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Los Angeles

Topics in the Nominal Domain in
San Cristobal Lachirioag Zapotec

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Linguistics

by

Madeleine Letitia Booth

2023

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ABSTRACT OF THE DISSERTATION

Topics in the Nominal Domain in
San Cristobal Lachirioag Zapotec

by

Madeleine Letitia Booth

Doctor of Philosophy in Linguistics

University of California, Los Angeles, 2023

Professor William Harold Torrence Jr., Chair

In this dissertation, I give an overview of the grammar of San Cristóbal Lachirioag Zapotec (SCLZ), a Zapotec language spoken in Villa Alta, Oaxaca, Mexico, and then I discuss in depth three topics in the nominal domain that have not been previously documented; the derivation of nominals, relative clauses, and possessives. I show that SCLZ is a VSO language that has what look like SVO sentences; when the subject is pre-verbal, the verb is followed by subject pronominal enclitics (S V=su O). I argue that some of the pre-verbal ‘subjects’ are topics, and that the post-verbal clitics are pronominal subjects. I provide an analysis for the structure of the nominal domain in SCLZ based on Cinque (2005)’s Universal Hierarchy. SCLZ nominals have the linear order Numeral > N > Adjective > Demonstrative, which is represented in ~ 11% of the over 2000 languages in Cinque (2021)’s corpus. I discuss the elements found in SCLZ

nominals, including nouns, adjectives, diminutives/pejoratives, numerals, quantifiers, demonstratives, and determiners. I give a derivation that produces the linear ordering of these elements that involves raising the NP above AP, pied-piping [Num [NP AP]] above Dem, and then pied-piping [[[Num [NP AP]] Dem] above the determiner. This produces the linear order [[[Num [NP AP]] Dem] Det].

I review *wh*-movement in SCLZ, and discuss SCLZ headed and headless relative clauses including free relative clauses and light-headed relative clauses. I show that SCLZ is consistent with Keenan and Comrie (1977)'s Accessibility Hierarchy.

Lastly, I examine possessives in SCLZ. It has postnominal inalienable and alienable possessives, and a small class of nouns that take a retroflex possessive prefix. I give two potential analyses of the alienable possessive and an analysis for the inalienable possessive. One analysis of the alienable possessive involves pied-piping the possessum above the possessor to achieve the $N > \text{Gen}$ order, and the other is a locative-based analysis where *che* 'of' and the possessor form a locative phrase.

The dissertation of Madeleine Letitia Booth is approved.

Anoop K Mahajan

Hilda Koopman

Michael Galant

William Harold Torrence Jr., Committee Chair

University of California, Los Angeles

2023

To my parents,
who first taught me
the importance of language

Contents

List of Figures	ix
List of Tables	xi
List of Abbreviations	xii
Acknowledgements	xiv
Vita	xvii
1 Introduction	1
1.1 Orthography and Phonology	3
1.2 Word order in SCLZ	6
1.2.1 Subjects, topics, and pronominal clitics	10
1.3 Verbal Aspect Morphology	20
1.4 Outline of Thesis	21
2 NP elements and structure	23
2.1 Overview	23
2.2 Elements in the NP	25
2.2.1 Nouns	26
2.2.2 Diminutive <i>do'</i>	29

2.2.3	Adjectives	31
2.2.4	Pejorative <i>dra</i>	34
2.2.5	Numerals	36
2.2.6	Quantifiers	44
2.2.7	Grammatical functions, QPs, and Quantifier Stranding	54
2.2.8	Demonstratives	66
2.2.9	Specificity/Familiarity <i>N</i>	72
2.3	SCLZ Nominal order and structure	77
2.4	Chapter Summary	80
3	Relative Clauses	81
3.1	Overview	81
3.2	Wh-terms	81
3.2.1	Wh-terms in matrix clauses	82
3.2.2	Wh-terms in embedded interrogative clauses	87
3.3	Wh-movement: the structure of matrix and embedded interrogative clauses	90
3.4	Wh-movement from within a phrase	96
3.4.1	Wh-movement and PPs	96
3.4.2	Wh-movement and NPs	102
3.4.3	Wh-movement and Possessive Phrases	103
3.4.4	Wh-movement and QPs	105

3.5	Relative Clauses	107
3.5.1	SCLZ Headed Relative Clauses	108
3.5.2	SCLZ Relative pronouns	114
3.5.3	Accessibility of Syntactic Roles to Relativization	122
3.5.4	Headless Relative Clauses	139
3.5.5	Light-headed relative clauses	149
3.6	Chapter Summary	156
4	Possessives	158
4.1	Overview	158
4.2	Possession across Central Villa Alta Zapotec varieties	159
4.2.1	The Syntactic Possessive	159
4.2.2	The Unmarked Possessive	160
4.2.3	The Morphological Possessive	161
4.3	Possession in SCLZ	166
4.3.1	Syntactic Possessive (Alienable Possession)	166
4.3.2	Unmarked Possessive (inalienable possession)	174
4.3.3	Morphological possessive	179
4.4	Proposal for inalienable and alienable possessive structures	181
4.4.1	Alienable / morphologically marked possession	187
4.4.2	Inalienable possession	202
4.5	Chapter Summary	203

List of Figures

1.1	Zapotec-speaking regions in Oaxaca	1
1.2	Villa Alta district in Oaxaca	1

List of Tables

1.1	Vowels in SCLZ	3
1.2	Consonants in SCLZ: (x) represents a phoneme mostly found in borrowed words, <x> represents how I represent the sound in my orthography.	4
1.3	Fortis and Lenis <i>n</i> in SCLZ	5
1.4	Tone in SCLZ	6
1.5	Clitic Pronouns in SCLZ	11
1.6	Pronouns in SCLZ	12
1.7	Verbal affixes in SCLZ	20
2.1	Attested Word Order Patterns	24
2.2	Adjectives in SCLZ	31
2.3	Numerals in SCLZ	37
2.4	Numerals and their exhaustive counterparts	41
2.5	Quantifiers in SCLZ	44
3.1	Wh-terms in SCLZ	82
3.2	Relative pronouns (RP) in headed relative clauses	118

3.3	Distribution of wh-terms as relative pronouns in headed relative clauses	119
3.4	Relative pronouns vs. Wh-pronouns vs. Personal pronouns	122
3.5	Relative pronouns with Adjectives	122
3.6	Relativization strategies in SCLZ	139
3.7	Relative pronouns in Free Relative Clauses	148
3.8	Distribution of wh-terms as relative pronouns in free relative clauses . .	149
4.1	<i>Che</i> ‘of’ + pronominal clitic	167
4.2	Inalienably possessed nouns in SCLZ	175
4.3	<i>Xa</i> ‘father’ + pronominal clitic	176
4.4	Comparison of Morphological Possession	180
4.5	Locative Verbs in SCLZ	199

List of Abbreviations

1, 2, 3	First, second, third person
ANIM	animate
AO	Acazulco Otomi
CMPR	comparative
COMP	complementizer
CONT	continuous
CPL	completive
DIST	distal
EXCL	exclusive
EXH	exhaustive
H	habitual
H.F	human (formal)
H.I	human (informal)
HUMAN.FORM	human (formal) for relative pronouns
HUMAN.INF	human (informal) for relative pronouns
ICPL	incompletive
IM	Iliatenco Me'phaa

INAN	inanimate
INCL	inclusive
INT	intensifier
IRR	irrealis
MacZ	Macuiltianguis Zapotec
n	topic <i>-n</i> or specificity <i>-n</i> ¹
NEUT	neutral
PERF	perfective
PL	plural
POSS	possessive
SCLZ	San Cristóbal Lachirioag Zapotec
SDZ	San Dionicio Ocotepc Zapotec
SG	singular
SLQZ	San Lucas Quiaviní Zapotec
SPF	specific
SPMZ	San Pedro Mixtepec Zapotec
STAT	stative
TdVZ	Teotitlán del Valle Zapotec

¹It is not always clear which *-n* affix is used. When it is unclear which *-n* is being used, I will gloss this morpheme as *-n*

Acknowledgements

I am forever grateful to my advisor Harold Torrence, who has been there alongside me since the first day I started working on San Cristóbal Lachirioag Zapotec years ago in his Field Methods course. From developing this thesis to doing fieldwork in Oaxaca, I have benefited hugely from his guidance, support, patience, and experience. I thank him for all his support over the years, and for all the fun I've had working with him.

I am indebted to the other members of my committee, Anoop Mahajan, Hilda Koopman, and Michael Galant for their contribution to this work. Hilda and Anoop were my syntax professors in my first year of graduate school, and I'm glad and thankful to have them here at the end of that journey, challenging me to apply what I've learnt along the way. Mike's work on Zapotec has been a great resource, and I am very thankful for his comments. Their diligence and support encouraged me to dig deeper into the material and keep going, and their collective experience with fieldwork, syntax, and Zapotec has been invaluable.

My work has also been aided by feedback from other researchers. Aspects of this dissertation benefited from the work done collectively by the Field Methods I-II Winter 2019-Spring 2020 course, and I'd like to thank my colleagues in that course and the UCLA American Indigenous Languages seminar group for sitting through my many talks on relative clauses and possessives, and especially Pam Munro, for sharing her wealth of experience with Mesoamerican languages. Iza Solá-Llonch's work on the phonetics side of SCLZ has been indispensable, and her feedback on my talks has been

very helpful as well. I'm glad we got to go to Oaxaca together. We need to return in November sometime, right?

I am above all extremely grateful to the San Cristóbal Lachirioag community, both here and in Oaxaca. For their hospitality and generosity, for sharing their time, language, and culture, I am deeply indebted. I am particularly thankful for the kind hospitality of Minerva Dominguez and Maximo Morales, and for Ezequiel Ambrosio, Minerva Mendez, and Lucina Miguel for sharing their knowledge of this language. I'd like to thank all the people in Lachirioag who shared their stories and language with us.

This thesis would not exist without Julio Dominguez, and I am eternally grateful to him for sharing his language, time, culture, and many, many, many conversations over these years. His love of language, his curiosity, and his enthusiasm are wonderful and have made this thesis a joy to work on. I have been incredibly lucky to be able to work with him, and I could not have had a better teacher.

I'd also like to thank the UCLA Department of Linguistics for their generous support which made this research possible, and for the Mellon funding which allowed me to concentrate on my work. Additionally, the fieldwork in Oaxaca was funded by a Ladefoged Scholarship, and my first MA was funded by a Gates Cambridge Scholarship. I'm grateful for the efforts of the faculty and staff that make our graduate research possible.

Lastly, a huge thanks goes out to my friends, family, colleagues, and mentors on this long journey. To the cohort I made it through graduate school with – Z.L. Zhou,

Christine Prechtel, Minqi Liu, Andy Xu, and Hironori Katsuda – thank you for your friendship, for the laughs and the commiseration, for the reading room conversations and our time together. To Jennifer Kuo and Deborah Wong, thank you for being great friends and making these last few years fly by. To Ariel Hwang, thank you so much for being there even when we were both running on one brain cell. To Jessica Rett, thank you for your early mentoring and support, which helped me find my feet in this PhD. To my teachers along the way, I was very fortunate to have been taught by you. I would never have become a linguist if I hadn't gotten to study in my undergraduate years under K. David Harrison, Craig Williamson, Nathan Sanders, and Ted Fernald at Swarthmore, whose love of languages and the people that speak them encouraged me to continue on in linguistics, and, in particular, fieldwork. Thank you for the opportunities you gave an undergrad. To Joyce Sommer, who got me interested in languages very early on (2nd grade!), you've meant so much. And of course, to my family, who have been so supportive and whose own keen sense of the importance of language set me on this path.

