

**Towards an Explanation of “Optional” Resumptive
Pronouns in Colonial Valley Zapotec and Macuiltianguis
Zapotec Relative Clauses**

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1. Introduction

1.1 Overview

Resumptive pronouns in relative clauses have been attested in both Colonial Valley Zapotec (CVZ) and Macuilianguis Zapotec (MacZ), yet the full nature of their distribution remains unknown. In this thesis, I evaluate several non-pragmatic approaches to understanding the behavior of these “optional” resumptive pronouns and find that most of them seem to influence resumptive pronoun usage in some, but not all, examples. I then consider a pragmatic explanation for resumptive pronoun usage in CVZ and MacZ relative clauses using information structure (Matić 2015). I explore whether resumptive pronouns in CVZ and MacZ relative clauses may occur, at least in part, as extensions of focus constructions that are already attested in each language. In working with a native speaker of MacZ, I find no concrete evidence for resumptive pronouns in MacZ relative clauses as extensions of focus constructions. I conclude that the behavior of resumptive pronouns in MacZ (and potentially CVZ) relative clauses should be analyzed as the result of interactions between multiple factors as opposed to one single factor.

My work is significant for three reasons: First, it offers an explanation for a phenomenon in CVZ and MacZ that is not yet fully understood. It also challenges approaches that consider only one factor to explain the distribution of resumptive pronouns in relative clauses typologically. Finally, it contributes an additional point of consideration to literature that has already suggested that multiple syntactic, pragmatic, and cognitive approaches influence resumptive pronoun usage, most notably Ariel (1999).

1.2 Structure of Thesis

In the remainder of Section 1, I introduce general attributes of relative clauses and resumptive pronouns. In Section 2, I give an overview of CVZ and MacZ and discuss my data. In Section 3, I discuss resumptive pronouns in relative clauses typologically and in CVZ and MacZ. In Section 4, I analyze potential non-pragmatic factors that may influence resumptive pronoun usage in CVZ and MacZ relative clauses. In Section 5, I propose an additional pragmatic framework

(focus constructions) for explaining the distribution of “optional” resumptive pronouns in CVZ and MacZ relative clauses. In Section 6, I conclude and propose directions for future research.

1.3 Relative Clauses

Relative clauses are constructions that combine an NP with a clause that gives additional information about it to create a new NP constituent (Schachter 1973, p42). Consider examples (1a) and (1b), which show an NP (1a) and the same NP relativized (1b).

(1)

(a) *the apple*

(b) *the apple that I ate*

Schachter (1973) observes that relativization can be conceptualized as the process of creating a new NP whose definition is specified according to the details provided in the relative clause (Schachter 1973, pp 42-43). The NP in (1b), for example, is a more specific (and complex) NP than that in (1a) as a result of relativization because it includes additional information characterizing the apple from (1a) as one that was eaten by a particular person. Schachter (1973) notes that dictionary definitions of nouns are often phrased as relative clauses because they provide specific information used to construct a noun’s unique meaning (Schachter 1973, p43). Schachter (1973) uses the sentences in (2a) and (2b) to show an example of the noun *flautist*, which is a highly specialized noun interchangeable with the relative clause *the person who played the flute*, (Schachter 1973, p43):

(2)

(a) The flautist was consistently flat. (Schachter 1973, p43, example 67a) (English)

(b) The person who played the flute was consistently flat. (Schachter 1973, p43, example 67b) (English)

There are several theories around how relative clauses are syntactically formed. One theory posits that the relative clause head originates outside the clause, with a relative pronoun moving

to the beginning of a CP that contains all parts of the relative clause beyond its head (Kalivoda and Zyman 2015, p219). Kalivoda and Zyman (2015) present the following analysis of the relative clause *the skateboard that I bought* under this theory, which is shown in example (3). The NP *the skateboard* is presented as a constituent originating separately from the CP *that I bought*:

(3) the [NP [NP skateboard] [CP \emptyset_i that I bought t_i]] (Kalivoda and Zyman 2015, p219, example 2)(English)

Another theory argues that a relative clause head moves outside of the clause from an initial position inside of it (Kalivoda and Zyman 2015, p219). Kalivoda and Zyman (2015) use the diagram in Figure 1 to show an example of this analysis. The relative clause head *skateboard* originates in the CP but moves out of it during relativization (Kalivoda and Zyman 2016, p219).

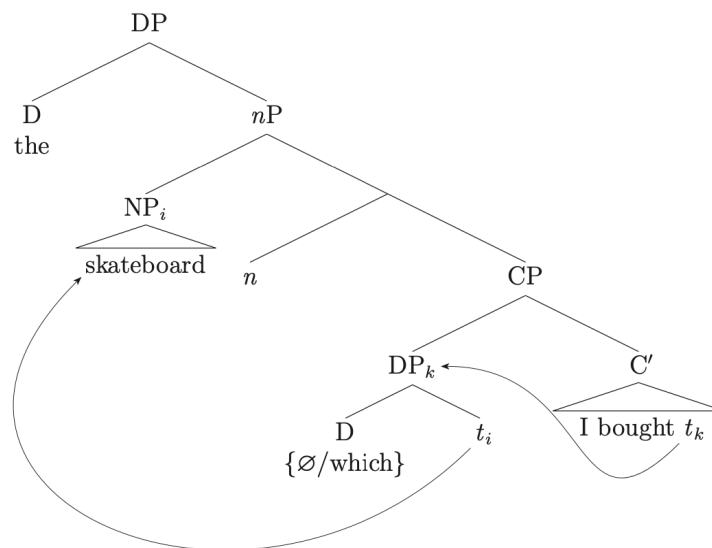


Figure 1. Visualizing the relative clause head moving out of the CP (Kalivoda and Zyman 2016, p220, example 3).

1.4 Resumptive Pronouns

When a relative clause is formed, something called a *gap* appears where the relativized element would have been (Sells 1984, p4;p9). Consider the examples in 4(a-d), with (4a) and (4d) modified from examples (1a) and (1b) above). Example (4d) shows a relativized version of (4a) with a gap at the end of the clause.

(4)

(a) *the apple*

(b) *I ate the apple.*

(c) *I ate it.*

(d) *the apple that I ate _____*

Resumptive pronouns are pronouns that “fill” gaps, meaning they are interchangeable with gaps where gaps occur (Sells 1984, p9). Consider the example in (5), which shows an English relative clause with the resumptive pronoun *it*. The example in (5) is not grammatical because resumptive pronouns are not typically allowed in English relative clauses (Sells 1984, pp11-15).

(5) **the apple that I ate it*

Chao and Sells (1983) establish two metrics used to classify resumptive pronouns: the first is that a resumptive pronoun is anything that “fills” a gap, regardless of whether or not its presence is grammatical in a particular language (Chao and Sells 1983, p47). The relative clause in (5), for example, contains the resumptive pronoun *it* even though it renders the sentence ungrammatical. Chao and Sells (1983)’s second metric asserts that resumptive pronouns not only fill gaps, but are *syntactically understood* to have “filled” these gaps, meaning that a resumptive pronoun may appear instead of a gap wherever gaps may occur (Chao and Sells 1983, p47). Chao and Sells (1983) claim that in order for a language to permit resumptive pronouns, resumptive pronouns in that language must fulfill both the aforementioned metrics — that is, they must occupy the same position otherwise occupied by a gap and follow the same grammatical rules that governed the distribution of that gap (Chao and Sells, pp47-48).

2. Zapotec Languages and Data

2.1 Zapotec Languages

The Zapotec languages are a family of Otomanguean languages native to Oaxaca, Mexico. There are also substantial numbers of Zapotec speakers in the United States in diaspora (Foreman 2006, Lillehaugen 2020). Zapotec languages have a long written history and have been written in the roman alphabet since the 16th century (Oudijk, 2008). CVZ was used in Oaxaca from the 16th to near-18th century (Plumb 2017). Written documents in CVZ during this period include handwritten manuscripts and religious texts, and are preserved in physical and digital archives (Broadwell et al 2020).

MacZ is a Zapotec language currently spoken in northern Oaxaca in the town of San Pablo Macuilianguis and in diaspora (Foreman 2006, pp3-5). MacZ is understudied, but there are several published resources on multiple aspects of the language, including phonology (Foreman (2006), Zimmermann (2016), Riestenberg (2017), Barzilai and Riestenberg (2021)), morphology and syntax (Munro (2002), Foreman (2006), Foreman and Munro (2007), Foreman and Dooley (2015)), language revitalization (Riestenberg (2020)), and a MacZ Talking Dictionary (Foreman et al. (2019)).

