_i a sensei]].
children IR.3-IM.look P 3P teacher
 ‘The ones who the teacher is looking at are the children.’ (Georgopoulos 1991: 84, (42b))
- d. *Overt RP object of P (i.e. overt RP in the oblique case)*
 a [debo dongedub er ngii_i]
IR.1P.INCL.go IR.1P.INCL.swim P it
 ‘the (beach) that we are going swimming at’ (Josephs 1975: 519, note 12, (b))

Georgopoulos (1991: 76-84) supported her proposal with two lines of argumentation. First, she pointed out that the distribution of null gaps and overt RPs in Palauan closely parallels the distribution of ordinary null and overt pronouns in the language. Overt RPs occur in exactly the contexts where ordinary pronouns must be overt; null gaps occur in the contexts where ordinary pronouns can be null. Therefore, she claimed, the simplest analysis is for all null gaps and overt RPs to be base-generated as pronouns that are syntactically bound by their fillers. Second, she showed that relative clauses, constituent questions (which she analyzed as structures that contain a relative clause), and sentential subjects are not islands for A-bar dependencies in Palauan. Her examples include the following.

(43) Some Palauan non-islands

- a. *Relative clause*
 A buk a [ku-dengel-ii a [redil [el uldurukl-ii _i el mo er a
book IR.1S-PF.know-3S woman COMP R.PF.send-3S to
 del-ak]]].
mother-1S
 ‘The book is (the thing) which I know the woman who sent _ to my mother.’ (Georgopoulos 1991: 80, (37a))
- b. *Relative clause in a constituent question*
 A del-ak a [diak ku-dengei el kmo ng-nger a [bo lo-ruul
mother-1S NEG IR.1S-IM.know COMP R.3S-what IR.FUT IR.3-do
 _i el mo belsoil]]
for dinner
 ‘My mother is (the one) who I don’t know what (is the thing which) _ will cook for supper.’
 (Georgopoulos 1991: 81, (38a))
- c. *Sentential subject*
 A John a [kltukl [el l-oltoir er ngii_i a Mary]].
John R.clear COMP IR.3-IM.love P 3s Mary
 ‘John is (the one) who it’s clear that Mary loves _.’ (Georgopoulos 1991: 80, (36b))

The non-islandhood illustrated in (43) might seem to be decisive evidence that Palauan’s A-bar dependencies are not derived by wh-movement. However, Georgopoulos (1991: 107-108, 115-117) also

showed that adjunct clauses and coordinate structures *are* islands for A-bar dependencies in Palauan (see section 2.2.2), so the island facts are, at best, equivocal.

As far as we know, Georgopoulos' analysis of Palauan's A-bar dependencies is unique. No other language has been claimed to have syntactic variable binding as its one and only strategy for deriving A-bar dependencies. Moreover, if her analysis is correct, it would pose a serious challenge to our claim that intrusive resumption can be found in every language. The reason is that under her analysis, every putative instance of intrusive resumption in Palauan could equally well be analyzed as involving syntactic variable binding of a grammatically licensed, base-generated RP. The reanalysis we propose below avoids the exceptionalism of Georgopoulos' analysis. It also makes room for Palauan to draw a distinction between grammatically licensed RPs and intrusive RPs—a distinction which, we suggest, finds some empirical support.

5.2. Our Reanalysis

Our alternative account of Palauan's A-bar dependencies proceeds from the following considerations. It is well known that there are languages with *wh*-movement in which certain types of relative clauses are weak islands, or not islands at all (e.g. Engdahl 1997 on Scandinavian languages, Sichel 2014, 2018 on Hebrew). Moreover, sentential subjects generally are not islands in verb-first languages (Chung 1991a). Together, these observations suggest that the putative non-islandhood of relative clauses and sentential subjects is not a particularly good indicator that Palauan lacks *wh*-movement.