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Publications and Presentations

- Booth, M (2022). Pronouns and anaphors in San Cristóbal Lachirioag Zapotec. Society for the Study of the Indigenous Languages of the Americas 2022.
- Booth, M (2021). Possessives in Cristóbal Lachirioag Zapotec. 25th Workshop on Structure and Constituency in Languages of the Americas.
- Booth, M., Solá-Llonch, E., and Torrence, H. (2021). Headless relative clauses in San Cristóbal Lachirioag Zapotec. Society for the Study of the Indigenous Languages of the Americas 2021.
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- Booth, M (2019). *Reconstruction and Resumptive Pronouns in Cairene Arabic*. M.A. thesis, UCLA
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Chapter 1

Introduction

In this introduction, I will give a brief descriptive overview of the San Cristóbal Lachirioag Zapotec (SCLZ) speaking community and the language's phonology and grammar. I will introduce some basic terminology that I will use for the rest of my discussion of SCLZ.

SCLZ is a Zapotec language spoken in Oaxaca, Mexico, in the Villa Alta district (Fig 1.1-Fig 1.2) (Butler, 1980).

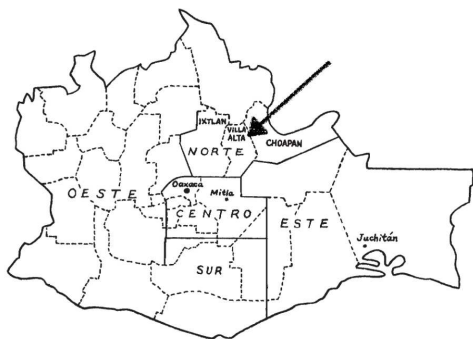


Figure 1.1: Zapotec-speaking regions in Oaxaca, with arrow indicating Villa Alta (Butler 1980)

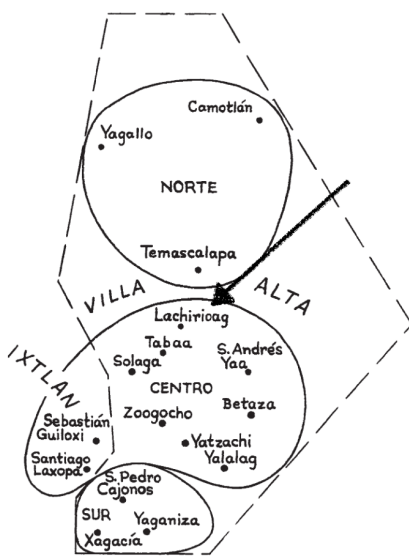


Figure 1.2: Villa Alta district in Oaxaca, with arrow indicating San Cristóbal Lachirioag (Butler 1980)

In the 2020 census, the population of San Cristóbal Lachirioag was 1,342 people, 77% of whom speak an indigenous language – 75% Zapotec speakers, 1% Mixe speakers, and 2 speakers of Chinanteco (INEGI, 2021). There are also SCLZ speaker communities in Los Angeles and San José, California, with about 50 fluent speakers and 60-100 partially fluent speakers (Solzá-Llonch and Xu, 2022).

Previous work has been done on SCLZ by Solzá-Llonch and Xu (2022), Michael Galant, Pam Munro, and the Field Methods I-II Winter 2019-Spring 2020 course attendees. Language resources on SCLZ spelling have also been produced by Ricardo Ambrosio Prado, https://issuu.com/xhawed/docs/grafias_lachirioag.

The primary source of data for this thesis comes from elicitations done by myself in LA and San Cristóbal Lachirioag with speakers of SCLZ. Elicitations were done in person and also over Zoom, especially during Covid and afterwards. A secondary source of data will come from data collected by the Field Methods I-II Winter 2019-Spring 2020 course on SCLZ, of which I was a member. This group included Harold Torrence, who taught the course, myself, Iza Solá-Llonch, Pam Munro, Minqi Liu, and other Linguistics graduate students at UCLA. We all continued to work on the language, resulting in work including Booth et al. (2021), Booth (2021b), Booth (2021a), Booth (2022), Liu (2021), Solá-Llonch (2021c), Solá-Llonch (2021a), Solá-Llonch (2021d), Solá-Llonch (2021b), Solá-Llonch (2022). Michael Galant has also worked since 2020 on a trilingual SCZL-Spanish-English dictionary. Unless otherwise indicated, all the SCLZ data are from my fieldwork. The majority of my fieldwork has been done with speakers living in Los Angeles, and I primarily worked with one native speaker, Julio

Dominguez, both alone and together with Lucina Miguel and Minerva Mendez. Julio Dominguez is trilingual, speaking Spanish, SCLZ, and English fluently, and he works as a translator and Zapotec language consultant in Los Angeles. I also conducted fieldwork together with Harold Torrence and Elizabeth Solá-Llonch in San Cristóbal Lachirioag in September 2022, where we elicited with several speakers including Ezequiel Ambrosio and Minerva Dominguez. We elicited with both male and female speakers whose ages ranged from their 20’s to elderly speakers. We also recorded speakers telling stories in SCLZ about themselves and the history of the town.

1.1. Orthography and Phonology

Tables of SCLZ vowels and consonants are given in Table 1.1- Table 1.2, along with the practical orthography that I will use in this dissertation, given in angle brackets. The orthography developed by Pam Munro alongside SCLZ consultants. Phones in parentheses are only found in borrowed words.

Table 1.1: Vowels in SCLZ

	front	central	back
high	i	ë ²	u
mid	e		o
low		a	

²As far as I am aware, the high mid vowel *ë* mostly occurs in unstressed syllables, and typically word-finally. One consultant says [i] and [e] where another consultant says *ë*, as in the 3rd person singular human informal pronominal clitic =*be'* / =*bë'*. In SLQZ, *ë* (a high, mid, unrounded vowel) is “used only rarely, (replacing it with *e* in most contexts), and it generally appears less frequently than other vowels” (Lee, 1999). *ë* is possibly an allophone of [i] or [e]. I have transcribed *ë* as *e* or *i*, depending on the pronunciation.

	Labial	Alveolar	Retroflex	Palatal	Velar
Nasal	(m) <m> ³	n <n> n: <nn>			ŋ <n> ⁴
Stop	p <p> b 	t <t> d <d>			k <k> g <g> k ^w <kw> ⁵
Fricative	(f) <f>	s <s> z <z>	ʂ <x> ʐ <xh>	ʃ <sh> ʒ <zh>	(x) <h>
Affricate				tʃ <ch> dʒ <dj>	
Liquid		r, (r) ⁶ <r> l <l>			
Glide	w <w>			j <y>	

Table 1.2: Consonants in SCLZ: (x) represents a phoneme mostly found in borrowed words, <x> represents how I represent the sound in my orthography.

SCLZ has a retroflex series and a fortis/lenis consonant distinction, as do other Zapotec languages (see Leander (2008) for San Francisco Ozolotepec Zapotec, Lee (1999) for San Lucas Quiaviní Zapotec, and Sonnenschein (2005) for Zoogocho Zapotec, *inter alia*). The fortis / lenis distinction is typically used to describe a contrast similar to a voicing contrast, but which cannot be completely described as that (Leander, 2008). I represent the fortis/lenis distinction as a voicing difference in the orthography, e.g. *sh* for the lenis palatal fricative and *zh* for the fortis palatal fricative.

In SCLZ, fortis obstruents are always voiceless, do not spirantize, and are of longer

³*m* is either in loanwords or is the result of lenis *n* assimilating the place of articulation of a neighboring bilabial consonant.

⁴*ŋ* is not a phoneme, but lenis *n* word-finally or assimilating the place of articulation of a neighboring velar consonant.

⁵This may be a phoneme, or it may be a *k*+*w* sequence. Solzá-Llonch and Xu (2022) argue for the former.

⁶Galant (p.c.) has found the trilled *r* in the native word *riz* ‘squirrel,’ but I have also heard that word with a tap. Regardless, it is a phoneme primarily found in borrowed words. In SLQZ, the trilled *r* is also seen in loanwords and over morpheme boundaries (Lee, 1999).

duration, while lenis obstruents have variable voicing, can spirantize, and have shorter duration (Solz-Llonch and Xu, 2022). Fortis sonorants have longer duration and the nasals do not assimilate to the place of articulation of adjacent consonants, while lenis sonorants have shorter duration and lenis nasals do assimilate (Solz-Llonch and Xu, 2022). The SCLZ fortis *nn* is invariably pronounced as the alveolar nasal [n] word-finally. The pronunciation of lenis *n*, on the other hand, varies according to its local environments: it is pronounced as [n] word-finally after a consonant, but either as an [n] or an [ŋ] word-finally after a vowel (Table 1.3). It is also sometimes pronounced as an [r]. This is similar to Yallag Zapotec, in which the fortis *n* is never velar when in a coda, but the lenis *n* often is velar in that position (Avelino, 2004).

Table 1.3: Fortis and Lenis *n* in SCLZ

Fortis	Lenis
<i>benn</i> ‘gave’	<i>xhen</i> ‘fat, big’
<i>binn</i> ‘seed’	<i>zhdan</i> ‘happy’
<i>tnn</i> ‘tall’	<i>wen</i> ‘good’

SCLZ has modal vowels as in *ns* ‘water,’ checked vowels as in *bdo* ‘child,’ and possibly creaky vowels, as in *ya’a* ‘green’ or *yo’o* ‘house.’ The apostrophe represents a glottal stop, which I do not analyze as a consonant in SCLZ but rather as a type of phonation. In SLQZ and Zoogocho, modal, breathy, creaky, and glottalized/checked vowels have been observed (Lee, 1999; Sonnenschein, 2005), but further work will be needed to determine the phonation types in SCLZ. There is inter-speaker variation in the phonation types of vowels – for example, Galant (p.c.) reports that one of his

SCLZ consultants produces the word *dog* as *be'ku'* with two checked vowel, while my main consultant typically has modal vowels, or a checked *u'* unless it is in a phrase and followed by another word/morpheme.

SLCZ also has at least four tone levels; low, mid, high, and rising (Table 1.4). Tone is sometimes contrastive in SCLZ, and depending on the speaker can be hard to discern. This is also the case with San Lucas Quiaviní Zapotec (SLQZ), where tone is not clearly phonemically contrastive (Lee, 1999).

Table 1.4: Tone in SCLZ

Tone	Example	Translation
low	zò' < xhò' >	your shirt
mid	ji < yi >	fire
high	śá' < xá' >	my father
rising	nũ	who

This is a practical transcription of my recordings of SCLZ, and I have tried to be as accurate in transcribing tone, fortis/lenis consonants, and phonation, but tone especially is difficult to differentiate, and so the transcription should be taken as a surface impression rather than a completely faithful representation of the phonology.

1.2. *Word order in SCLZ*

SCLZ is a language with prepositions (1), N > Gen word order in possessives (2), postnominal relative clauses (3) and Noun > Adjective word order.