Like most Zapotec languages, both CVZ and MacZ's canonical word order is VSO, though it is possible to focus either the subject or the object of a clause by placing it before the verb (Munro 2002, p4). Tense and aspect are marked using prefixes that attach to verbs, and each language contains both clitic pronouns and free pronouns (Munro 2002, p4). CVZ and MacZ are not pro-drop languages — subjects are usually obligatory in CVZ and MacZ verb phrases (Plumb 2017, Foreman 2006, p293). The example in (6) shows a CVZ sentence with a VSO structure, which is marked with a VSO schema. (6) also provides an example of the irrealis aspect (IRR), denoted by the prefix *qui-* on the verb *quieni*, and the stative aspect (STA), denoted by the prefix *n-* on the verb *naca*. Additionally, example (6) shows an example of the first person singular free pronoun *naa* after the word *sica* 'thus' as well as the first person singular clitic pronoun *=yaa*, attached to the possessive construction *xitichaya* 'my words' and the verb *naca* 'be'.

(6)¹

V	S	O						
qui-eni	quirra benni	gueche	ri	xi-tichia=ya	sica	naa	Manuel	
IRR-know	all person	pueblo	this	POSS-word=1s	thus	PRO.1s	Manuel	
de la Cruz	n-aca=ya	benni	hualachi	tuari	guechee	San		
de la Cruz	STA-be=1s	person	native	here	pueblo	San		
sebastian	n-agaba=ya	barrio	quiezee					
Sebastian	STA-count=1s	neighborhood	Quieze					

All people of this town may know my words: Thus I Manuel de la Cruz am native of here, the pueblo San Sebastian I am counted in the neighborhood Quieze...

(Taken from Bayona et al. 2021, page 1, lines 4-6; Te744, page 1, lines 4-6) (CVZ)

The example in (7) shows a MacZ sentence with a VSO word order. (7) also shows an example of the habitual aspect prefix *r-* at the beginning of the verb *runni* and an example of the first person singular clitic *=ya* ' attached to the possessive construction *naanqui'ya* 'my mother'.

(7)

V	S	O
Runni	naan-qui' =ya'	yíina'=to'.
HAB.make	mother-of=1sG	chili=DIM
'My mother is making yellow mole'		

(Taken from Foreman and Munro (2007), page 142, example 2) (MacZ)

2.2 Data

I compiled a corpus of CVZ relative clauses and a corpus of MacZ relative clauses. The CVZ corpus contains a total of 104 relative clauses, 78 of which are subject-headed and 26 of which are object-headed. Of the subject-headed relative clauses, 24 contain a resumptive pronoun while 55 do not contain a resumptive pronoun. None of the CVZ object-headed relative clauses contain a resumptive pronoun.

¹ I use the following schema to denote the word order in my examples: V - verb. S - subject. O - object. Comp - complement.

I collected most of the CVZ relative clauses from publications on CVZ, specifically: Anderson and Lillehaugen (2016), Bayona et al. (2021), Broadwell (2015), Foreman and Lillehaugen (2017), Foreman and Munro (2007), Gold et al. (2021), Lillehaugen (2006), Munro (2002), Munro et al. (2017), Munro et al. (2018), and Plumb (2017). The remaining CVZ relative clauses I found in documents available on Ticha, an online digital corpus of CVZ documents (<https://ticha.haverford.edu>; Lillehaugen et al, 2016). See Appendix 1 at the end of the thesis for a complete list of the CVZ manuscripts and printed texts used to compile my CVZ corpus.

The MacZ corpus contains 31 relative clauses, 27 of which are subject-headed and 4 of which are object-headed. Of the subject-headed relative clauses, 15 contain a resumptive pronoun and 12 do not contain a resumptive pronoun. None of the object-headed relative clauses contain a resumptive pronoun. See Table 1 for a list of the number and types of CVZ and MacZ relative clauses in my corpus.

Some of the MacZ relative clauses I consult are taken from examples given in Foreman (2006), Foreman and Munro (2007), and Munro (2002). The rest were provided by Margarita Martínez, a native speaker of MacZ, who I consulted during elicitation sessions.

Since data from CVZ is from a historical corpus, the types of analyses and conclusions that can be made about the usage of resumptive pronouns in CVZ relative clauses are limited. Analyses of resumptive pronouns in relative clauses in modern Zapotec languages, however, have revealed patterns that could also apply to CVZ.

Table 1. Summary of Relative Clauses in CVZ and MacZ Corpora

	CVZ	MacZ
Total Number of Relative Clauses	104	31
Subject-Headed Relative Clauses	78	27
Object-Headed Relative Clauses	26	4
Subject-Headed Relative Clauses With a Resumptive Pronoun	24	15
Subject-Headed Relative Clauses Without a Resumptive Pronoun	54	12
Object-Headed Relative Clauses With a Resumptive Pronoun	0	0
Object-Headed Relative Clauses Without a Resumptive Pronoun	26	4

3. Resumptive Pronouns in Relative Clauses

3.1 Typology of Resumptive Pronouns in Relative Clauses

Resumptive pronouns in relative clauses have been studied typologically using a variety of approaches, including syntactic, pragmatic, and cognitive ones (Farby et al (2010); Erteschik-Shir (1992); Ariel (1999)).

One notable approach to explaining the behavior of resumptive pronouns in relative clauses is accessibility, an idea proposed by Keenan and Comrie (1977) and expanded upon by Ariel (1999). Keenan and Comrie (1977) introduce the Accessibility Hierarchy (AH), which ranks different types of NPs (subject NPs, direct object NPs, etc.) according to their relativizability, and establishes a way to account for their behaviors within the AH (Keenan and Comrie 1977,

p68; pp89-92). They argue that resumptive pronouns more commonly occur on less accessible (lower ranked) NPs than on more accessible (higher ranked) NPs (Keenan and Comrie 1977, p92). Additionally, they say that a particular way of relativizing two NPs in a language should also be able to relativize all NPs in between them in the AH (Keenan and Comrie 1977, p67). Ariel (1999) argues that resumptive pronouns are more likely to occur in relative clauses when the relative clause head is less accessible, where accessibility is defined in cognitive terms that capture a variety of linguistic phenomena (Ariel 1999, p217).

Resumptive pronouns in relative clauses have also been analyzed pragmatically. Erteschik-Shir (1992) claims that while some resumptive pronouns are governed syntactically, others (here, certain resumptive pronouns in Hebrew relative clauses) are pragmatically-influenced and serve to indicate restrictive focus (Erteschik-Shir (1992), pp 98-99). Farby et al (2010) elaborate on this phenomenon in Hebrew relative clauses, arguing that resumptive pronouns in relative clauses that are close to the head are best explained pragmatically, because this closeness to the head precludes the need for resumptive pronouns to save the grammaticality of a sentence (a syntactic function) or to accommodate a large amount of lexical material between themselves and the relative clause head (a cognitive function) (Farby et al, 2010, pp1-2). Sharvit (1999) notes that when a resumptive pronoun occurs in a relative clause, it is more conducive to a *de re* interpretation than to a *de dicto* interpretation (Sharvit 1999, p593).² Drubig (2003) observes that resumptive pronouns in Akan, a language in the Kwa branch of the Niger-Congo family (Bendor-Samuel 2015) (Drubig 2003, p4), occur in focus constructions when they refer to an animate NP (Drubig 2003, p66).

3.2 Relative Clauses and Resumptive Pronouns in CVZ and MacZ

3.2.1 CVZ and MacZ Relative Clauses

² A *de dicto* interpretation refers to an entity whose existence is not guaranteed, while a *de re* interpretation refers to an entity that is already known to exist (Sharvit 1999, p593). As an example, consider the phrase *I will enjoy my favorite class*. A *de dicto* interpretation establishes that you do not yet know what your favorite class is, or if you will even have a favorite class, but that you will enjoy it once you know what it is and if it exists. A *de re* interpretation, on the other hand, establishes that there is already a specific class you are taking that you know to be your favorite class.

MacZ relative clauses use the relative pronoun *nu'* (Munro 2002, p7; Foreman 2006, p78). A prototypical MacZ subject-headed relative clause without a resumptive pronoun is given in example (9).

(9)

			RC [		GAP]	
Nabiiá'=ni	=tè	bènnè'	nu'	gucchu	_____	ittsa-icchá	=lù'	
s/know=PREP	=1sD	person	REL	C/cut	_____	hair-head	=2sG	

I know the person who cut your hair. (Foreman (2006), p233, example 22) (MacZ)

3.2.2 Relative Clauses in CVZ Grammars

Lillehaugen et. al (2016) have made available digitized versions of two Zapotec grammars written during the Mexican colonial period — Levanto (1732) and de Cordova (1578). Although each grammar mentions relatives, I did not come across any information regarding the distribution of resumptive pronouns in CVZ relative clauses.

De Cordova (1578) mentions relatives in several places, although de Cordova (1578) only writes about the relative pronoun *ni*, saying that it is the only relative pronoun used (see de Cordova (1578) pp10r,12r,15r-15v,45r for each mention). Similarly, Levanto (1732) mentions relatives in Zapotec but only briefly. (10) provides an excerpt from Levanto (1732) describing relatives:

(10)

“Ay unos meros relativos otros interrogativos y otros absolutos. Delos meros relativos solo en [Ni?] [?] qual sirve para los tres generos asi en singular como en plural.”