We take it for granted that sentential subjects are simply not islands in Palauan, which is a verb-first language. What about relative clauses? If, contra Georgopoulos, Palauan *does* have *wh*-movement, can this movement operate out of a relative clause? *Wh*-agreement ought to shed light on this question. If the A-bar dependencies in (43a-b) are derived by 'long' *wh*-movement out of a relative clause, the verb of the relative clause should, in principle, show *wh*-agreement with the *wh*-trace left by that 'long' movement. What is interesting is that this never happens. Instead, the verb of the relative clause agrees with the *wh*-trace of the more local movement that *created* the relative clause in the first place. In (43a), for instance, the verb of the relative clause (*odurokl* 'send') shows *wh*-agreement with the subject *wh*-trace left by local movement of the head NP *redil* 'woman'. It does not show *wh*-agreement with the nonsubject *wh*-trace left by long movement of the null NP ('one, thing') out of relative clause. The situation in (43b) is similar. One way of describing this pattern is to say that when a verb has two arguments that are *wh*-traces, it must show *wh*-agreement with the *wh*-trace whose local antecedent is closer—in derivational terms, the *wh*-trace created first. If we accept this, then *wh*-agreement does not help to resolve the issue of whether relative clauses in Palauan are islands.

These indeterminacies open up space for a reanalysis of Georgopoulos' data that brings Palauan's A-bar dependencies more in line with crosslinguistic expectations. Our proposal runs as follows. To begin with, we maintain that Palauan does indeed have *wh*-movement (recall the evidence presented in section 2.2.2). *Wh*-movement affects DPs that have no overt case marking, as well as DPs that are case-marked with *er*, which we take to be the language's only overt case marker (see note 4 and cf. Nuger 2016). *Wh*-traces that are case-marked with *er* are spelled out as overt RPs. One could attribute this to a requirement that overt morphological case be recoverable, along the lines suggested by Hladnik (2015).²⁵ Otherwise, *wh*-traces are unrealized. Crosslinguistically, this is a familiar pattern (see e.g. Bauer 1997 on Māori, Hladnik 2015 on Slavic languages). We illustrate it by annotating the A-bar dependencies presented earlier in (42) to show that they are created by *wh*-movement.

²⁵ In general, *wh*-traces that are spelled out as RPs in a given language can be identified by their grammatical relation (Case). In Vata, for instance, subject *wh*-traces are spelled out as RPs; in Swedish, certain embedded subject *wh*-traces are spelled out as RPs; in Tongan, ergative *wh*-traces are spelled out as RPs; in Māori, nonsubject *wh*-traces are spelled out as RPs. Our proposal that Palauan *wh*-traces in the oblique case are spelled out as RPs conforms to this broader descriptive generalization.

- (44) Palauan A-bar dependencies in our reanalysis
- a. *Wh-movement of subject; wh-trace is unrealized*
 A sensei a [omes er a rengalek _i].
teacher R.IM.look P children
 ‘The one who is looking at the children is the teacher.’ (Georgopoulos 1991: 84, (42a))
- b. *Wh-movement of DP case-marked with er; wh-trace spelled out as overt RP*
 a buk_i [el l-ulemechar er ngii a Helen]
book COMP IR.3-IM.buy P 3S Helen
 ‘the book that Helen bought’ (Georgopoulos 1991: 64, (3a))
- c. *Wh-movement of DP case-marked with er; wh-trace spelled out as overt RP*
 A rengalek a [l-omes er tir_i a sensei].
children IR.3-IM.look P 3P teacher
 ‘The ones who the teacher is looking at are the children.’ (Georgopoulos 1991: 84, (42b))
- d. *Wh-movement of DP case-marked with er; wh-trace spelled out as overt RP*
 a [debo dongedub er ngii]
IR.1P.INCL.go IR.1P.INCL.swim P it
 ‘the (beach) that we are going swimming at’ (Josephs 1975: 519, note 12, (b))

The idea that the RPs in (44b-d) are the realizations of wh-traces is supported by the fact that they control wh-agreement, which we have taken to be agreement with a wh-trace (see section 2.2).

We claim further that Palauan has a standard collection of islands that includes adjunct clauses and coordinate structures, but not relative clauses or sentential subjects. Wh-movement cannot operate out of islands; that accounts for the ungrammaticality of the A-bar dependencies in (9). We take the non-islandhood of relative clauses and sentential subjects to have been established by Georgopoulos (1985, 1991). Significantly, her findings were later confirmed by Justin Nuger in his field research (Justin Nuger, personal communication).