(1) *Prepositions*

benne na-n ù-yuw=e' lò yò'ò
man that-n PERF-enter=3.H.F **inside house**

it was that guy that entered inside the house

(2) *N > Gen*

mes che Bédu
table of Pedro

Pedro's table

(3) *Postnominal Relative Clauses*

[peloto-n [b-rag beku-n]]
ball-SPF PERF-chase dog-SPF

The ball that the dog chased

(4) *Noun Adjective*

beli ya'a-n
snake green-SPF

The green snake

The syntax of wh-questions and relative clauses will be discussed in §3.3 and §3.5, respectively.

SCLZ matrix clauses are typically VSO, where V represents the verbal complex including temporal adjectives like *nna* 'still' (5-8).

(5) VSO

ù-dáu Bédu pastél-n
PERF-eat Pedro cake-SPF

Pedro ate the cake

(6) VSO

[nna dj-au-(ks)] Bédu pastel-n
still CONT-eat-still Pedro cake-SPF

Pedro is still eating eating the cake

SCLZ also commonly has sentences with a subject-like DP before the verb (SVO), as in (7-8). Note that these have no *-n* morpheme after the preverbal DP. Both definite and indefinite subjects may precede the verb.

(7) SVO

Bédu ù-dáu=be' pastél-n
Pedro PERF-eat=3.H.I cake-SPF

Pedro ate the cake

(8) SVO

to beku b-rag=ba' to pelot
one dog PERF-chase=3.ANIM one ball

A dog chased a ball

When the preverbal DP is followed by an *-n*, it is sometimes semantically marked, but not necessarily (9).

- (9) a. to beku b-rag=ba' to pelot
 one dog PERF-chase=3.ANIM one ball
 A dog chased a ball
- b. to beku-n b-rag=ba' to pelot
 one dog-n PERF-chase=3.ANIM one ball
 It was a dog that chased a ball / there was a dog chasing a ball
- c. to beku-n ya-xhen=ba' pelot-n
 one dog-n PERF-catch.up.to=3.ANIM ball-SPF
 one of the dogs chased the ball

The meaning and distribution of *-n* is complicated, and will be discussed in §2.2.9, but I will argue that it can be a determiner with specific/familiarity readings, and it can also be a topic marker. To note, however, is that preverbal DPs are allowed both with and without the *-n*.

OVS and SOV sentences are also possible (10a-10c) but not OSV or VOS⁷ (10d-10e).

- (10) a. OVS
- pastel-n ù-dáu Bédu
 cake-n PERF-eat Pedro
 It's the cake that Peter ate⁸
- b. OVS
- to pastel-n ù-dáu Bédu
 one cake-n PERF-eat Pedro
 It's a cake that Peter ate

⁷We will see in §2.2.7 that this is a bit more complicated

⁸This is ambiguous between *It's the cake that Peter ate* and *it's the cake that ate Peter*

c. SOV

Bédu-n to pastel(*-n) ù-dáu=be'
Pedro-n one cake-n PERF-eat=3.H.I

Pedro, it's a cake that he ate (he has a stomach ache, and you're explaining why he has a stomach ache)⁹

d. OSV

* pastel-n Bédu ù-dáu=be'
cake-n Pedro PERF-eat=3.H.I

The cake, it's Pedro that ate

e. VOS

* ù-dáu pastel-n Bédu
PERF-eat cake-SPF Pedro

Pedro ate the cake

1.2.1. *Subjects, topics, and pronominal clitics*

SCLZ has a set of pronominal clitics that are marked for number and person in the 1st and 2nd person, and for person, animacy, and formality in the 3rd person. The first person plural also has an inclusive/exclusive distinction. A table of the pronominal clitics is given in Table 1.5.

SCLZ also has a series of independent pronouns, given in Table 1.6.

⁹It is striking that the *-n* on the end of *pastel* is ungrammatical here. The distribution of *-n* will be discussed in §2.2.9

Table 1.5: Clitic Pronouns in SCLZ

1sg	=a'	1pl inclusive	=dju
		1pl exclusive	=tu'
2sg	=u'	2pl	=(e)re'
3sg human informal	=be'	3pl human informal	=gak=be'
3sg human formal	=e'	3pl human formal	=gak=e'
3sg animate	=ba'	3pl animate	=gak=ba'
3sg inanimate	=n	3pl inanimate	=gak=n

The independent pronouns do not vary according to syntactic role, as shown in (11). They can be used for an emphasized pronominal subject, as in (11a), or for pronominal objects, as in (11b-11c).

- (11) a. **nada'** ù-tas=a' nĩ
 PRO.1SG PERF-sleep=1SG here
 I slept here
- b. bxoz-n yechaz b-réd=e' **nada'**
 priest-n PERF.fall PERF-see=3.H.F PRO.1SG
 The priest that fell saw me
- c. Wer b-ríd=be' **nada'** **le=gak=e'**
 Manuel PERF-show=3.H.F PRO.1SG PRO=PL=3.FORM
 Manuel showed them to me / showed me to them

The pronominal clitics can be used to express a pronominal subject, as in (12), and they appear after the verb when there is a preverbal subject DP, as in (13) (this will be discussed below).

- (12) ù-dau=**dju** pastél-n
 PERF-eat=1PL.INCL cake-SPF
 We ate the cake

Table 1.6: Pronouns in SCLZ

	Clitic Pronoun	Free Pronoun
1sg	=a'	nada'
2sg	=u'	re'
3sg human informal	=be'	le'e=be'
3sg human formal	=e'	li'
3sg animate	=ba'	lé=ba'
3sg inanimate	=n	lé=n
1pl inclusive	=dju	djò'
1pl exclusive	=tu'	ré=tu'
2pl	=(e)re'	ré=re'
3pl human informal	=gak=be'	lé=gak=be'
3pl human formal	=gak=e'	lé=gak=e'
3pl animate	=gak=ba'	lé=gak=ba'
3pl inanimate	=gak=n	lé=gak=n

- (13) Bédu ù-dau=**be'** pastel-n
 Pedro PERF-eat=**3.H.I** cake-SPF
 Pedro ate the cake

The third person pronominal clitics can also be used to express a pronominal object, as in (14). The first and second person clitics cannot – the independent pronoun is used instead (15-18).

- (14) u-dish=a=n ito
 PERF-break=1SG=3.INAN again
 I broke it again

- (15) u-dap=a' re'
 PERF-hit=1SG PRO.2SG
 I hit you

- (16) * u-dap=a=u'
 PERF-hit=1SG=2SG
 I hit you
- (17) dj-abad=be' nada'
 CONT-like=3.H.I PRO.1SG
 He likes me
- (18) * dj-abad=be=a'
 CONT-like=3.H.I=1SG
 He likes me

The clitic pronouns also attach to some prepositions, such as *ro* 'to' and to the possessive morpheme *che* (20). Other times, the independent pronoun is used (21).

- (19) b-et=a' libr-n ro=be'
 PERF-sell=1SG book-SPF to=3.H.I
 I sold the book to him
- (20) pastel **che=be-n**
 cake of=3.H.I-SPF
 His cake
- (21) to=z Wer-n dj-níya-ren=teks Bédu ren le'e=be'
 one=only Manuel-n CONT-angry-with=INTENSIFIER Pedro with PRO=3.H.I
 Pedro is angriest at Manuel (lit. only Manuel is Pedro very angry with him)

When the subject is pronominal, then the subject is expressed as a pronominal clitic following the verb (22).

- (22) a. (nada-(n)) b-rág=a' beli-n
 1SG-n PERF-chase=1SG snake-n
 I chased the snake

- b. b-rág=**u**' beli-n
 PERF-chase=2SG snake-n
 You chased the snake
- c. b-en=**be**' yet na
 PERF-make=3.H.I tortilla that
 He made that tortilla
- d. b-en=**gak=be**' yet na
 PERF-make=PL=3.H.I tortilla that
 They made that tortilla

If a DP subject precedes the verb, then the verb is followed by a 3rd person plural clitic if the subject is plural, and then subject pronominal clitic coreferential with the subject in person/animacy/formality (23).

- (23) a. **libr-n** b-exa=**n**
book-n PERF-fall=3.INAN
 'it was the book that fell'
- b. **bxoz-n** b-xhixh=**e**'
priest-n PERF-sneeze=3.FORM
 'it was the priest that sneezed'
- c. **yon=te beku-n** b-rág=**gak=ba**' peloto-n
three.exh=int dog-n PERF-chase=PL=3.ANIM ball-SPF
 'it was all of the three dogs that chased the ball'

If the verb does not take subject clitics, as in (24b), then the sentence may be ambiguous. There was no obvious intonational difference between (24a) and (24b).

- (24) a. beli-n b-ràg=**ba**' Bédu
 snake-n PERF-chase-3.ANIM Pedro
 'it was a snake that chased Pedro'

- b. *beli-n b-ràg Bédu*
 snake-n PERF-chase Pedro
 ‘it was a snake that chased Pedro’, ‘it was a snake that Pedro chased’

However, the subject clitics are not necessary for every type of preverbal subject. Subjects with contrastive focus, as in (25), do not obligatorily have corresponding postverbal clitics.

(25) Contrastively focused subjects

- a. *nũ gu-kro’?*
 who PERF-win?
 Who won?
- b. **bdo.nor na-n** *gu-kro’* (kui bdo.biyu)
 girl that-n PERF-win (not boy)
 That girl won (not the boy)
- c. **beku=z-n** *u-dau pastel-n*
 dog=only-n PERF-eat cake-SPF
 it was only a dog that ate the cake (not a cat)
- d. **xhí’ín Bédu nga-n** *u-dau=be’ pastel-n*
 POSS.son Pedro this-n PERF-eat=3.H.I cake-SPF
 This son of Pedro’s ate the cake (not that son)

Quantified indefinite DPs do not have to co-occur with subject clitics (26), although they can if there is a nominal restrictor (26c).

(26) Quantified indefinite DPs

- a. **nito** *ku-b u-dín Bédu*
 none NEG-INAN PERF-hit Pedro
 Nothing hit Pedro

b. **nito** ku-nn u-dáu pastel-n
 none NEG-ANIM PERF-eat cake-SPF
 Nobody ate the cake

c. **nitó beku-n** kù b-ràg=**gak=n** ris-n
 none dog-n NEG PERF-chase=PL=3.INAN squirrel-n
 None of the dogs chased the squirrel

Subjects with a plural numeral (27) do not have to co-occur with subject clitics, although they can.

(27) Numeral + subject

gà bdo ù-dáu(=**gak=be'**) pastél-n
 nine child PERF-eat=PL=3.H.I cake-n
 nine children ate a cake

Interestingly, if the subject NP has an explicit plural numeral, then the plural number clitic *gak* PL is not required on the verb, which it normally would be. However, you can have either both the plural and person/animacy/formality clitics on the verb or neither of them (28a) – it is not possible to have just the person/animacy/formality clitic and not the plural clitic (28b).

- (28) a. **gà bdo** ù-dáu(=**gak=be'**) pastél-n
 nine child PERF-eat=PL=3.H.I cake-n
 nine children ate the cake
- b. ***gà bdo** ù-dáu=**be'** pastél-n
 nine child PERF-eat=3.H.I cake-n
 nine children ate the cake

Wh-subjects without NP restrictors cannot co-occur with subject clitics (29), although wh-subjects can co-occur with the clitics when there is a nominal restrictor and, without the clitics, the meaning of the sentence is ambiguous: with (29e-29f), there is nothing on the subject to indicate plurality (nouns are not marked for plurality – this will be discussed in §2.2.1), so unless there is a pronominal clitic indicating plurality, the sentence is ambiguous between *which child* and *which children*.