(Levanto 1732, page 8)

Approximate Translation: *There are some true relatives, other interrogatives and other absolutives. For the true relatives there is only Ni which is used for the three genders in this way for both singular and plural.*⁵

⁵ Received translation help from Brook Lillehaugen.

I found no references to resumptive pronouns in relative clauses in either de Cordova (1578) or Levanto (1732).

3.2.3 Resumptive Pronouns

CVZ and MacZ relative clauses may occur with or without subject resumptive pronouns (Foreman and Munro (2007)). Object resumptive pronouns are not attested in CVZ and are considered ungrammatical in MacZ (Foreman and Munro (2007), pp 146-148). Thus, when speaking about CVZ and MacZ, I will use the phrase *resumptive pronouns in relative clauses* to refer to subject resumptives in subject-headed relative clauses unless I explicitly note otherwise.

The behavior of some resumptive pronouns in MacZ relative clauses (and perhaps also in CVZ relative clauses, Foreman and Munro (2007) hypothesize) can be explained syntactically.

Foreman (2006) observes that in MacZ, resumptive pronouns are required in two cases: if the phrase without the resumptive pronoun is ambiguous, and if the argument immediately following the verb is a clitic pronoun (Foreman 2006, p340). Ambiguity arises when a verb's object could also be interpreted as the verb's subject (Foreman 2006, p340). Consider the sentence in (11), which contains a resumptive pronoun, and the sentence in (12), which does not. The meanings of the sentences differ depending on whether a resumptive pronoun is present or absent. In (11), the NP *beyùú* 'the man' is interpreted as the object of the verb *begwiia* 'see' (gapped in the relative clause in (12)), with 'Felipe' as the subject. In (12), however, the resumptive pronoun is coindexed with the NP 'the man', which is the subject of the verb 'see'. 'Felipe' is the object of the verb 'see'.

(11)

RC [		GAP]
beyùú' nu' begwiia'	Felipe =à	nààyá'	naa =nà bettsi' =ya'
man <u>REL</u> C/see	<u>Felipe</u> =INVIS	<u>yesterday</u>	S/be =3N man's.brother =1SG
<i>The man who Felipe saw yesterday is my brother.</i>			
<i>*The man who saw Felipe yesterday is my brother.</i>			

(Foreman (2006), p304, example 174) (MacZ)

(15)

	RC	[	GAP]	
Beyùú'	<u>nu'</u>	be-yuuni	<u>carru ch=à'</u>	àbíidi	b-eein=nà=ntè cobra.
man	rel	cmp=fix	car	of=1sG	nothing cmp-do=3s=1sA charge
'The man who fixed my car didn't charge me anything'					
(Munro (2002), p7, example 7) (MacZ)					

Foreman and Munro (2007) hypothesize that, as in MacZ, resumptive pronouns in unambiguous CVZ relative clauses may also be “optional”. The syntactic environments where resumptive pronouns appear in CVZ relative clauses are strikingly similar to the syntactic environments of CVZ relative clauses with no resumptive pronoun. Examples (16) and (17) show almost identical CVZ relative clauses, with a resumptive pronoun in example (16) and a gap in example (17).

(16)

	RC	[	RP]	
sanssima trinidad	<u>ni</u>	n-aca= nij	Dios vixoçe	Dios xinij	Dios espiritu santo
holy	trinity	REL STA-be=3	God father	God son	God spirit holy
]
chona Personas					
three people					
<i>...the holy trinity, who are God the father, God the son, God the holy spirit, three people...</i> (Ma733-1, lines 4-6) (CVZ)					

(17)

	RC	[	GAP]	
misterio xtenni SS.a	trinidad	<u>ni</u>	na-ca	___	Dios bixooçe Dios xinni chela Dios espiritu s.to
mystery of	holy	trinity	REL STA-be		God father God son and God spirit holy
<i>...the mystery of the holy trinity, who are God the father, God the son, and God the holy spirit,</i>					
]
Choona persona					
three person					
<i>three persons...</i> (Levanto 1732, p.102, lines 18-20) (CVZ)					

The example in (17) comes from a manuscript dated to 1733 and the example in (17) is from a text published in 1732. This suggests that resumptive pronouns could have been both present and absent in CVZ relative clauses during a similar time period.

Although Foreman and Munro (2007) classify the resumptive pronouns in examples (14) and (16) as “optional”, they do not offer a hypothesis for why this optionality is allowed. Plumb (2017) attempts to account for resumptive pronouns in relative clauses in four Zapotec languages — CVZ, MacZ, San Lucas Quiaviní Zapotec (SLQZ), and Atepec Zapotec (AZ) — by comparing their occurrences in restrictive relative clauses (RRCs) versus non-restrictive relative clauses (NRRCs). Plumb (2017) finds that in CVZ, resumptive pronouns seem to occur more frequently in NRRCs, but they still occur in both RRCs and NRRCs (Plumb (2017), p3, Table 2).⁶

The aforementioned approaches are syntax-based. Given that examples (14) through (17) show that almost identical CVZ relative clauses and completely identical MacZ relative clauses can be grammatical whether or not they contain a resumptive pronoun, it seems unreasonable to expect that the presence or absence of these these pronouns is determined purely by the syntax. In the following section, I explore several non-pragmatic approaches to explaining the distribution of resumptive pronouns. I find that while many of them seem to influence the distribution of resumptive pronouns (most notably in MacZ), no single approach is enough to explain all the data.

4. Non-Pragmatic Explanations for Resumptive Pronouns in CVZ and MacZ Relative Clauses

In this section, I present several non-pragmatic explanations for the distribution of “optional” resumptive pronouns in CVZ and MacZ relative clauses. I consider accessibility (4.1), the restrictiveness of the relative clause (4.2), transitivity of the relativized verb (4.3), animacy of the

⁶ Plumb (2017) does observe, however, that in AZ resumptive pronouns are both grammatical and necessary in nonrestrictive relative clauses and ungrammatical in restrictive relative clauses (Plumb 2017, page 5). While I am unable to explore AZ in this thesis, this would be a worthwhile focus of future research on resumptive pronouns in relative clauses across Zapotec languages.

relative clause head (4.4), definiteness of the relative clause head (4.5), singular versus plural subjects (4.6), and the degree of formality used to refer to the head of the relative clause (4.7). In Section 4.8, I summarize my findings. I conclude that while no one explanation is sufficient to explain all of the data in my corpora, several seem to have an effect on the distribution of some “optional” resumptive pronouns, which suggests that they may contribute, at least in part, to a more multidimensional phenomenon, an approach supported by Ariel (1999).

4.1 Accessibility

One theory that has been introduced to characterize the presence of resumptive pronouns in relative clauses (and relativization in general) is the AH (Keenan and Comrie, 1977). The AH establishes a hierarchy of relativizability for different types NPs: subjects (SU), direct objects (DO), indirect objects (IO), obliques (OBL), genitives (GEN), and objects of comparison (OCOMP) (Keenan and Comrie 1977, p66). They present the following hierarchy:

18) SU > DO > IO > OBL > GEN > OCOMP (Keenan and Comrie 1977, p.66)

This hierarchy establishes that subjects are often the most relativizable NP, followed by direct objects, indirect objects, obliques, genitives, and objects of comparison. Keenan and Comrie (1977) establish the following three constraints that govern the hierarchy: first, all subjects must be relativizable (Keenan and Comrie 1977, p67). Second, a way to relativize two kinds of NPs in the AH should also be able to relativize all types of NPs in between them (Keenan and Comrie 1977, p67). Third, a language may choose not to relativize all NPs below a certain point in the hierarchy in a particular way (provided that all NPs between that point and another point above it are relativizable) (Keenan and Comrie 1977, p67). Keenan and Comrie (1977) also claim that NPs at lower positions on AH are more likely to take resumptive pronouns than NPs in higher positions on the AH, arguing that resumptive pronoun usage in these areas aids in keeping sentences understandable (Keenan and Comrie 1977, p92).

Foreman and Munro (2007) observe that CVZ and MacZ allow resumptive pronouns in subject-headed relative clauses and genitive-headed relative clauses, but resumptive pronouns in

object-headed relative clauses have not been seen in CVZ and are considered ungrammatical in MacZ (Foreman and Munro 2007, pp 146-148).⁷ If both subject-headed and genitive-headed relative clauses are attested in CVZ and MacZ, all NPs in between the two on the AH (including objects) would be expected to be grammatical with a resumptive pronoun when relativized (Foreman and Munro (2007), p.148) (Plumb (2017), p.6). Not only does the AH not explain this pattern in CVZ and MacZ, this pattern violates the AH.

Ariel (1999) expands upon the notion of the AH and proposes an alternative framework for accessibility that characterizes resumptive pronoun usage as a result of factors that stem from humans' cognitive abilities to process sentences. Higher accessibility, Ariel (1999) argues, implies that resumptive pronouns are more likely to be absent, whereas lower accessibility increases the likelihood of resumptive pronouns appearing (Ariel 1999, p217). Ariel (1999) frames accessibility as the relationship between the head of the relative clause and the clause itself and argues that several factors may cause the latter to become more separated from, and thus less accessible to, the former (Ariel 1999, p223; p228). These factors include the amount of lexical material separating the relative clause from its head, the amount of lexical material in the head itself (its complexity), any grammatical rules that govern resumptive pronoun usage, and whether the relative clause is a RRC or a NRRC (Ariel 1999, pp223-224).