Finally, we propose that when A-bar dependencies in Palauan do cross island boundaries, they involve intrusive RPs that may be overt or null. Our overall approach to intrusive resumption leads us expect these intrusive RPs to be found inside islands (i.e. adjunct clauses and coordinate structures) as well as in other Palauan structures that involve production complexity (because a wh-trace inside them counts as syntactically distant from a filler that lies outside). Tantalizingly, there are a very few examples of A-bar dependencies in Georgopoulos’s works that suggest that this expectation might be realized. These examples are not accounted for by her analysis, but have a natural explanation as instances of intrusive resumption. In other words, they constitute a small but crucial amount of evidence in favor of our proposal.

Consider first the A-bar dependencies in (45), in which the gap occurs inside an embedded CP headed by one of the complementizers *e* or *el kmo*. These Cs, which are selected by higher verbs of communication, select a realis TP complement (Chung and Georgopoulos 1988: 261-262). The key point for current purposes is that these gaps evidently do not control wh-agreement. In (45a), the gap is a nonsubject but the verb does not show nonsubject wh-agreement, which—recall—is realized by an irrealis form of the verb (see section 2.2). In (45b-c), the gap is a subject but the verb does not show subject wh-agreement, which is realized by a realis form of the verb plus the *absence* of subject-verb agreement.

- (45) No wh-agreement in Palauan CPs headed by *e* or *el kmo*
- a. *Embedded object gap but no wh-agreement*
 a buk_i [el le-dilu a Cathy [el kmo ng-chiliu-ii _i a Susan]]
book COMP IR.3-PF.say Cathy COMP R.3S-PF.read-3S Susan

‘the book that Cathy said that Susan was reading’ (Chung and Georgopoulos 1988: 262, (21a))

b. *Embedded subject gap but no wh-agreement*

Ng-techa a [l-oumerang [el d-omdasu [e **ng-mo** er a Siabal i]]?
 R.3S-*who* IR.3-*believe* COMP IR.1P-*think* COMP R.3S-*go* P *Japan*
 ‘Who (is the one who) they believe that we think will go to Japan?’ (Georgopoulos 1991: 92, (54c))

c. *Embedded subject gap but no wh-agreement*

A Mary a [kltukl [el kmo **ng-oltoir** er a John i]].
Mary R.*clear* COMP R.3S-IM.*love* P *John*
 ‘Mary (is the one who) it’s clear that i loves John.’ (Georgopoulos 1991: 80, (36a))

The fact that the embedded verb in (45a) (*menguiiu* ‘read’) is not in a wh-agreeing form is not particularly telling, since the normal realization of wh-agreement might simply be overridden by the embedded C’s demand that its TP complement be realis (see note 8 for some of the issues). The absence of wh-agreement in (45b-c) is more significant. In these cases the embedded C’s demand for a realis TP would be satisfied whether or not subject-verb agreement also appears. Given that absence of subject-verb agreement is part of the morphological signature of Palauan wh-agreement (Baier ms.), the presence of subject-verb agreement (in bold) in (45b-c) suggests that there is no wh-agreement with the gap in these examples. That in turn suggests that the gap is not a wh-trace, but rather a null pronoun—possibly, an intrusive null RP. More generally, we conjecture that CPs headed by *e* or *el kmo* are islands in Palauan. If the conjecture is correct, then the gaps in (45) could well be instances of intrusive RPs.²⁶

Consider next the A-bar dependency in (46), which appears in a footnote to Georgopoulos’ (1985: 86-89) demonstration that coordinate structures are islands for A-bar dependencies in Palauan. Here, an overt RP serves as one conjunct of a coordinate DP.