(29) Wh-subjects

- a. **nũ-n** ù-dapa' Bédu
 who-n PERF-hit Pedro
 Who hit Pedro?
- b. * **nũ** u-dapa(***=be'**) Bédu
 who PERF-hit(=3.H.I) Pedro
 Who hit Pedro?
- c. **bĩ-n** ù-dizh re'
 what-n PERF-bite PRO.2SG
 What bit you?
- d. **nũre beku na-n** ù-kro'
 which dog that-n PERF-win
 Which dog won?
- e. **nũre bdo-n** ù-dau(=**be'**) pastel
 which child-n PERF-eat=3.H.I cake
 Which child ate the cake?
- f. **nũre bdo-n** ù-dau(=**gak=be'**) pastel
 which child-n PERF-eat=PL=3.H.I cake
 Which children ate the cake?

When the subject is postverbal, then the verb does not take the person/animacy/formality

clitic, and optionally takes the plural number clitic (30).

- (30) ù-dáu(=gak)(*=be') bdo-n pastél-n
PERF-eat-PL-3.H.I child-n cake
The children ate the cake

Foreman (2006) discusses two options for analyzing the relationship between definite preverbal DP “subjects” as in (31) and subject clitics in Macuiltianguis Zapotec (MacZ). The first option is that the preverbal subjects are derived by moving the subject from its postverbal position to [Spec, TP], triggering agreement on the verb, and these clitics are agreement markers. The second option is that the preverbal “subject” is actually a topic / left-dislocated DP base-generated in the preverbal position, and the postverbal subject clitics are the actual subject. Foreman (2006) argues for the second analysis, that the “SVO” order is really Topic VSO.

The facts in MacZ are similar to those in SCLZ. With preverbal ‘subjects,’ the postverbal clitic is required and cannot be omitted (31-32).

- (31) (Foreman, 2006)
naan quí'=ya' ruuni=**yé** yíina-tó'
mother of=1SG H/do=3.FORM chili=DIM
My mother is making yellow mole

- (32) *naan quí'=ya' ruuni yíina-tó'
mother of=1SG H/do chili=DIM
My mother is making yellow mole

Foreman (2006) argues that if the subject clitics are agreement morphemes triggered by movement of the subject, then there should be complete agreement or no agreement

with the subject. However, not all preverbal DPs trigger agreement – in MacZ, QPs like *nobody* do not trigger the clitics, and nor do wh-subjects and focused subjects. We have seen this in SCLZ, where contrastive focus, quantified indefinite DPs, subjects with plural numerals, and wh-subjects do not obligatorily trigger postverbal clitics (25-29). These preverbal subjects do not trigger subject clitics because they are the subject, moving up from [Spec, TP] to a higher position. As for the preverbal DPs that do cooccur with subject clitics, these are not true subjects but are base-generated in the left periphery, and the subject clitics themselves are pronominal subjects.

One issue for expanding this to SCLZ is that if *-n* is a topic marker, which is how I do analyze it, and preverbal DPs like *bxoz-n* ‘the priest’ in (33) are actually topics, then why can we get preverbal ‘topics’ without the topic marker, e.g. (34)? It is plausible that the pronominal clitics are the true subjects, but more research will need to be done to determine the syntax of the pre-verbal field.

(33) (repeated from (23b))

bxoz-n b-xhixh=**e**
priest-n PERF-sneeze=3.FORM
 ‘it was the priest that sneezed’

(34) (repeated from 13)

Bédu ù-dau=**be**’ pastél-n
 Pedro PERF-eat=3.H.I cake-SPF
 Pedro ate the cake

1.3. Verbal Aspect Morphology

Verbs are marked with tense/aspect prefixes, given in Table 1.7. In the literature on Zapotec, these are often referred to as aspect markers (Lee, 1999; Butler, 1980; Sonnenschein, 2005), although they are also used to express whether an action happened in the past (perfective), is currently happening (stative / continuative), or will happen (irrealis). Examples of the aspect prefixes in use are given in (35).

Table 1.7: Verbal affixes in SCLZ

Tense/Aspect	Morpheme
Perfective (PERF)	b- ù- gu-
Continuative (CONT)	dj-
Stative (STAT)	n-
Irrealis (IRR)	w- g- u-

(35) *Aspect morphemes*

- a. Bédu **b-gul=be'** kansion nnga
 Pedro PERF-sing=3.H.I song this
 Pedro sang this song
- b. Bédu **ù-dáu=be'** chop pastel
 Pedro PERF-eat=3.H.I two cake
 Pedro ate two cakes
- c. bi-tómn **gu-k** Bédu
 HUMAN.INF-tall PERF-be Pedro
 Pedro was tall
- d. nna **dj-gul=a'**
 still CONT-sing=1SG
 I'm still singing

- e. to benn-tónn **n-ak** bxoꝛ-n
 one HUMAN.FORM-tall STAT-be priest-n
 The priest is tall (lit. The priest is a tall person)
- f. **w-aréd** Bédu to yish
 IRR-read Pedro one book
 Pedro will read a book¹⁰
- g. Bédu **g-au=be'** to yete
 Pedro IRR-eat=3.H.I one tortilla
 Pedro will eat a tortilla
- h. uxhé **u-gúl=gak=be'**
 tomorrow IRR-sing=PL=3.H.I
 They will sing tomorrow

1.4. *Outline of Thesis*

In this thesis, I discuss three topics in the nominal domain in SCLZ – the structure of the NP, relative clauses, and possessives.

Chapter 1 discusses elements in the NP. It includes discussions of nouns, diminutives/pejoratives, adjectives, numerals, quantifiers, demonstratives, and the specificity marker *-n*. I will show the overall ordering of these elements and how that places SCLZ in regards to NP structure typology, and I will propose a structure for the SCLZ nominal domain.

Chapter 2 discusses relative clauses in SCLZ. I begin by discussing *wh*-terms and

¹⁰ *To* ‘one’ is used to express the specific or non-specific indefinite ‘a/an.’ The specificity depends on whether it co-occurs with the specificity determiner *-n*

wh-movement in SCLZ, and then headed and headless relative clauses, and how SCLZ relates to Keenan and Comrie (1977)'s Accessibility hierarchy.

Chapter 3 discusses possessive constructions in SCLZ. First, I discuss types of possessive constructions across Zapotec varieties. Then, I will discuss the different types of possessive constructions found in SCLZ, and lastly, I will give an analysis of SCLZ possessives based on previous work on Greek, Ojibwe, French, and English.

Chapter 2

NP elements and structure

2.1. Overview

In this chapter, I will discuss the elements which can occur in an SCLZ nominal, including quantifiers, numerals, diminutives/pejoratives, nouns, adjectives, demonstratives, and the determiner *-n*. This will serve to acquaint the reader with the parts of the SCLZ NP that will be referred to throughout the rest of the thesis. I will also provide an analysis for the order of the elements in the nominal domain based on Cinque (2005)'s typology of noun phrases.

I will show that the surface order of elements in the SCLZ nominal domain is QUANT NUM PEJORATIVE NOUN DIMINUTIVE ADJECTIVE DEMONSTRATIVE DETERMINER, e.g. in (36).

- (36) **yon=te bel ya'a na** b-rag=gak=ba' Bédu
three.EXH snake green that PERF-chase=PL=3.ANIM Pedro
All those three green snakes chased Pedro

Greenberg's universal 20 states that "When any or all of the items (demonstrative, numeral, and descriptive adjective) precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite" (Greenberg,

1234	1324
1243	1342
1423	1432
4123	4132 (?)
<hr/>	<hr/>
2134	2314
2143	2341
2413	2431
4213	4231
<hr/>	<hr/>
3124	3214
3142	3241
3412	3421
4312	4321

Table 2.1: Attested word order patterns (1 = Dem, 2 = Num, 3 = Adj, 4 = Noun, strikethrough = unattested, ? = unclear if attested)

1963). While the part of the universal concerning prenominal order has remained stable, the latter half of the universal has been shown to be less than correct – there are variable orders postnominally, and while not all possible postnominal orders are attested, more are attested than what Greenberg (1963) proposed (Cinque, 2005, 2021). A table of attested and unattested orders is given in Table 2.1, where 1 = Dem, 2 = Num, 3 = Adj, and 4 = Noun (Cinque, 2005; Hawkins, 1983). Given this numbering system, the order in SCLZ is 2431, highlighted in Table 2.1.

Cinque (2005)’s generalization holds for the current size of the database of over 2,000 languages in his 2021 corpus. He has found $\sim 11\%$ of languages (223 out of a corpus of over 2,000 languages) have this order, and this is the only order found for all 19 Zapotecan languages (including SCLZ) in his 2021 corpus. Among other languages, it is documented in Mon-Khmer languages, Basque, Celtic, Easter Island, Wolof, Rapanui, Hmong, Indonesian, Jacaltec, Watjarri, and Hebrew (Cinque, 2005) .

How to account for the consistent DEM NUM A order for prenominal elements, but the variable but not arbitrary order postnominally? Cinque (2005) proposes a universal hierarchy resulting from the merge order of the elements DEM (1) > NUM (2) > ADJ (3) > N (4). The surface order is DEM NUM A N. Variations on this order are caused by movement. For example, Cinque (2005) proposes that in order to get the Num N A Dem order, the NP moves above AP (to an Agr specifier position), followed by raising and *picture of who*-type pied-piping of [Num N A] above Dem.

My discussion of the SCLZ nominal domain will assume Cinque (2005)'s universal hierarchy, and my analysis of how SCLZ gets its linear order of elements will proceed similarly to Cinque (2005)'s analysis given above. In the following sections, I will discuss each element in the order of merge, and in §2.3 I will propose an analysis for the movements which produce the SCLZ linear order NUM N A DEM.

2.2. *Elements in the NP*

I will assume the order of elements in the spine based on the order proposed by Cinque (2005). Cinque (2005) argued for the order DEMONSTRATIVE > NUMERAL > ADJECTIVE > NOUN. I add to this several fields seen in SCLZ, producing the following order of elements in the nominal spine¹¹: DETERMINER > DEMONSTRATIVE > QUANTIFIER > NUMERAL > PEJORATIVE > ADJECTIVES > DIMINUTIVE > NP. In this section, I will discuss each element in the order in which it occurs in the spine in the order they

¹¹The structure of possessives will be discussed in §4.4

merge, e.g. nouns (§2.2.1), the diminutive (§2.2.2), adjectives (§2.2.3), the pejorative (§2.2.4), numerals (§2.2.5), quantifiers (§2.2.6-2.2.7), demonstratives (§2.2.8), and the determiner *-n* (§2.2.9). This ordering is not the linear order of the elements in SCLZ, and so I will discuss in §2.3 the movement necessary to produce the surface order.

2.2.1. *Nouns*

Nouns in SCLZ are not inflected for number, as shown in (37), where neither the singular nor the plural *beli* ‘snake’ takes any number morphology. They also cannot take the plural *=gak* morpheme, as shown in (37c- 37d).