Ariel (1999) argues that accessibility is characterized not by any one of these features, but by how these features interact to create environments that are more or less accessible (Ariel 1999, pp235-236). Ariel (1999) also notes that the accessibility of different environments may be characterized differently among languages, and that the factors she considers do not comprise an

⁷ No resumptives have been found in object-headed CVZ relative clauses, though Foreman (2006) notes one possible example of a potential object-headed relative clause with a resumptive pronoun (Foreman 2006, p298):

- a) Beyùú' nu' ànúúdi rulaa'niknài naanà Yhiida'
 beyùú' nu' ànúúdi rulaa' =ni =nà naa =nà Yhiida'
 man REL nobody H/like =3G =3A S/be =3 Chinantec

The man who nobody likes is Chinantec. (Foreman 2006, footnote 24, example i, p298)

Foreman (2006) says, however, that this example requires further investigation before any definite conclusions can be drawn (Foreman 2006, p298). In a conversation I had with him, he said the =3A in the gloss could instead be a kind of glottal stop in MacZ, though he wasn't fully certain (John Foreman, personal communication, March 25, 2022).

exhaustive list of possible influences of resumptive pronoun usage (Ariel 1999, p235; p238). Although Ariel (1999) does not state this explicitly, this conceptualization of different features interacting to encourage or discourage resumptive pronoun usage closely resembles Optimality Theory (OT) (Prince and Smolensky, 1993). I will keep this in mind when analyzing different factors that seem to influence resumptive pronoun usage in CVZ and MacZ relative clauses in the following subsections.

4.2 Restrictive vs Nonrestrictive Relative Clauses

Ariel (1999) observes that resumptive pronouns tend to occur more often in NRRCs than in RRCs, and explores this trend typologically. Plumb (2017) presents data specific to CVZ and several modern Zapotec languages to further support this observation. In Plumb’s (2017) data, resumptive pronouns were observed more often in NRRCs than in RRCs, although they did occur in both types of clauses.

The CVZ data in my corpus follows a similar trend, with more NRRCs containing resumptive pronouns than RRCs. Out of 76 subject-headed relative clauses I consider, 33 were restrictive and 43 were non-restrictive. 26 RRCs and 26 NRRCs did not contain a resumptive pronoun, while 17 NRRCs and 7 RRCs contained a resumptive pronoun. These results are shown in Table 2.

Table 2. Distribution of Resumptive Pronouns in NRRCs and RRCs in CVZ

RRC, RP Present	NRRC, RP Present	RRC, RP Absent	NRRC, RP Absent
7 (9.2%)	17 (22.4%)	26 (34.2%)	26 (34.2%)

The examples in (19) and (20) demonstrate that resumptive pronouns may be present or absent in CVZ NRRCs. Example (19) shows a NRRC with a resumptive pronoun, and example (20) shows a NRRC without a resumptive pronoun.

(19) **RC [RP]**
 jesu christo [_{REL}ni na-chiba=**ni** qui##]
 Jesus Christ REL STA-be.located.elevated=3 heaven
 ‘Jesus Christ, who (he) is (located elevated) in heaven’
 (Foreman and Lillehaugen (2017), example 44) (Feria 1567:45r;6) (CVZ)

(20) **RC [GAP]**
 B, Iefu Christo ni pe-zaa _____ Sancto Thomas de Aquino
 B[ejuana], Jesus Christ REL PERF-create Saint Thomas de Aquino
 ‘Lord, Jesus Christ, who created Saint Thomas de Aquino’
 (Aguero (1666), p55, lines 6-7) (CVZ)

Similarly, resumptive pronouns may be either present or absent in CVZ RRCs. Example (21) shows a RRC with a resumptive pronoun, and in example (22) the second relative clause is a RRC without a resumptive pronoun.

(21) ti- nni a anna oa- lij =ca quitaalij beni
 T- say 1:s now PRF straight,true =EMPH all person
 Christiano ninatij nabaani anna, chelani

RC [GAP] RC [
 Christiano ni n- ati na- baani anna chela ni
 Christian REL STA die STA alive now and REL

coteteni ...

RP]
c-o- tete =ni
 IRR-CAUS- cross =3

‘I say then that all Christians present, past and those to come...’⁸
 (Lit. I say now truly that all Christian people who are dead or alive or will be born...)
 (Broadwell (2015), page 173, example 38) (Feria 1567:f46v) (CVZ)

⁸ This translation accompanied a Spanish translation, which I omit here.

Ariel (1999) provides some explanation for why resumptive pronouns may occur more often in NRRCs than in RRCs. Since a NRRC is not necessary to fully characterize the meaning of the relative clause head, it is considered to be separate from both the head and the matrix clause (Ariel 1999, p223; p228). RRCs, on the other hand, require the relative clause to fully characterize the head, which implies that they are far less separable (Ariel 1999, p22). A resumptive pronoun may thus be more conducive to making up for the distance between a NRRC and its head, should this distance hinder the clause's ability to be understood (Ariel 1999, p223; p228) (Keenan and Comrie 1977, p92).

4.3 Transitivity of the Relativized Verb

My CVZ corpus contains examples of relative clauses with transitive verbs that may or may not contain a resumptive pronoun. The relative clause in (26), for example, contains two transitive verbs, each with a resumptive pronoun. (27) uses the same transitive verb as (26) but does not include a resumptive pronoun. The relative clause in (27) is not ambiguous in this context, because the first-person singular free pronoun *naa* at the end of the clause is likely the object of both the verbs *beza* 'created' and *benichagui* 'do good' (Brook Lillehaugen, personal communication).

(26)

RC [RP]

... ti-yeliilachi=a Dios xi-bezuanna=ya ni be-za=ni
 HAB-believe=1s God POSS-lord-1S REL PERF-create=3
 '... I believe in my Lord God, who created (and)

RC [RP]

ni b-eni-chagui=ni naa
 REL PERF-do-good=3 PRON.1S
 who did good for me'

(Foreman & Munro 2007: ex 20) (Sebastián Tectipaque 1610-1, 8-9) (CVZ)

relative clause with a transitive verb can be grammatical both with and without a resumptive pronoun (Foreman 2006, p.311). According to Foreman (2006), the example in (30) is not ambiguous because it parses the NP *bènnè* ‘the person’ as the subject. This is because the object *ittsacchàlù* ‘your hair’ is inanimate and cannot be reasonably interpreted as the subject (Foreman 2006, p.341).

- (30) **RC [RP or GAP]**
 Nabiiá’=ni =tè’ bènnè nu’_i gucchu (=nà_i) ittša-cchá =lù’
 S/know=PREP =1sD person REL C/cut (=3N) hair-head =2sG
I know the person who cut your hair. (Foreman 2006, p297, example 161) (MacZ)

The examples above demonstrate that not all transitive verbs in unambiguous contexts in MacZ require resumptive pronouns.

Similarly, intransitive verbs in MacZ also seem to be able to take “optional” resumptive pronouns. The example in (31) shows a relative clause with a resumptive pronoun on an intransitive verb, and the example in (32) shows the same relative clause without the resumptive pronoun. Note that there is no overt relativizer in either example.

- (31) **RC [RP]**
 Benne’ beyuu’ ru-xisi=ye=na’ naa=ye xudi=ya’.
 Person man HAB.AGT-laugh=3FORM=DIST STAT.be=3FORM father=1SG.GEN
 ‘That man who is laughing is my father.’
 (Margarita Martínez on November 18, 2022) (MacZ)

- (32) **RC [GAP]**
 Benne’ beyuu’ ru-xisi=___=na’ naa=ye xudi=ya’.
 Person man HAB.AGT-laugh=DIST STAT.be=3FORM father=1SG.GEN
 ‘That man who is laughing is my father.’
 (Margarita Martínez on November 18, 2022) (MacZ)

Following the gap in example (32) is a distal pronoun =na', which is used to refer to entities who may be seen but who are not necessarily close by (Foreman 2006, p.203). This pronoun is not a resumptive pronoun because there is a gap preceding it. Its presence in the relative clause, however, is noteworthy because it is still a pronoun coindexed with the relative clause head. This raises the question of how such pronouns are interpreted in relation to resumptive pronouns. They are not resumptive pronouns, but it is curious that they remain as an additional reference to the relative clause when a resumptive pronoun may be present or absent. A deeper analysis of distal pronouns and other proximity-marking pronouns in MacZ is beyond the scope of this thesis, but is worth exploration in future research.

Notably, when Foreman (2006) tested the same English sentences as those in (31) and (32), the example in (31) with the resumptive pronoun was not favored (see Foreman 2006, p310, example 184). Additionally, when I asked my consultant about the sentences in (33) and (34), which each contain an intransitive verb, she did not like the resumptive pronoun in sentence (34).