(46) *Palauan overt RP as one conjunct of a coordinate structure*

A Naomi a [kau-sechelei **ngii** me a Chris].
Naomi RECIP-*friend* *she* *and* *Chris*
 ‘Naomi_i (is the one who she_i) and Chris are friends.’ (Georgopoulos 1985: 87, note 27, (i))

Observing that an overt RP is possible in this example but a gap is not, Georgopoulos (1985: 87, note 27) attributed the impossibility of the gap to a failure of proper government. What remains a mystery in her analysis, given her approach to A-bar dependencies and her demonstration that coordinate structures are islands for them, is the fact that the overt RP is possible at all. For us, this overt RP is another instance of intrusive resumption.

To recapitulate, we propose that Palauan has wh-movement, a collection of islands that includes adjunct clauses and coordinate structures, and two types of RPs: grammatically licensed RPs and intrusive RPs. The grammatically licensed RPs are overt pronouns that realize wh-traces; they are limited to exactly one syntactic context—DPs case-marked with *er*, Palauan’s only overt case marker. The intrusive RPs can be null or overt; they are found in islands, including coordinate structures (as in (46)), CPs headed by *e* or *el kmo* (as in (45)), and presumably in other contexts that involve production complexity. Our proposal encompasses the A-bar dependencies in (45-46), and in this sense has slightly better empirical coverage than Georgopoulos’ account.

²⁶ Another possibility, suggested to us by Justin Nuger, is that wh-agreement in Palauan is realized by nonfinite verb forms, but the Cs *e* and *el kmo* require their TP complement to be finite. This suggestion could work for subject wh-agreement, but it is less obvious how it extends to nonsubject wh-agreement, given that irrealis verb forms in Palauan occur in finite clauses (e.g. negated clauses, antecedents of conditional sentences, imperatives; see note 8).

The idea that intrusive resumption is involved in (45-46) leads to the expectation that these sorts of dependencies will be produced readily, but judged as degraded or ungrammatical, by native speakers. The literature on Palauan syntax contains no discussion of speakers' reactions to these dependencies. Until such information is supplied, our proposal must be considered tentative. Nonetheless, the proposal, speculative though it is, makes a point. If languages exist in which every A-bar dependency is formed by syntactic variable binding of a grammatically licensed, base-generated RP, such languages could counterexemplify our claim that intrusive resumption can be found in every language. Georgopoulos maintained that Palauan was a language of just this type. What we have shown is that an equally plausible analysis of Palauan's A-bar dependencies can be given which does not involve syntactic variable binding of a grammatically licensed, base-generated RP. Moreover, even in Georgopoulos' works, data can be found which suggest that this language may also have intrusive RPs.

6. Conclusion

In our view, intrusive RPs are ungrammatical products of the performance system—productions that satisfy local well-formedness but not global well-formedness. As such, they could in principle be found in any language, not just those languages that lack grammatically licensed RPs.

We investigated the A-bar dependencies of Chamorro and—more briefly—Palauan. Based on evidence from fieldwork, an elicited production experiment, and the Chamorro New Testament, we showed that Chamorro has grammatically licensed null RPs in one narrow syntactic context, as well as null and overt RPs that are intrusive. These intrusive RPs are far less frequent, but more widely distributed, than Chamorro's grammatically licensed RPs. Based on our reanalysis of Georgopoulos' (1985, 1991) Palauan data, we tentatively proposed that Palauan has a similar divide between grammatically licensed overt RPs and intrusive (null and overt) RPs.

The idea that intrusive RPs should be found in every language is not the typical sort of universal claim, in that it applies to performance (E-language) as opposed to competence (I-language). At the same time, it opens the door to a reshaping of some familiar assumptions about the taxonomy of RPs. It is sometimes assumed that languages with grammatically licensed RPs allow island violations as a matter of course (e.g. Borer 1984 on Hebrew, McCloskey 1990 on Irish). Our reconception suggests that such languages may have both grammatically licensed RPs and—separately—intrusive RPs. If so, one might expect there to be differences in the frequency, distribution, and acceptability of the two types of RPs, as has been shown by Alexopoulou and Keller (2007) for Modern Greek.

What is needed to take these speculations further is more extensive production evidence from other languages—especially languages with grammatically licensed RPs. We offer the current study in the hopes that others will join us in pursuing this investigation.

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