- (37) a. **to beli-n** b-ràg=ba’ Bédu
 one snake-n PERF-chase=3.ANIM Pedro
 One snake chased Pedro
- b. **shon beli-n** ù-dáu=gak=ba’ to blo’ozh-n
 three snakes-n PERF-eat=PL=3.ANIM a frog-n
 three snakes ate a frog
- c. ***bdo=gak**
 child=PL
 children
- d. ***chop bdo=gak** u-dau=gak=be’ pastel-n
 two child=PL PERF-eat=PL=3.H.I cake-n
 two children ate the cake

If it is necessary to express plurality, it is possible to use a relative clause construction using the plural positional verb *zha* STAT.be.there.PL (38-40)

- (38) Bédu b-ràg=be' beku chi=a'
 Pedro PERF-chase=3.H.I dog of=1sg
 Pedro chased my dog(s)
- (39) Bédu b-ràg=be' beku-n **zha** chi=a'
 Pedro PERF-chase=3.H.I dog-n STAT.be.there.PL of=1sg
 Pedro chased my dogs
- (40) chi=a' n-ak beku-n **zha** na
 of=1sg STAT-be dog-n STAT.be.there.PL there
 Those are my dogs (lit. 'The dogs that are there are mine')

Nouns are also not inflected for case, as can be seen in the invariance of *beku* 'dog' and *Wer* 'Manuel' in (41) and (42), respectively, despite different grammatical functions.

- (41) a. *Subject*
- to **beku** b-ràg=ba' to beli ya'a
 one dog PERF-chase=3.ANIM one snake green
 a dog chased a green snake
- b. *Direct object*
- b-réd=a' **beku-n**
 PERF-see=1SG dog-n
 I saw the dogs
- (42) a. *Subject*
- Wer** ù-dáu-dj=be' yete ka yizika=be'
 Manuel PERF-eat-CMPR=3.H.I tortilla than all.the.others=3.H.I
 Manuel ate more tortillas than all the others

b. *Direct Object*

le'e=be' b-en=be' **Wer** zí
PRO=3.H.I PERF-make=3.H.I Manuel injury
He/she hurt Manuel

c. *Indirect Object*

Wer b-rezhag=a' to libr ù-xhi=a
Manuel PERF-give=1SG one book PERF-buy=1SG
I gave Manuel a book that I bought

d. *Object of a Preposition*

Bédu b-et=be' yish-n **ro Wer**
Pedro PERF-sell=3.H.I book-SPF to Manuel
Pedro sold the book to manuel

There are both count nouns and mass nouns in SCLZ, e.g. the count noun *pastel* 'cake' and the mass noun *nis* 'water.' Count nouns can be counted using numerals (43a), while mass nouns are typically not counted unless there is a unit associated with them, e.g. in (43b). However, if they are counted, then they are interpreted as discrete units or types, just as with the English "I drank three waters" (43c).

- (43) a. shon pastel-n
 three cake-n
 Three cakes
- b. wi=a' shon bote nis
 PERF.drink=1SG three bottle water
 I drank three bottles of water
- c. wi=a' shon nis
 PERF.drink=1SG three water
 I drank three waters

2.2.2. *Diminutive do'*

Cinque (2015) identifies four “notions” – *diminutives*, *augmentatives*, *endearments*, and *pejoratives*. A single morpheme can express more than one of these notions – for example, in Italian, *-ino/ina* expresses not only diminution (factually being small), but also endearment, derogation, and approximation. Cinque (2015) argues that because in Italian and other languages the morphemes that correspond to these functions appear in a strict linear order, they represent a hierarchy of four heads on the syntactic spine: AUGMENTATIVE > PEJORATIVE > DIMINUTIVE > ENDEARING.

SCLZ has two elements that express these notions – *dra* ‘that darn’, which has a pejorative meaning and is prenominal, and *do'* ‘little,’ which has a diminutive and endearing meaning and is postnominal. *Dra* ‘darn’ and *do'* ‘little’ can both appear within the same NP, so they are not mutually exclusive, as shown in (44).

(44) (repeated from (45))

dra ris **dò'** xhna ù-dáu=n yítu-n
darn squirrel little red PERF-eat=3.INAN nut-n

The darn little red squirrel ate the nut

In this section I will discuss *do'* ‘little’ because in my analysis it merges directly above nouns in the spine, while *dra* ‘darn’ merges above Adjectives, and so it will be discussed later in §2.2.4.

The diminutive/endearment *do'* ‘little/dear’ is postnominal and follows directly after the noun, preceding adjectives (45). It does not pattern like *dra* ‘darn,’ which is

prenominal (45).

(45) beku-n ù-dáu-ba' [to **ris do'**]
dog-n PERF-eat-3.ANIM one squirrel little
The dog ate a little squirrel

a.* beku-n ù-dáu-ba' [to **do' ris**]
dog-n PERF-eat-3.ANIM one little squirrel
The dog ate a little squirrel

(45) [**dra ris dò' zhna**] ù-dáu=n yítu-n
darn squirrel little red PERF-eat=3.INAN nut-n
The darn little red squirrel ate the nut

Do' 'little' can be used to describe a large animal affectionately, so it is not the case that it is completely a diminutive based on physical size (just like the Italian diminutive / endearment *-ino*, which is not strictly for small entities Cinque (2015)) (46).

(46) ù-dáu **elefante do-n** yishe
PERF-eat elephant little-n grass
The little / cute elephant ate grass

Do and *dra* seem to be of the same morphosyntactic category, although they merge in different positions. In my analysis, discussed in §2.3, the NP moves up the hierarchy above the diminutive and the adjectives, accounting for their postnominal position, but NP does not raise above the pejorative, which is why it is prenominal.

2.2.3. Adjectives

Adjectives in SCLZ are postnominal, as in (47).

- (47) **beli ya'a** na b-rag=ba' Bédu
 snake green that PERF-chase=3.ANIM Pedro
 That green snake chased Pedro

Some adjectives are given in Table 2.2.

Table 2.2: Adjectives in SCLZ

SCLZ	Gloss
<i>tónn</i>	tall, long
<i>xis</i>	thin
<i>djinku</i>	short
<i>ras</i>	thin
<i>war</i>	strong
<i>xhen</i>	fat, big
<i>yash</i>	short, poor, young
<i>yá'á</i>	green
<i>xhnná</i>	red

True adjectives tend to be physical descriptors and they can follow a noun, either a full noun, as in (47) and (48), or a relative pronoun like *ben* HUMAN.FORM, as in (49) (see §3.5.2 for a discussion of SCLZ relative pronouns).

- (48) yon **bdo tónn-in** zha na u-dau=gak=be' pastel-n
 three.EXH child tall-n STAT.be.there.pl there PERF-eat=PL=3.H.I cake-n
 those three tall children ate the cake
- (49) to **benn-tónn** n-ak bxóz-n
 one HUMAN.FORM-tall STAT-be priest-n
 the priest is tall (lit. The priest is a person who is tall)

Some adjectival roots can be realized as verbal predicates and take aspectual morphology (50) and pronominal clitics (50c).

- (50) a. bdo-n **ni-tónn** u-dau=be' yet-n
 child-n STAT-tall PERF-eat=3.H.I tortilla-n
 The child who is tall ate the tortilla
- b. bdo-n **wa-tónn** u-dau=be yet-n
 child-n IRR-tall PERF-eat=3.H.I tortilla-n
 The child who will be tall ate the tortilla
- c. Bédu **wa-tónn=be'**
 Pedro IRR-tall=3.H.I
 Pedro will be tall

Other predicates like *niya* 'angry,' *bed* 'happy,' and *zòzh* 'drunk' are expressed only as verbs and cannot follow a noun/relative pronoun, as in (51-53).

- (51) a. dj-niya Bédu
 CONT-angry Pedro
 Pedro is angry
- b. *Bédu n-ak=be' bí-niya
 Pedro STAT-be=3.H.I HUMAN.INF-angry
 Pedro is angry (lit. Pedro is a person who is angry)
- (52) a. **dj-bed** Bédu
 CONT-happy Pedro
 Pedro is happy
- b. *Bédu n-ak=be' **bí-bed**
 Pedro STAT-be=3.H.I HUMAN.INF-happy
 Pedro is happy (lit. Pedro is a person who is happy)

- (53) a. **wa-zòzh** Bédu
 IRR-drunk Pedro
 Pedro will be drunk
- b. ***bí-zòzh** n-ak Bédu
 HUMAN.INF-drunk STAT-be Pedro
 Pedro is drunk (lit. Pedro is a person who is drunk)

The form of the adjective does not vary according to animacy/formality (54a-54c) or number (54d). However, the form of the relative pronoun does vary according to animacy/formality (although not number) – *bi* HUMAN.INF, *ben* HUMAN.INF, *be/bía* ANIMATE, and *da* INAN – as can be seen in (54).

- (54) a. Maddy n-ak=be' bi-**ras**
 Maddy STAT-be=3.H.I HUMAN.INF-thin
 Maddy is thin (lit. Maddy is a thin person)
- b. beli-n n-ak=ba' be-**ras**
 snake-n STAT-be=3.ANIM ANIM-thin
 The snake is thin (lit. a thin animal)
- c. xhis na n-ak=n da-**ras**
 stick that STAT-be=3.INAN INAN-thin
 That stick is thin (lit. a thin thing)
- d. yish zha na n-ak=gak=n da-**ya'a**
 book STAT.be.there.pl that STAT-be=PL=3.INAN INAN-green
 Those books are green (lit. are green things)

2.2.4. *Pejorative dra*

Dra ‘darn’ is prenominal, and appears closest to the noun, coming linearly after numerals and quantifiers (55).

- (55) a. **to dra beku** ù-dáu=ba’ pastél
 one darn dog PERF-eat=3.ANIM cake
 That one darn dog ate the cake
- b. ***to beku dra** ù-dáu=ba’ pastél
 one dog darn PERF-eat=3.ANIM cake
 That one darn dog ate the cake
- c. **dra blo’ozh** na b-rag=n Bédu
 darn frog that PERF-chase=3.INAN Pedro
 That darn frog chased Pedro¹²
- d. beku-n b-rag=n **shon dra ris-n**
 dog-n PERF-chase=3.INAN three darn squirrel-n
 The dog chased three darn squirrels
- e. beku-n b-rag=n **yòu=té dra ris-n**
 dog-n PERF-chase=3.INAN all.EXH=INT darn squirrel-n
 The dog chased all the darn squirrels
- f. **nito dra ris-n** ku b-rag=gak beku-n
 none darn squirrel-n NEG PERF-chase=PL dog-n
 The dog chased none of the darn squirrels

Dra ‘darn’ is used to describe a certain entity that you know, and is not correct to use if you are not familiar with the entity in question. For example, (56) is infelicitous if we do not know the dog.

¹²note the use of the inanimate third person clitic =n to indicate annoyance/dislike

- (56) # to dra beku u-dau=ba' pastel
 one darn dog PERF-eat=3.H.I cake
 A darn dog ate the cake

Given that it has a specific meaning, it is curious that it co-occurs with *to* ‘one,’ which is used to express indefiniteness. However, one of my speakers has confirmed that *dra* is more “proper” with *to*.

- (57) to dra beku ù-dau=ba' pastel
 one darn dog PERF-eat=3.ANIM cake
 The darn dog ate the cake (one specific dog)
 # A darn dog (that I don’t know) ate the cake

It can also co-occur with *-n* ‘specificity’ and *na* ‘that,’ although it is not necessary to have these in order to get the specificity reading (58a). It is more acceptable to have these if the nominal is plural (58b), for reasons that are unclear.