(33)

	RC	[		GAP]	
Yaa	nu'	gu-bixxi	_____	=na'	naa=na	vieju.
Tree	REL	PAST-fall	_____	=DIST	STAT.be=3	old
'The tree that fell was old.'						

(Margarita Martínez on November 3, 2022) (MacZ)

(34)

	RC	[		RP]	
*Yaa	nu'	gu-bixxi	=na=na'	naa=na	vieju.	
Tree	REL	PAST-fall=3	=DIST	STAT.be=3	old	

Bad with any meaning, e.g. cannot mean 'The tree that fell was old.'

(Margarita Martínez on November 3, 2022) (MacZ)

There are two key differences between example (34) and example (31): the relative clause in example (31) has an animate head and uses a formal resumptive pronoun, whereas the relative clause in (34) has an inanimate head and an informal resumptive pronoun. Given that Ariel

(1999) defines accessibility as a weighted influence of many factors, these examples suggest that it is worth investigating as many potential factors as possible to explain resumptive pronoun usage in MacZ (and potentially CVZ) because they may influence each other in different ways depending on what features are present. Perhaps intransitive verbs in combination with inanimate or informal relative clause heads create a particular environment in which resumptive pronouns are not favored.

It is also worth noting that my consultant who gave the sentences in (31) and (32) said she was debating whether or not to include the relative pronoun *nu* ' because it sounded too informal. In section 4.6, I explore the formality of the resumptive pronoun clitic as a possible factor in determining “optional” resumptive pronoun uses, and find that it may have some effect when used on intransitive verbs.

4.4 Animacy of the Relative Clause Head

Animacy has been noted as a relevant factor in determining the behavior of resumptive pronouns in some languages. For example, Drubig (2003) shows that resumptive pronouns in focus constructions in Akan are only pronounced when the noun they refer to is animate (Drubig 2003, p66). Additionally, Bošković (2009) observes that in Serbo-Croatian, object resumptive pronouns must occur in relative clauses whose heads are animate and may optionally occur in relative clauses whose heads are inanimate (Bošković 2009, p4).

Examples (35) through (38) show CVZ relative clauses with different combinations of animate/inanimate heads that include either a resumptive pronoun or a gap. Examples (35) and (36) have inanimate heads, yet example (36) contains a resumptive while example (35) does not. Similarly, examples (37) and (38) have animate heads but example (38) contains a resumptive pronoun while example (37) does not. This suggests that animacy by itself may not be a determining factor in the distribution of “optional” resumptive pronouns in CVZ.

(35)

RC [GAP

Alarij xoono xaana tobaa ny n-oo laoo layoo
item eight plant maguey REL NEUT-be.located on land
'Item, eight maguey plants that are on the land

]

late na-chaga Diego de Cordoba lacaa toba rij
where NEUT-border Diego de Cordoba same maguey this
where it borders (on that of) Diego de Cordoba, these same magueys

r-ootete=ya tio xteni=a Juan de la Cruz

HAB-give=1s uncle of=1s Juan de la Cruz

I give to my uncle Juan de la Cruz'

(Foreman & Munro (2007), p146, example 18) (Coyotepec 1721-5, 16-18) (CVZ)

(36)

quij-raa looa xteni=ya

IRR-all picture of=1s

... all my pictures

RC [RP]

de liensoo nij n-oo=**nij** lanij yocho-lijchi=ya
of linen REL NEUT-be.located=3 in house-house=1s
on linen that are in my house...

(Taken from Foreman & Munro 2007, p146, example 19)(Coyotepec 1721-5, 5-6) (CVZ)

(37)

RC [GAP

ti-jelilachi=a toui=si=ca Dios gualica bitoo ni n-aca

HAB-believe=1s one=only=EMPH God truly god REL NEUT-be

I believe in only one God, truly god, who is

]

Dios vixoce Dios xinij Dios espiritu santo chona perso[na

God father God child God spirit holy three person

God the father, God the son, God the holy spirit, three persons,

(Taken from Munro et al 2018, p198, gloss lines 3-4) (Tl675b-1, 3-4)(CVZ)

(38)

Laa s[an]tissima trinidad Dios bixoce Dios xini Dios espiritu
be.named most.holy trinity God father God child God spirit
[In] the name of the most holy trinity God the father, God the child and God the Holy Spirit

RC [RP]
Santo ni n-aca=ni chonna persona tobi=zi=ca Dios nali
Holy REL STA-be=3s three person one=only=EMPH God true
who are three persons but only one true God...

(Taken from Bayona et al (2021), page 1, lines 1-2; Te744, page 1, lines 1-2) (CVZ)

Resumptive pronouns in MacZ also occur in relative clauses with both animate and inanimate heads. Consider the example in (39), repeated from (30) above. The example has an animate head and is grammatical both with and without a resumptive pronoun. This demonstrates that MacZ relative clauses with animate heads may be grammatical with or without a resumptive pronoun.

(39) **RC [RP or GAP]**

Nabiia'=ni =tè' bènnè nu'_i gucchu (=nà_i) ittisa-cchá =lù'
S/know=PREP =1sD person REL C/cut (=3N) hair-head =2sG
I know the person who cut your hair. (Foreman 2006, p297, example 161) (MacZ)

Now consider the examples in (40) and (41), which are the same relative clause with the inanimate head 'the plant'. Both examples are grammatical, but the example in (40) contains a resumptive pronoun while example in (41) does not:

(40) **RC [RP]**

Be-gwia'=ya' xixi' nu' gu-che'ne=**na** ni'a=lu'=na'
PAST-watch=1sg plant REL PAST-scratch=3sg foot=2sgGEN=DIST
'I saw the plant that scratched your foot.'

(Margarita Martínez on October 28, 2022) (MacZ)

(41)

RC [GAP]
Be-gwia'=ya' xixi' nu' gu-che'ne _____ ni'a=lu'=na'.
PAST-watch=1sg plant REL PAST-scratch _____ foot=2sgGEN=DIST
'I saw the plant that scratched your foot.'

(Margarita Martínez on October 28, 2022) (MacZ)

(43)

RC [GAP

chela ri-nni=a n-apa=ya tobi cue layoo teche taani quie-bichi na-[chaga
and HAB-say=1s STA-have=1s 1 piece land back/behind mountain stone-dry STA-meet
And I say I have one piece of land behind Quiebichi mountain, that meets

]

vizaa Miguel ernandes nezaa sosilla sochi na-chaga
border.marker MiguelHernandez way east west STA-meet
the border marker of Miguel Hernandez to the east [and] to the west meets...

(Bayona et al 2021, page 1, lines 13-14; Te744, page 1, lines 13-14) (CVZ)

It also appears that CVZ relative clauses with indefinite heads may or may not contain “optional” resumptive pronouns, as shown in example (44), which contains a resumptive pronoun, and (45), which does not contain a resumptive pronoun. Note that the example in (44) does not contain a relative pronoun.

(44)

RC [RP]

cee-tobi-cue layoo xaa tani quie yaza n-aca[=ni tapa bee

another-1-piece land buttocks/under mountain stone black STA-be=3 4 measure
And I say I have another piece of land under the hill Quie Yaza, which is four measures...

(From Bayona et al. 2021, page 4, lines 7-8; Te744, page 4, lines 7-8) (CVZ)

(45)

... n-aca=nij layoo solar nixi
neut-be=3s land lot said
'... it is the said land (and) lot

RC [GAP

ni bi-chaga bisa layo. solar xiteni Juana
rel perf-meet boundary.marker land lot of Juana
that bordered (on) the land (and) lot of Juana

]

Cortez nise Socijilla bi-chaga bisa layo...

Cortez way east perf-meet boundary.marker land
Córtez on the east (and) bordered (on) the land...'

(Munro 2002, example 23, p12; Za719-2, 2-4)(CVZ)

(51). In (52), there is no plural marker before the word *yaa*, which suggests that plural NPs must be phrased differently when they are used with a resumptive pronoun.

(52)

	RC [	RP]
Daani g-aada=riu'	yaa ka nu'	stite i-xen= ka=na .
Ought FUT-plant=1PL.INCL	tree PL REL	fast FUT-get.big=PL=3
‘We should plant trees that will grow fast.’		
(Margarita Martínez on November 3, 2022)(MacZ)		

In the singular version of the sentences in (50) and (52), a resumptive pronoun is acceptable. Examples (53) and (54) show such examples, with a resumptive pronoun present in example (53) and a resumptive pronoun absent in example (54):

(53)

	RC [	RP]
Daani g-aadariu'	tu yaa nu'	stite i-xeein= na .
STAT.ought FUT-plant=1PL.INCL	a tree REL	fast FUT-get.big=3
‘We should plant a tree that will grow fast.’		
(Margarita Martínez on November 18, 2022) (MacZ)		

(54)

	RC [	GAP]
Daani gaadariu'	tu yaa nu'	stite ixeeni.
Daani g-aada=riu'	tu yaa nu'	stite i-xeeni.
STAT.ought FUT-plant=1PL.INCL	a tree REL	fast FUT-get.big
‘We should plant a tree that will grow fast.’		
(Margarita Martínez on November 18, 2022) (MacZ)		

More examples will be needed to understand the full extent of any impact that plurality and other types of quantification have on resumptive pronoun usage in MacZ. The examples in (50) through (54), however, serve as a starting point for future research.

4.7 Formality

It is possible that the level of formality used when referring to the head of a relative clause also impacts the acceptability of resumptive pronoun usage in MacZ. The examples in (55) and (56),

These examples suggest that more research into the effect of formality in resumptive pronoun usage in MacZ is necessary, as formality is the main difference between examples (55) and (57).

4.8 Summary of Findings

In this section, I presented multiple non-pragmatic approaches to explaining the distribution of “optional” resumptive pronouns in CVZ and MacZ relative clauses. While no singular approach is enough to explain the distribution of these pronouns in CVZ and MacZ, it is possible that some contribute to encouraging or discouraging resumptive pronoun usages in certain circumstances. As such, I believe the approaches surveyed in this section should not be overlooked or discarded because they do not explain all examples in my corpora. Rather, I agree with Ariel (1999)’s logic: I see them as facets of a more complex and multifaceted phenomenon that considers many factors when deciding whether or not to favor a resumptive pronoun in a particular relative clause environment.

In the next section, I present another piece of this puzzle that offers a pragmatic analysis of “optional” resumptive pronoun usage in relative clauses by considering the nuances and context of discourse. The particular subfield of pragmatics I consider in this thesis is information structure (Matić 2015).

5. Information Structure as a Possible Pragmatic Explanation

5.1 What is Information Structure?

Information structure is used to characterize a particular piece of information in a sentence or utterance based on how familiar it is to the discourse context (Matić 2015, p95). Specifically, information can be familiar or unfamiliar, in which case the type of information structure used to describe it differs (Matić 2015, p95). The definition of information structure I work with here defines two subcategories of information characterization: topic and focus (Matić 2015, p95).

5.1.1 Topic

A sentence topic is an entity who is already familiar to the discourse context, and about whom more information will be provided (Matić 2015, p95). Once a topic is established in an utterance, it is implied that the rest of the utterance will be used to provide additional details relevant to that topic (Matić 2015, p95). An example of a topicalized NP in English would be *Molly* in the sentence in (59), with the information about her italicized.

(59) As for Molly, *she decided to drive overnight*.

The sentence in (59) employs what the literature describes as a topic-comment construction, where a known entity is established as the sentence topic and the rest of the sentence serves as a comment about that topic (Matić 2015, p97). In (59), *Molly* is the sentence topic while *she decided to drive overnight* is the comment, or additional information about her.

5.1.2 Focus

As opposed to topic, which pinpoints the entity about which the rest of an utterance will be about, focus fills gaps in knowledge by introducing and emphasizing new information (Matić 2015, p96). Focus constructions rely on *presuppositions*, which provide assumptions that focused information can either specify or contradict (Schachter 1973, p42). Schachter (1973) conceptualizes focus constructions as consisting of two parts: a *foreground* and a *background* (Schachter 1973, p42). The constituent to be focused is the *foreground*, while the *background* is the presupposition (Schachter 1973, p42). Consider the examples in (60a) and (60b). Example (60a) provides the presupposition, which establishes that *someone* took the ice cream out of the freezer (perhaps because the ice cream was found melting on the countertop). The sentence in (60b) focuses the NP *Kelly*.

(60)

- a. Who took the ice cream out of the freezer?
- b. *Kelly* took the ice cream out of the freezer.

In some languages, including English, focus is usually denoted by stressing the focused constituent (Matić 2015, p96). The italicized NP *Kelly* denotes this stress in example (60b). It is also possible to focus more complex constituents (Matić 2015, p96) (Drubig 2003, p16), such as the PPs in example (61) and the VP in example (62). The focused constituents are italicized.

(61)

- a. Where did Kelly put the ice cream?
- b. Kelly put the ice cream [_{PP} *on the table*].

(62)

- a. What did Kelly do?
- b. Kelly [_{VP} *put the ice cream on the table*].

Since focused constituents supply the specifics of missing information from a presupposition, a focused constituent can be thought of as one of many constituents that could have possibly been focused, implying that focus presuppositions may also be limited to sets of specific options (Matić 2015, p96) (Drubig 2003, p3). As an example, assume that the person asking the question in (60a) knows that there are only three other people in the house, one of whom is Kelly. They may be operating under the assumption that whoever took the ice cream out of the freezer could only be one of Kelly or the two other people in the house.

In the next section, I will give examples of topic and focus constructions in CVZ and MacZ and justify why I believe focus is the most appropriate pragmatic framework for analyzing “optional” resumptive pronouns in CVZ and MacZ relative clauses.

5.2 Focus and Topic in CVZ and MacZ

As opposed to stress, which is used as a marker of focus in English, focus is denoted in CVZ and MacZ by changing a sentence’s word order (Lillehaugen (2021), MS). Recall that the canonical word order in CVZ and MacZ is VSO (Munro (2002), p4). To focus a constituent, that constituent must be placed before the verb (Lillehaugen (2021), MS). In MacZ, focus

constructions also require the focus marker *ta'* (which is also spelled as *taa'* in some examples) (Foreman 2006, p234). Examples (63) and (64) show a focused subject and a focused object, respectively, in CVZ. Examples (65) and (66) show a focused subject and a focused object, respectively, in MacZ.

(63)

S	V	O
layoo	ri	ri-ana=ne
land	this	HAB-remain=with
		child-girl=1s
<i>This land remains with my daughter</i>		

(From Bayona et al (2021), page 1, line 25; Te744, page 1, line 25)(CVZ)

(64)

			O
Anna	ti-nij	na	benij
now	HAB-say	PRON.1S	person sick
			thus
			IRR-all
			picture
			of=1s
de liensoo	nij	n-oo= nij	lanij
of linen	REL	NEUT-be.located=3	in
			house-house=1s

V	S	O
r-ootete=ya	tio	xteni=a
HAB-give=1s	uncle	of=1s
		Juan de la Cruz
		Juan de la Cruz

‘Now say I, the sick person, thus all my pictures on linen that are in my house I give to my uncle Juan de la Cruz...’

(Foreman & Munro 2007, ex 19) (Cyotepec 1721-5, 5-7) (CVZ)

(65)

	S		V	O
Abí,	abí,	xilaya'=ha	ta'	betti'
No	no	POSS.sister=1sgGEN=INVIS	FOC	PERF.AGT-sell
				land=INVIS

‘No, no, my sister sold the land’

(Margarita Martínez on October 21, 2022) (MacZ)

(66)

	O		V	S
Abí,	abí	loyu=ha	ta'	betti'=na.
No	no	land=INVIS	FOC	PERF.AGT-sell=3

‘No, no, it was the land that she sold.’

(Margarita Martínez on October 21, 2022)(MacZ)

CVZ is believed to have distinct topic and focus constructions, though their structures may overlap such that it is sometimes difficult to determine whether a particular construction is focused or topicalized (Lillehaugen (2021, MS), p21). Lillehaugen (2021, MS) observes that in some modern Valley Zapotec languages, both topicalized and focused NPs are fronted but topic constructions seem to require resumptive pronouns to be coindexed with the topicalized NP. Focus constructions, on the other hand, only take resumptive pronouns with pronominal focused NPs, preferring gaps otherwise (Lillehaugen (2021, MS), pp12-13). Although there is ambiguity as to whether some preverbal NPs attested in CVZ constitute topic or focus constructions, Lillehaugen (2012, MS) argues that it is likely that CVZ has topic constructions closely resembling those of modern Valley languages, with a resumptive pronoun coindexed with a fronted NP (Lillehaugen (2021, MS), p31).

Although it cannot be determined for certain, the example in (67) shows a potential topic construction in CVZ:

(67)

S	V=s	Comp
<i>laacaa layoo rij</i>	<i>n-aca=nij</i>	<i>playto</i>
same land this	ST-be=3	dispute
‘This same land, it is in dispute’		

(Lillehaugen 2021 MS, page 27, example 31) (Co 1721:3v, line 26)(CVZ)

Similarly to CVZ and other modern Valley Zapotec languages, topic constructions in MacZ consist of a fronted NP, which can be either a subject or an object (Foreman (2006), pp260-261). Definite topics in MacZ require coindexed resumptive pronouns because they are base-generated as opposed to being the result of movement, and as such have nothing to attest for their presence further down in the syntax tree (Foreman (2006) pp265-266; p270). Although they may still be fronted, indefinite NPs in MacZ are less agreeable as topics, and cannot take coindexed resumptive pronouns (Foreman (2006), pp256-266). Example (68) shows a topic construction in MacZ with a definite NP and a coindexed resumptive pronoun. Example (69) shows a topic construction in MacZ with an indefinite topicalized NP that is ungrammatical with a coindexed resumptive pronoun.