- (58) a. dra beku re na ù-dau=n riz-do-n
 darn dog crazy that PERF-eat=PL=3.INAN squirrel-little-n
 That crazy darn dog ate the little squirrel
 b. dra beku na-n ù-dau=gak=n pastel-n
 darn dog that-n PERF-eat=PL=3.INAN cake-n
 Those darn dogs ate the cake

Object NPs with *dra* ‘darn’ can appear postverbally (59a). Subjects with *dra* ‘darn’ do not like to appear postverbally, as shown in (59c), unless they are unable to move to a higher position because that is occupied by something else, like *le dǎ* ‘it’s because of’ in (59d).¹³

¹³*le* is also a focus marker in Zoogocho Zapotec (Sonnenschein, 2005), e.g. (i).

- (59) a. **beku-n** b-rag=n **dra** ris-n
 dog-n PERF-chase=3.INAN darn squirrel-n
 The dog chased the darn squirrel
- b. **dra beku-n** b-rag=n peloto-n
 darn dog-n PERF-chase=3.INAN ball-n
 The darn dog chased the ball
- c. * b-rag **dra beku(-n)** peloto-n
 PERF-chase darn dog-n ball-n
 The darn dog chased the ball
- d. le.dǎ b-rag **dra beku(-n)** peloto-n
 it's.because.of PERF-chase darn dog-n ball-n
 It's because the darn dog chased the ball

2.2.5. Numerals

A list of some SCLZ numerals is given in Table 2.3.

In SCLZ there are several words for 20 and multiples of 20: *gàla* is used for 20 itself, *djua* is used for 21-39, and *ralag* is used for 40 (2 x 20), 60 (3 x 20), 70 (60 + 10), 80 (4 x 20), and 90 (80 + 10).

The general system of numbering in SCLZ is very close to what is seen in Yatzachi Zapotec (Butler, 1980, pp.211-212). In Yatzachi, the digits 30-39 consists of the digits

-
- (i) kuzh **le** n-dxe=be' ke?
 pig focus STAT-carry=3INF really
 He's carrying a pig, isn't he?

Alternatively, (59d) could suggest the verbal complex is higher than the subject in this clause type.

Table 2.3: Numerals in SCLZ

1	to	16	shinù to (15 1)	80	dape ralag (4 20)
2	chop(e)	17	shinù chope (15 2)	90	dape ralag shi
3	shon/yon	18	shinù shon (15 3)	91	dape ralag shi to
4	dape	19	dwala	100	gayùà'
5	gà'ayú'	20	gàla		
6	xòpe	21	to djua		
7	gazh	22	chope djua		
8	xónu	30	shi djua' (10 20)		
9	gǎ	31	shinia djua (11 20)		
10	shǐ	32	shizhinu djua (12 20)		
11	shinìa'	40	chope ralag (2 20)		
12	shízhínú'	50	gasha gayùà (half 100)		
13	shínnú	60	shone ralag (3 20)		
14	shdá	61	shone ralag to		
15	shìnu	70	shone ralag shi		

10-19 plus twenty, 50 is half 100, etc. Yatzachi also has multiple words for 20 – for example, 20 itself is *galʃə*, while for 20 when used in higher numbers, we get *choa* (e.g. 21 *tochoa*, ‘one-twenty’), *yon* (e.g. 60 *gyon*), or *lalʃ* (e.g. 80 *taplalʃ*).

The numerals 1-10 and 15, 20, 30, and 100 are given in full sentences in (60).

- (60) a. **to bdo** ù-dáu=be' pastél-n
 one child PERF-eat=3.H.I cake-SPF
 One child ate the cake
- b. **chope bdo** ù-dáu(=gak=be') pastél-n
 two child PERF-eat=PL=3.H.I cake-SPF
 Two children ate the cake
- c. **shone bdo** ù-dáu(=gak=be') pastél-n
 three child PERF-eat=PL=3.H.I cake-SPF
 Three children ate the cake

- d. **dape' bdo** ù-dáu(=gak=be') pastél-n
four child PERF-eat=PL=3.H.I cake-SPF
Four children ate the cake
- e. **gà'yu bdo** ù-dáu(=gak=be') pastél-n
five child PERF-eat=PL=3.H.I cake-SPF
five children ate the cake
- f. **xope bdo** ù-dáu(=gak=be') pastél-n
six child PERF-eat=PL=3.H.I cake-SPF
six children ate the cake
- g. **gazh bdo** ù-dáu(=gak=be') pastél-n
seven child PERF-eat=PL=3.H.I cake-SPF
seven children ate the cake
- h. **xónu' bdo** ù-dáu(=gak=be') pastél-n
eight child PERF-eat=PL=3.H.I cake-SPF
eight children ate the cake
- i. **gà bdo** ù-dáu(=gak=be') pastél-n
nine child PERF-eat=PL=3.H.I cake-SPF
nine children ate the cake
- j. **shì bdo** ù-dáu(=gak=be') pastél-n
ten child PERF-eat=PL=3.H.I cake-SPF
ten children ate the cake
- k. **shinnu' bdo** ù-dáu(=gak=be') pastél-n
fifteen child PERF-eat=PL=3.H.I cake-SPF
fifteen children ate the cake
- l. **gàla bdo** ù-dáu(=gak=be') pastél-n
twenty child PERF-eat=PL=3.H.I cake-SPF
twenty children ate the cake

m. **shi djùá bdo** ù-dáu(=gak=be') pastél-n
ten twenty child PERF-eat=PL=3.H.I cake-SPF

Thirty children ate the cake

n. **to gayùá bdo** ù-dáu(=gak=be') pastél-n
one hundred child PERF-eat=PL=3.H.I cake-SPF

one hundred children ate the cake

Numerals in SCLZ are prenominal, as shown in (61-62). They come after quantifiers (63), but before the pejorative (64-65).

(61) **chop bdo** ù-dau=gak=be' pastél
two child PERF-eat=PL=3.H.I cake

two children ate a cake

(62) ***bdo chop** ù-dáu=gak=be' pastél
child two PERF-eat=PL=3.H.I cake

two children ate a cake

(63) **yòu=té gà beku** ù-dau=gak=ba' pastél
all.EXH=INT nine dog PERF-eat=PL=3.ANIM cake

All of the nine dogs ate the cake

(64) (repeated from (55a))

to dra beku ù-dáu=ba' pastél
one darn dog PERF-eat=3.ANIM cake

That one darn dog ate the cake

(65) **chop dra beku**
two darn dog

Those two darn dogs

When a preverbal subject is singular, then a pronominal clitic is usually required on the verb, as discussed in Chapter 1. When a preverbal subject is plural but contains

no overt numeral to indicate plurality, number in the case of the 3rd person subject and person/animacy/formality clitics are required on the verb – it is the only way to indicate the plurality of the 3rd person subject – but in the presence of a (plural) numeral, then either both the plural and person/animacy clitics can appear after the verb, or neither of them (66). It is never possible to have just the subject person/animacy/formality clitic for a plural 3rd person subject (66b). For the case of *One child ate the cake*, with an overt but singular numeral, the animacy clitic is required on the verb or else the sentence is ambiguous as to the syntactic function of the preverbal DP (subject or object) (66c).

(66) a. (repeated from (28a))

gà bdo ù-dáu(=gak=be') pastél-n
 nine child PERF-eat=PL=3.H.I cake-n
 nine children ate the cake

b. * **gà bdo** ù-dáu=be' pastél-n
 nine child PERF-eat=3.H.I cake-n
 nine children ate the cake

(repeated from (28b))

c. **to bdo** ù-dáu=be' pastél-n
 one child PERF-eat=PL=3.H.I cake-n
 One child ate the cake (without =be', could mean 'one child ate the cake'
 or 'the cake ate one child')

When the subject is postverbal, the 3rd person plural marking is optional, but an animacy marker is not allowed (67).

- (67) a. ù-dáu=gak **gazh bdo** pastél-n
 PERF-eat=PL seven child cake-n
 seven children ate a cake
- b. ù-dáu=gak=be' **gazh bdo** pastél-n
 PERF-eat=PL=3.H.I seven child cake-n
 seven children ate a cake

Exhaustive numbers

Some SCLZ numerals can have an exhaustive form which consists of an irregular form of the stem plus the intensifier morpheme *=te* (2.4).

Table 2.4: Numerals and their exhaustive counterparts

<i>Numeral</i>	<i>Gloss</i>	<i>Exhaustive numeral</i>	<i>Gloss</i>
<i>to</i>	one	<i>do=te</i>	whole (all of one entity (a set of one))
<i>chop</i>	two	<i>djop=te</i>	both of (all of a set of two)
<i>shon</i>	three	<i>yon(=te)</i>	All three, the trio of (all of a set of three)
<i>dape</i>	four	<i>dap=te</i>	the quartet of (all of a set of four)

For example, *shon* ‘three’ means ‘three dogs’ or ‘three of the dogs,’ out of a potentially larger set (68a), while *yonte* means ‘all three’ and quantifies over all the elements out of a set of three (68b), and not a larger set (68c).

- (68) a. **shon** beku na-n b-rag=gak=ba' peloto-n
 three dog that-n PERF-chase=PL=3.ANIM ball-n
 Those three dogs chased the ball (out of five dogs)
- b. **yon=te** beku na-n b-rag=gak=ba' peloto-n
 three.EXH=INT dog that-n PERF-chase=PL=3.ANIM ball-n
 All three of the dogs chased the ball
- c. ***yon=te** beku na-n b-rag=gak=ba' peloto-n
 three.EXH=INT dog that-n PERF-chase=PL=3.ANIM ball-n
 Three dogs chased the ball (out of five dogs)

San Lucas Quiavini Zapotec (SLQZ) also has this distinction for some numerals, e.g. (69) (Lee, 2008).

(69) SLQZ (Lee, 2008)

a. *Chòonn* ‘three’

chòonn bùunny b-èi’nchìia’ yu’uh
 three person PERF-build house

Three people built a house (out of a larger group of people)

b. *Y-yòonn-ta* ‘three’

Y-yòonn-ta bùunny b-èi’nchìia’ yu’uh
 IRR-three-INT person PERF-build house

All three people built a house

Lee (2008) analyzes the *y-* in *Y-yòonn-ta* ‘three’ as the irrealis tense/aspect marker. On verbs in SLQZ, the irrealis marker encodes the future tense or present subjunctive, but on SLQZ numerals, it gives an exhaustive reading. Lee (2008) analyzes the *te* morpheme as an intensifier. I do not analyze *=te* as an exhaustivity marker because if it were the morpheme contributing the exhaustive meaning, then we would expect it to be always present. However, in some cases, a numeral can occur without it but still mean ‘all of the set’, e.g. (70). There is also an intensifier *=té* in SCLZ, seen in (71) and (72), and I analyze the *té* in *doté, yonté, djopté, etc.* as this intensifier.