(68)

S				V	=s	O	
taa	chà'	=à'	<u>náàyá'</u>	begwiia'	=yé	Felipe	=à'.
father	of/1SG	=DIST	yesterday	c/see	=3FN	Felipe	=DIST

My father saw Felipe yesterday.

(Foreman 2006, p242, example 34a) (MacZ)

(69)

O	V	S	=o	
			RP	
ànúúdi _i	rulaasi'	=ya'	(*=nà _i)	
nobody	H/like	=1sG	(*=3A)	

*I don't like anybody. *Nobody, I don't like him/them.*

(From Foreman (2006), p265, example 63)(MacZ)

Given that resumptive pronouns are present in CVZ, MacZ, and several Valley Zapotec language topic constructions and are attested in some Valley Zapotec language (and potentially CVZ) focus constructions, it is worth exploring whether they may have similar pragmatic influences in relative clauses.

I explore resumptive pronouns in CVZ and MacZ relative clauses as potential extensions of focus constructions as opposed to topic constructions, primarily because both focus constructions and relative clause formation require movement (Schachter (1973); Foreman (2006), p270; Kalouli and Zyman (2015), pp219-220). Given Foreman (2006)'s analysis that topics requiring resumptive pronouns in MacZ are base-generated, it seems unlikely that they would be able to be relative clause heads, whose position is a result of movement (Kalouli and Zyman (2015), pp219-220). In the next section, I examine focus as a possible influence of resumptive pronoun usage in relative clauses.

5.3 Focus as a Potential Explanation for Resumptive Pronouns in CVZ and MacZ Relative Clauses

Past literature has established a relationship between the syntax of focus constructions and relative clauses. Schachter (1973) observes that both focus constructions and restrictive relative

clauses result from a constituent moving from inside an embedded clause to a previously “null” position to the matrix clause, and names this phenomenon *promotion* (Schachter, 1973, p30; 34-35). This is most similar to the second method of relativization described in Kalivoda and Zyman (2015). Foreman (2006) illustrates a focused sentence in MacZ that replicates this phenomenon, shown in Figure 2. The DP *núú béccú' què* — ‘whose dog’ — moves out of TP into the larger FocP, and is separated from the rest of the sentence (*ryhiia'* — ‘barks’) by the focus marker *taa'* (Foreman 2006, p234).

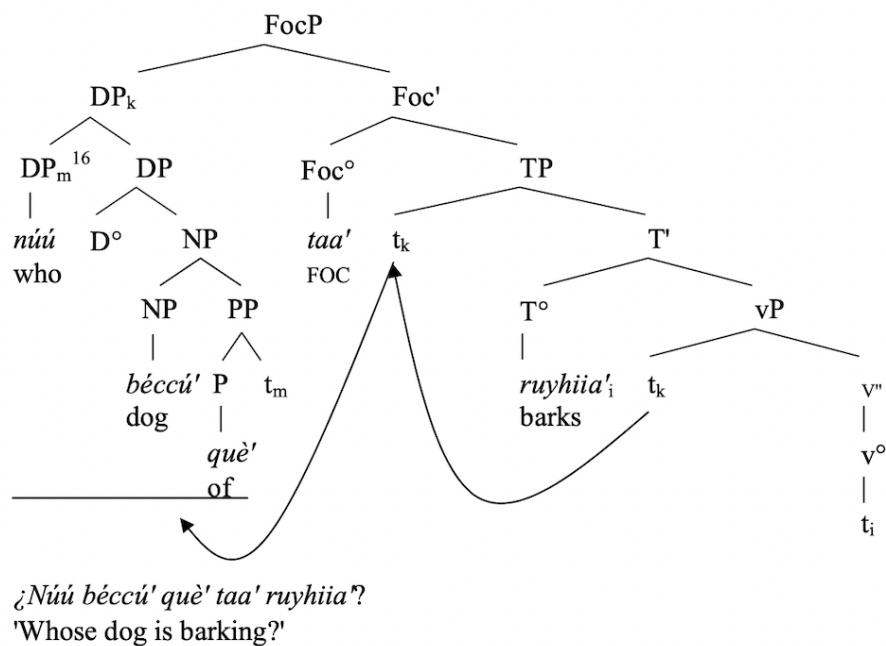


Figure 2 (From Foreman 2006, example 76, p271)

Schachter (1973) also argues for a semantic extension of promotion that analyzes focus constructions and relative clauses as being composed of two separate components, which he calls *foregrounding* (Schachter, 1973, p42). As mentioned previously, Schachter (1973) suggests that both relative clauses and focus constructions can be divided into a *background* and a *foreground*, where the *background* of a focus construction is the information that the discourse has already presupposed and the *foreground* is the remaining information that the focused element will provide (Schachter (1973), p42). In relative clauses, Schachter (1973) argues that the head of the

relative clause can be interpreted as the foreground, while the background is the rest of the relative clause (Schachter, 1973, 44).

If we accept Schachter (1973)'s proposition that the head of a relative clause is the *foreground* of the rest of the clause, the rest of the clause is the *background*, and that these two designations are analogous to the new and presupposed information in a focus construction, any focus construction using a resumptive pronoun in a relative clause could perhaps use the resumptive pronoun as a “placeholder” for the unknown entity whose identity is specified by the focused constituent (ie, the head of the relative clause). Since both focus constructions and relative clauses involve the movement of the more prominent (“foregrounded”) constituent further up in the tree (Schachter 1973, p44), the presence of an otherwise optional resumptive pronoun in a relative clause could, by overtly occupying the position of the trace, serve to emphasize that the head of the relative clause is focused.

Focus constructions have been linked to resumptive pronouns in other languages, in particular Hebrew (Erteschik-Shir 1992, Farby et al. 2010) and Akan (Drubig 2003). Experiments performed by Farby et al (2010) offer support for analyzing optional resumptive pronouns as complementary to traces (which supports my syntactic analysis above). They analyze how Hebrew speakers assess resumptive pronouns and traces in different syntactic environments, and conclude that resumptive pronouns close to the head are best analyzed alongside traces due to the pragmatic nature of their distribution (Farby et al, 2010, pp 14-15).

Erteschik-Shir (1992) examines resumptive pronoun usage in Hebrew relative clauses, and observes that when a resumptive pronoun occurs in a relative clause it is indicative of restrictive focus (Erteschik-Shir 1992, p.96). She classifies restrictive focus as implying that the NP in the relative clause belongs to a specified set of objects (Erteschik-Shir 1992, p.96). She presents the Hebrew sentences in (70) and (71) as examples of this phenomenon. Example (70) does not contain a resumptive pronoun, but example (71) does. Each example conveys the meaning of a person buying a dress, but the particular context of the buying differs between them — Erteschik-Shir (1992) says that example (71) would be used in a situation where it was

understood that the person bought a dress from a specific set of dresses that the person was known to have considered (Erteschik-Shir 1992, p.95).

(70)

Hine ha-simla še-kaniti t.

(here is the dress that-I-bought-t) (Erteschik-Shir 1992, example 14a) (Hebrew)

(71)

Hine hasimla še-kaniti ota.

(here is the dress that-I-chose-it) (Erteschik-Shir 1992, example 14b) (Hebrew)

Drubig (2003) provides the examples in (72) and (73) to demonstrate resumptive pronoun usage in focus constructions in Akan. The e_i in example (72) denotes an “empty” constituent, which Drubig (2003) explains represents a resumptive pronoun that is not pronounced due to the NP ‘the box’ being inanimate (Drubig 2003, p66).

(72)

Adaka_i no na wo nim [DP onipa [CP a [IP \emptyset rehwehwe e_i]] no]
box this FOC you know person REL (s)he is-looking-for (it) the
'This box_i you know the person who is looking for (it)'

(Drubig 2003, example 100, p66) (Akan)

Resumptive pronouns in Akan are pronounced when the focused constituent is animate (Drubig 2003, p66). This phenomenon is shown in (73):

(73)

ɔbaa_i no na me huu no_i
WOMAN the FOC I saw (her)

'It was the woman I saw (her)' (Drubig 2003, example 101, p66)(Akan)

Interestingly, both Schachter (1973) and Erteschik-Shir (1992) claim, to varying degrees, that focus does not (and, in the case of Schachter (1973), should not), occur in relative clauses. Schachter (1973)’s claim is based on the idea that, unlike focus, relative clauses do not require a presupposition in order to be grammatical, and thus are not as constrained in this particular way as focus constructions are (Schachter 1973, p41). He offers the following sentences as examples:

(74) I'm looking for a man that has traveled faster than the speed of light. (Schachter 1973, example 66a)(English)

(75) Someone has traveled faster than the speed of light. (Schachter 1973, example 66b)(English)

Schachter (1973) argues that if presuppositions were fundamental to the construction of relative clauses, (75) could be presupposed from (74), but that this is not the case since there is no certainty as to whether *a man that has traveled faster than the speed of light* actually exists (Schachter 1973, p41).

The first time I presented my consultant for MacZ with the sentence in (76) (repeated from example 40), which contains a resumptive pronoun, she said that she liked the sentence and that the resumptive pronoun seemed to provide some emphasis to the phrase. This was after she offered the sentence in (77) (repeated from example 41) when I asked her to translate the English sentence 'I saw the plant that scratched your foot'.

(76)

	RC	[		RP]	
Be-gwia'=ya'	ixi'	nu'	gu-che'ne= na	ni'a=lu'=na'		
PAST-watch=1sg	plant	REL	PAST-scratch=3sg	foot=2sgGEN=	DIST	

'I saw the plant that scratched your foot.'

(Margarita Martínez on October 28, 2022)(MacZ)

(77)

	RC	[		GAP]	
Be-gwia'=ya'	ixi'	nu'	gu-che'ne	_____	ni'a=lu'=na'	
PAST-watch=1sg	plant	REL	PAST-scratch		foot=2sgGEN=	DIST

'I saw the plant that scratched your foot.'

(Margarita Martínez on October 28, 2022)(MacZ)

When I presented her with the same example at a later time, however, she did not interpret the sentence in (76) to have any emphasis, and said that the resumptive pronoun simply sounded redundant. I am not able to explain why my consultant responded differently to the sentence on

different days, but I believe it is possible that the particular context in which the example was presented, or the particular context she had in mind at the time, could have influenced her reading (which would favor a pragmatic, discourse-dependent component of resumptive pronoun usage in MacZ). Future research is needed to understand the full extent of these varying judgments.

I also presented my consultant with a scenario to model contrastive focus, with the goal of seeing whether she would use a resumptive pronoun. I gave her the following scenario: We (myself and my consultant) are walking down a road and I stop and point to a house. I say, ‘you know the teacher who lives in this house’. Margarita (my consultant) responds, ‘No, I know the student who lives in this house’. I asked my consultant to translate this last sentence, and she offered a sentence without a resumptive pronoun, shown in (78):

(78)

	RC	[	GAP]	
Abí, abí. Nabia=te’	estudiante nu’	dua	___	lhe’e yu’u=ni.	
No, no. STAT.meet=PREP.1sgDAT	student	REL	STAT.live in	house=PROX	
‘No, no. I know the <i>student</i> who lives in this house.’					
(Margarita Martínez on October 28, 2022)(MacZ)					

When I added a resumptive pronoun to the sentence in (78), my consultant did not think it was a great sentence. This sentence is shown in example (79). My consultant said that the resumptive pronoun sounded redundant and was not providing any emphasis in this case.

(79)

	RC	[	RP]	
?Abí, abí. Nabiate’	estudiante nu’	dua=na		lhe’e yu’uni.	
No, no. STAT.meet=PREP.1sgDAT	student	REL	STAT.live=3 in	house=PROX	
‘No, no. I know the <i>student</i> who lives in this house.’					
(Margarita Martínez on October 28, 2022)(MacZ)					

From the aforementioned examples, it is not possible to make any definite conclusions about any potential relationship between focus and resumptive pronouns in MacZ relative clauses. More research is needed to investigate when “optional” resumptive pronouns occur in MacZ relative

clauses (and, to the extent possible, in CVZ relative clauses), and what their particular functions are in different circumstances.

6. Conclusion and Directions For Future Research

Ariel (1999) proposes an explanation for resumptive pronouns in relative clauses that takes into account many factors, and the CVZ and MacZ data seems to support this observation. Most of the non-pragmatic factors I considered seemed to have at least some influence on resumptive pronoun usage (most clearly in MacZ). The data I consider to test for focus as a potential influence on resumptive pronoun usage in MacZ is inconclusive, and merits further research. I was able to show, however, that resumptive pronoun usage in MacZ (and, potentially, in CVZ) may be governed by a more multifaceted set of constraints, as Ariel (1999) originally proposed. These findings from Section 4 are summarized in Table 3.

Table 3. Summary of Factors Considered in Section 4

Factor	Influence on Resumptive Pronoun Usage
Accessibility	Resumptive pronouns in CVZ and MacZ violate Keenan and Comrie (1977)'s AH. Ariel (1999)'s notion of accessibility as the interaction of multiple linguistic factors is a helpful framework for accounting for the several factors that seem to influence resumptive pronoun usage in MacZ (and potentially CVZ).
RRCs vs NRRCs	Resumptive pronouns appear in both RRCs and NRRCs in CVZ, though they appear more often in NRRCs than RRCs (see examples 19-22). There was not enough data to make an equivalent comparison in MacZ.
Transitivity of the relativized verb	Resumptive pronouns can occur on transitive and intransitive verbs in CVZ and MacZ. Some are syntactically required on transitive MacZ verbs, and others are not. A resumptive pronoun was ungrammatical on an intransitive MacZ verb with an inanimate head (see example 34).
Animacy of the relative clause head	Resumptive pronouns are attested both with animate and inanimate relative clause heads in CVZ and MacZ.
Definiteness of the relative clause head	Resumptive pronouns are attested for both definite and indefinite heads in CVZ. They are also attested in MacZ, though they are not always acceptable with indefinite heads. A resumptive pronoun was more acceptable with an indefinite head when the verb was intransitive than when it was transitive in MacZ (see examples 47-50).
Singular vs plural	Certain plural constructions do not seem to be grammatical with resumptive pronouns in MacZ (see example 51).

subjects	
Formality	A resumptive pronoun was acceptable with a formal referent, but not an informal referent, in MacZ when the verb was intransitive (see examples 55-58).

There are several possible directions for future work, many of which involve building off of the factors I considered in Section 4 and additional factors considered by Ariel (1999). One important question to investigate is how potential influences on resumptive pronoun usage may work together in an OT-like manner, particularly given that almost all of the factors I consider have some kind of effect on resumptive pronoun usage in at least one example. Other factors to consider could be the presence/absence of negation and whether the relative clause head is first, second, or third person, each of which Ariel (1999) suggests as having influence on accessibility (Ariel 1999, p225; p253).

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Appendix 1. Corpus of Manuscripts and Printed Texts Cited in this Thesis

These texts span the almost 250-year period from 1567 to 1808, and originate from at least nine different communities.

Text ID/Name	Full Name	Town	Link to Manuscript/Text
Coyotepec 1721 (Co721)	Testament from San Bartholomé Coyotepec, 1721	San Bartholomé Coyotepec	https://ticha.haverford.edu/en/texts/Co721/
Ocotlán 1686 (Oc686)		San Antonio Ocotlán	
Feria 1567	Doctrina Christiana en lengua Castellana y Çapoteca		https://ticha.haverford.edu/en/doctrina/
Tl675b	Testament from San Jerónimo Tlacoahuaya, 1675	San Jerónimo Tlacoahuaya	https://ticha.haverford.edu/en/texts/Tl675b/
Document analyzed in Munro et al (2017)			https://www.academia.edu/79989853/Un_testamento_zapoteco_del_valle_de_Oaxaca_1614
Te744	Testament from San Sebastián Teitipac, 1744	San Sebastián Teitipac	https://ticha.haverford.edu/en/texts/Te744/
Za719	Testament from Villa de Zaachila, 1719	Villa de Zaachila	https://ticha.haverford.edu/en/texts/Za719/
Al711c	Testament from San Pedro el Alto, 1711	San Pedro el Alto	https://ticha.haverford.edu/en/texts/Al711c/
Sebastián Tectipaque 1610 (Te-1610)(Te610)			
Sa716	Testament from Santiago Ixtaltepec? Santiago de los Angel?, 1716	Possibly Santiago Ixtaltepec, or Santiago de los Angel	https://ticha.haverford.edu/en/texts/Sa716/

Te618b		San Sebastian Tectipaque	
Al697	Testament from San Pedro el Alto 1697	San Pedro el Alto	https://ticha.haverford.edu/en/texts/Al697/
Ti683a		Tiltepec	
Ti711c		Tiltepec	
Oc715	Land Deed from San Antonio Ocotlán, 1750	San Antonio Ocotlán	https://ticha.haverford.edu/en/texts/Oc750/
Aguero 1666	Aguero Miscelaneo		https://ticha.haverford.edu/en/texts/aguero-miscelaneo/0/original/
Te626		San Sebastian Tectipaque	
Ma733	Testament from San Mateo Macuilxóchitl, 1733	San Mateo Macuilxóchitl	https://ticha.haverford.edu/en/texts/Ma733/
Zimatlán 1565 (Zi-1565)			
Oc-1750	Land Deed from San Antonio Ocotlán, 1750	San Antonino Ocotlán	https://ticha.haverford.edu/en/texts/Oc750/
Te590		San Sebastian Tectipaque	
Levanto (1732)	Arte de Lengua Zapoteca		https://ticha.haverford.edu/en/texts/levanto-arte/0/original/
Cordova (1578)	Arte en Lengua Zapoteca		https://ticha.haverford.edu/en/texts/cordova-arte/0/original/
Vellon (1808)			

Data from Lillehaugen et al (2016), Lillehaugen (2006), Munro (2002), and Munro et al (2017).

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