(70) a. Wer b-rezhag=a’ **shon** **libr** u-xhi=a’
 Manuel PERF-give=1SG three.*indef* book PERF-buy=1SG
 I gave Manuel three books that I bought

b. Wer b-rezhag=a' **yon** **libr-n** u-xhi=a'
 Manuel PERF-give=1SG three.EXH book-SPF PERF-buy=1SG

I gave Manuel the three books that I bought

(71) na=**té** u-ya'=á'
 there=INT PERF-go=1SG

I went there (Santa Monica to UCLA)

(72) b-ared=té **yòu=té** **bdo-n** yòu=té libr-n
 PERF-read=INT all.EXH=INT child-n all.EXH=INT book-n

(Yes indeed), every child read every book

Future work will need to be done on whether phrases like *shon bekun* / *yonte bekun* are partitive constructions like *(all) three of the dogs* or simple quantification like *The three dogs* / *all three dogs*. Seržant (2021) defines a partitive construction as a construction which “may be used to encode the true-partitive relation¹⁴ without relying on contextual inferences. Partitives obligatory encode (i) a quantifier and (ii) the restrictor. Partitives are often encoded by (iii) a special partitive marker or lexically.” This definition excludes constructs in which the partitive relation (especially the superset) is implicit but not explicitly referred to. For example, in the sentence *I went to the dog park and I petted three dogs*, there are potentially more than three dogs, but the partitive relation is implicit. On the other hand, in the sentence *I went to the dog park and I petted three of the dogs / three of them*, this would count as a partitive where *three* encodes the subset and *the dogs / them* encodes the superset (the entire set of

¹⁴Seržant (2021) defines the ‘true-partitive relation’ as a relation that “obtains when there is a subset-superset relationship between two sets (with mass nouns: two portions) of the same kind,” e.g. in the phrase *one of his colleagues* where *one* is the subset and *his colleagues* is the superset, or in the phrase *a cup of milk* where *a cup* is the subset/portion and *milk* is the superset.

(74) (repeated from (63))

yòu=té **gà** **beku** ù-dau=gak=ba' pastél
all.EXH=INT nine dog PERF-eat=PL=3.ANIM cake

All of the nine dogs ate the cake

Quantifiers and numerals do co-occur in the same sentence as separate words; to say ‘all three of the dogs,’ we do not get the universal quantifier *yòu=te* plus the numeral *shon / yon* ‘three,’ but rather the exhaustive numeral *yon=te* (75).

(75) **yon=te** **beku-n** ya-xhen=gak=ba' peloto-n
three.EXH=INT dog-n PERF-catch.up.to=PL=3.ANIM ball-n
All three of the dogs chased the ball

When quantifiers restrict an overt nominal, they do not inflect for the number or animacy of the restrictor noun, as shown by the invariance of the form of *yòu=té* ‘all.EXH=INT’ regardless of whether it refers to a human (76a), animate (76b), or inanimate noun (76c).

(76) a. **yòu=té** **benne-n** ù-dáu=gak=e' pastél-n
all.EXH=INT people-n PERF-eat=PL=3.H.F cake-n
all the people ate the cake

b. **yòu=té** **beku-n** yaxhén=gak=ba' pelot
all.EXH=INT dog-n PERF.catch.up.to=PL=3.ANIM ball
all the dogs caught up to the ball

c. **yòu=té** **xhgayén-n** u-ra=gak=n
all.EXH=INT plate-n PERF-break-PL-3.INAN
all the plates broke

However, if the restrictor is pronominal, then the the quantifier hosts pronominal clitics (the same set of pronominal clitics in Table 1.5) indicating the number and person/animacy/formality of the omitted restrictor (77).

- (77) a. Bédu ù-dela=be' **yòu=té=e'**
 Pedro PERF-hug=3.H.I all.EXH=INT=3.H.F
 Pedro hugged all of them (formal)
- b. Bédu benbíad=be' **yòu=té=gak=be'**
 Pedro PERF.greet=3.H.I all.EXH=INT=PL=3.H.I
 Pedro greeted all of them (informal)
- c. Bédu dj-itande=be' **yòu=té=ba'**
 Pedro CONT-pet=3.H.I **all.exh=int=3.anim**
 Pedro pets all of them (the animals)
- d. Bédu ù-dau=be' **yòu=té=n**
 Pedro PERF-eat=3.H.I all.EXH=INT=3.INAN
 Pedro ate all of them (the cakes)

In the next few sections, I will discuss features of several SCLZ quantifiers.

Universal quantification: yòuté 'all.EXH,' doté 'whole (one.EXH),' and toto 'each'

Here I discuss *doté* 'whole (one.EXH)' (78), which I analyze as the exhaustive version of *to* 'one' and is used to quantify over an entire entity, *yòuté* 'all.EXH' (79), which is used to quantify over an entire set whose cardinality is greater than one, and *toto* 'each,' a distributive quantifier.

Doté combines with both singular nouns (78a) and mass nouns (78c), while *yòuté* combines with a plural noun (79a) but not mass nouns (79c).

(78) *do=té* ‘whole (one.EXH)’

- a. Bédu u-dau=be’ **do=té** **yet-n**
Pedro PERF-eat=3.H.I one.EXH=INT tortilla-n
Pedro ate all of the tortilla / the whole tortilla
- b. Bédu u-dau=be’ **do=té=n**
Pedro PERF-eat=3.H.I one.EXH=INT=3.INAN
Pedro ate all of it / the whole thing (e.g. all the cake)
- c. Bédu u-dau=be’ **do=té** **sopa-n**
Pedro PERF-eat=3.H.I one.EXH=INT soup-n
Pedro ate all of the soup

(79) *yòuté* ‘all.EXH’

- a. Bédu u-dau=be’ **yòu=té** **yet-n**
Pedro PERF-eat=3.H.I all.EXH=INT tortilla-n
Pedro ate all of the tortillas
- b. Bédu u-dau=be’ **yòu=té=n**
Pedro PERF-eat=3.H.I all.EXH=INT=3.INAN
Pedro ate all of them (e.g. all the cakes)
- c. *Bédu u-dau=be’ **yòu=té** **sopa-n**
Pedro PERF-eat=3.H.I all.EXH=INT soup-n
Pedro ate all of the soup (mass noun)

As discussed in §2.2.1, these look like partitive constructions (e.g. *all of the soup*), but more work will need to be done to determine if they are true partitives.

As for scope of universals and negation, *yòu=té* ‘all.EXH=INT’ takes surface scope with negation: if it precedes negation then the scope is ALL > NEG, and if it follows negation then the scope is NEG > ALL (80).

- (80) a. **yòu=té** **beku-n** kù b-rag=gak=ba' peloto-n
 all.EXH=INT dog-n NEG PERF-chase=PL=3.ANIM ball-n
 All of the dogs didn't chase the ball
 #Not all of the dogs chased the ball
- b. kù-yi **yòu=té** **beku-n** b-rag=gak=ba' peloto-n
 NEG-all all.EXH=INT dog-n PERF-chase=PL=3.ANIM ball-n
 #None of the dogs chased the ball
 Not all of the dogs chased the ball (some dogs did not chase the ball)¹⁵
- c. ku u-xhen Bédu **yòu=té** **beku-n**
 NEG PERF-catch.up.to Pedro all.EXH=INT dog-n
 Pedro didn't catch all of the dogs (some are still loose)

Doté 'whole (one.EXH)' also takes surface scope with negation, although it quantifies over an entity and not a set of more than one entity:

- (81) a. **do=té** **pastel-n** kù n-ak=n xhí
 one.EXH=INT cake-n NEG STAT-be=3.INAN delicious
 The whole cake / all of the cake is not delicious
 # Not all of the cake is delicious
- b. kù n-ak **do=té** **pastel-n** xhí
 NEG STAT-be one.EXH=INT cake-n delicious
 Not all of the cake is delicious (some parts are)
 #None of the cake was delicious

Toto 'one by one' is a distributive universal quantifier, and is composed of the words *to-to* 'one-one,' similar to the English phrase 'one-by-one' (82a). There is also

¹⁵ *kùyì* is a negative term that comes before universally quantified NPs

chop-chop ‘two by two,’ as in *He ate the tortillas by eating two at a time, ate a pair at a time* (82b).

- (82) a. **to-to peloto-n** b-ràg niko
 one-one ball-n PERF-chase Niko
 Niko chased the balls one by one
- b. **chop-chop yet** dj-au bí na
 two-two tortilla CONT-eat man that
 That man ate the tortillas two by two

None: nito ‘none, not a single one’

The use of the SCLZ quantifier *nito* ‘none’ is shown in (83). *Nito* ‘none’ appears in clauses with negation, as shown in (83).¹⁶ The *to* in *nito* ‘none’ looks like it might be the morpheme for ‘one,’ although *ni* is not an SCLZ negative particle, since the NEG morpheme in SCLZ is *kũ* NEG. Galant (p.c.) suggests that the *ni* part of *nito* might be borrowed from the Spanish *ni* ‘not even/nor’, and that *nito* is perhaps a calque of the Spanish *ni uno* ‘not even one,’ which is what *ni-tó* could literally mean. In fact, With *-n* on *nito* ‘nothing/nobody’, the reading one gets is ‘not a single one.’

- (83) a. **nito beku-n** kù b-ràg=gak=ba’ peloto-n
 none dog-n NEG PERF-chase=PL=3.ANIM ball-n
 none of the dogs chased the ball
- b. ***beku nito-n** kù b-ràg=gak=ba’ peloto-n
 dog none-n NEG PERF-chase=PL=3.ANIM ball-n
 none of the dogs chased the ball

¹⁶However, the negation can be left out, but it sounds odd / slangish / not as good as with *kũ* NEG.

Without a restrictor, *nito* can mean both ‘nothing’ and ‘nobody,’ and the animacy difference is sometimes reflected on the negative morpheme – *ku-b* is used for NEG-INAN (84a) and *ku-n* for NEG-ANIM (84b). The *b* and *n* are possibly from a shortening of *bĩ* ‘what’ and *nũ* ‘who,’ respectively, but one consultant also referred to the *-n* as the familiarity *n*. The situation in which *kun/ kub* is required as opposed to *ku* is unclear from the data, and judgements on usage of *ku* as opposed to *kun/ kub* has varied. The distribution of negative particles will need to be an area of further research.

- (84) a. *ku-b* *u-xhí=a’* *nitó*
 NEG-INAN PERF-buy=1SG nothing
 I bought nothing (not a one)
- b. *Bédu ku-nn* *b-rédu=be’* *nito*
 Pedro NEG-ANIM PERF-see=3.H.I nobody
 Pedro saw nobody (not a single person)

Some: rat ‘some.MASS’ and bal ‘some.COUNT’

The quantifier ‘some’ is sensitive to the count-mass noun distinction: *rat* ‘some.MASS’ combines with mass nouns (e.g. *sopa* ‘soup’, *nis* ‘water’), while the wh-term *bal* ‘some.COUNT’ quantifies over count nouns (e.g. *yet* ‘tortilla,’ *beku* ‘dog’) (85).

- (85) a. *Bédu ù-dáu=be’* **rat/#bal** **sopa-n**
 Pedro PERF-eat=3.H.I some.MASS/some.COUNT soup-n
 “Pedro ate some of the soup”
- b. *Bédu ù-dáu=be’* **#rat/bal** **sopa**
 Pedro PERF-eat=3.H.I some.MASS/some.COUNT soup
 “Pedro ate some of the (cans of) soups”

- c. ***rat/bal** **beku-n** yaxhén=gak=ba' pelota-n
some.MASS/some.COUNT dog-n PERF.catch.up.to=PL=3.ANIM ball-n
some of the dogs caught up to the ball

Bal is, like the other quantifiers, prenominal (and cannot be postnominal, **beku bal-n* 'dog some.COUNT-n'), and often co-occurs with =*z* 'only' as *balz* 'only some' (86).

- (86) a. **bal** **ris** b-rag=ba' Niko
 some.COUNT squirrel PERF-chase=3.ANIM Niko
 Some/a few of the squirrels chased Niko
- b. **bal=z** **beku-n** yaxhén=gak=ba' pelota-n
 some.COUNT=only dog-n PERF.catch.up.to=PL=3.ANIM ball-n
 Only some of the dogs caught up to the ball

Bal is ambiguous between a quantifier 'some.COUNT' and a wh-quantifier 'how.many (count),' as shown in (87). If *bal* 'some.COUNT' is used with a mass noun, as in (87d), then the interpretation of the nominal is that of a count noun, e.g. 'some soup' is interpreted as 'some soup packets, cup of noodles' (87d).

- (87) a. (repeated from (86a))
- bal** **ris** b-rag=ba' Niko
 some.COUNT squirrel PERF-chase=3.ANIM Niko
 Some/a few of the squirrels chased Niko
- b. **bal** yet-n dj-end=u'?
 some.COUNT tortilla-n CONT-want=2SG
 How many tortillas do you want?
- c. **bal** **bdo** na-n b-red=u'?
 some.COUNT child that-n PERF-see=2SG
 How many of the children did you see?

d. **bal** **sopa-n** dj-end=u' ?
some.COUNT soup-n CONT-want-2sg

How much soup do you want?

How many cup o' noodles (count noun) do you want?

However, *rat* 'some.MASS' cannot occur as a wh-quantifier (88,89), even when combined with a mass noun (89). Instead, the wh-quantifier *gakato* 'how much (mass)' is used, as in (90).

(88) (repeated from (87b))

bal/*rat **yet-n** dj-end=u' ?
some.COUNT/some.MASS tortilla-n CONT-want=2SG

How many tortillas do you want?

(89) (repeated from (87d))

bal/*rat **sopa-n** dj-end=u' ?
some.COUNT/some.MASS soup-n CONT-want-2sg

How much soup do you want?

How many cup o' noodles (count noun) do you want?

(90) **gakato** **sopa-n** dj-end=u' ?
how.much.MASS soup-n CONT-want=2SG

How much (of it) do you want?

Many and Any: nnyan 'many,' -zan 'many,' and -tetéz 'any'

'Many' can be expressed two ways – a prenominal quantifier *nnyan* 'a lot of individual things' (91), and a suffix *-zan* 'many, a big number of' (92). Galant (p.c.) points out

that the *n* in *zan* is present in the Colonial Valley Zapotec cognate *ciani* (Córdova, 1578) and the Proto-Zapotec expression *se+yani* ‘many’ (Kaufman, 2016), indicating that it is likely not segmentable as a separate morpheme, for instance, the topicalization or specificity *n*. It is unclear what difference there is between these two strategies.

(91) **nnyan beku** zha ren Kul
 many dog STAT.be.there.pl with Julio
 Julio has many dogs

(92) **beku-zan** b-ràg=gak=n peloto-n
 dog-many PERF-chase=PL=3.INAN ball-n
 Many dogs chased the ball

SCLZ also has a free-choice morpheme *-tetéz* which is translated as ‘any, whoever/whatever.’ It attaches to the wh-terms *bǐ* ‘what,’ *nǔ* ‘who,’ and *gǎ* ‘where’ to form *nutetéz* ‘whoever,’ *bitetéz* ‘whatever,’ and *gatetéz* ‘wherever.’ It does not attach to nouns (**beku-tetéz* ‘any dog’). These terms can stand alone, as in (93), and *bitetéz* and *nutetéz* can take nominal restrictors, as in (94). Note that although *nǔ* ‘who’ is animate, when combined with *-tetéz*, it is able to combine with an inanimate restrictor (94c).

(93) (Booth et al., 2021)

a. uxhí **bi-tetéz**
 Buy.IMPERATIVE.2SG what-ever
 Buy whatever!

b. bwízh tga **nu-tetéz**
 invite.IMPERATIVE.2SG already who-ever
 Invite whoever already!

- c. uyie **ga-tetéz**
 go.IMPERATIVE.2SG where-ever
 Go wherever!
- (94) a. **nu-tetéz bdo** wak ù-rag=gak=be' peloto-n
 who-ever child IRR.be.able.to PERF-chase=PL=3.H.I ball-n
 Whatever/ any child can chase the ball
- b. w-aw=a' **bi-tetéz yixu-n** si=u'
 IRR-eat=1SG what-ever avocado-n IRR.buy=2SG
 I will eat whatever / any avocado you buy
- c. wa-red Bédu **nu-tetéz yish-n** u-nézh=a=be'
 IRR-read Pedro what-ever book-n PERF-sell=1SG=2SG
 Pedro will read whatever / any book I sell him

2.2.7. *Grammatical functions, QPs, and Quantifier Stranding*

In this section, I will discuss the ability of subject and object QPs to appear pre- and postverbally, and then I will discuss quantifier stranding. I will show that object QPs are generally seen postverbally, while subject QPs, with the exception of *nutetéz* ‘any,’ do not like to be postverbal unless the object already occupies the preverbal position (OVS word order). This is also the case in SLQZ (Lee, 2008) – despite the language being VSO, quantified subjects tend to appear preverbally. SCLZ allows quantifier stranding of some quantifiers, which will be discussed later.

Here, the QP *yòuté N* ‘all the N’ is accepted pre- and postverbally as the subject of an unergative verb (95) and pre- and postverbally as the subject of an unaccusative

verb (96).

- (95) a. **yòu=te** **bdo-n** b-yà'à=gak=be'
all.EXH=INT child-n PERF-dance=PL=3.H.I

All the children danced

- b. b-yà'à **yòu=te** **bdo-n**
PERF-dance all.EXH=INT child-n

All the children danced

- (96) a. **yòu=te** **bdo-n** gu-t=gak=be'
all.EXH=INT child-n PERF-die=PL=3.H.I

All the children died

- b. gu-t **yòu=te** **bdo-n**
PERF-die all.EXH=INT child-n

All the children died

With transitive verbs, the QP can be a postverbal object (97a) and a preverbal subject (97b), but not a postverbal subject if the object is definite (97c). However, with an indefinite object, OVS and VSO word orders are allowed with a post-verbal subject (97d, 97e), although VOS is questionable (97f).

- (97) a. Bédu ù-dau=be' **yòu=té** **yét-n**
Pedro PERF-eat=3.H.I all.EXH=INT tortilla-n

Pedro ate all the tortillas

- b. **yòu=té** **beku-n** b-ràg=gak=ba' peloto-n
all.EXH=INT dog-n PERF-chase=PL=3.ANIM ball-n

All of the dogs chased the ball

- c. * b-ràg(=gak) **yòu=té** **beku(-n)** peloto-n
PERF-chase-PL all.EXH=INT dog-n ball-n

All of the dogs chased the ball

- d. to pelot b-rag **yòu=té** **beku-n**
 one ball PERF-chase all.EXH=INT dog-n
 All the dogs chased a ball
- e. b-ràg(=gak) **yòu=té** **beku** to pelot
 PERF-chase all.EXH=INT dog-n one ball
 All the dogs chased a ball
- f. ? b-ràg to pelot **yòu=té** **beku-n**
 PERF-chase one ball all.EXH=INT dog-n
 All the dogs chased a ball
 “Unorthodox but not wrong”

Likewise, the QP *toto N* ‘each N, N one by one’ is accepted pre- and postverbally as an object (98a-98b) and preverbally as a subject (98b), but not postverbally as a subject (98c).

- (98) a. **toto peloto-n** b-ràg Niko
 each ball-n PERF-chase Niko
 Niko chased each ball
- b. b-rag=te Niko **toto peloto-n**
 PERF-chase=INTENSIFIER niko each ball-n
 Niko did chase each ball¹⁷
- c. **toto beku-n** b-ràg=n peloto-n
 each dog-n PERF-chase=3.INAN ball-n
 Each dog chased the ball
- d. ? b-ràg **toto beku>(*n)** peloto-n
 PERF-chase all dog-n ball
 Each dog chased the ball

¹⁷Here, =te is used in affirmative responses to strengthen the response, meaning ‘indeed.’ As I mentioned earlier, I analyze it more generally as being the intensifier =te.

The QP *balz N* ‘some of the N’ is accepted postverbally as an object (99a) and preverbally as a subject (99b), but not postverbally as a subject (99c).

- (99) a. Bédu ù-xhì’ì=be’ **bal=z** **libr**
 Pedro PERF-buy=3.H.I some=only book
 Pedro bought some of the books
- b. **bal=z** **beku-n** b-ràg=gak=ba’ peloto-n
 some=only dog-n PERF-chase=PL=3.ANIM ball-n
 Some/Few of the dogs chased the ball
- c. ? b-ràg=gak **bal=z** **beku** peloto-n
 PERF-chase=PL some=only dog ball-n
 Few of the dogs chased the ball¹⁸

However, the QP *nutetéz N* ‘any N’ can be a postverbal subject. *nutetéz N* ‘any N’ can be a postverbal object (100a), a preverbal subject (100b), and a postverbal subject (100c).

- (100) a. Pedro wak ù-rem=be’ **nu-tetéz bdo**
 Pedro IRR.be.able PERF-help=3.H.I who-any child
 Pedro will help any child
- b. **nu-tetéz bdo-n** wak ù-rag peloto-n
 who-any child-n IRR.be.able PERF-chase ball-n
 Any child can chase the ball
- c. wak ù-rag **nu-tetéz bdo(-n)** peloto-n
 IRR.be.able PERF-chase who-any child-n ball-n
 Any child can chase the ball

Nitó ‘none, not a one’ can be or can restrict a preverbal object (101), a postverbal

¹⁸J.D. says it sounds slangish, maybe ok

object (102), a preverbal subject (103), but not a postverbal subject (at least, not typically, according to a consultant) unless the object is preverbal, e.g. (104a).

(101) Preverbal Object

- a. **nító ris-n** kù b-ràg Niko
 none squirrel-n NEG PERF-chase Niko
 Niko chased none of the squirrels / Niko didn't chase any of the squirrels
- b. **nító** ku-(b) b-réd Bédu
 none NEG-INAN PERF-see Pedro
 Pedro saw nothing
- c. nító ku*(-n) b-réd Bédu
 none NEG-ANIM PERF-see Pedro
 Pedro saw nobody
- d. **nító** ku*(-b) u-dín Bédu
 none NEG-INAN PERF-hit Pedro
 Pedro hit nothing

(102) Postverbal Object

- a. kù b-rag Niko **nító ris-n**
 NEG PERF-chase niko none squirrel-n
 Niko chased none of the squirrels
 #None of the squirrels chased Niko (this would be VOS order)
- b. Postverbal object
- Bédu ku(-b) b-réd=be' **nító**
 Pedro NEG(-INAN) PERF-see=3.H.I none
 Pedro saw nothing

(103) Preverbal Subject

- a. (repeated from (26c))

nitó beku-n kù b-ràg=gak=n ris-n
none dog-n NEG PERF-chase=PL=3.INAN squirrel-n
None of the dogs chased the squirrel

- b. (repeated from (26a))

nito ku*(-b) u-dín Bédu
none NEG-INAN PERF-hit Pedro
Nothing hit Pedro

- c. (repeated from (26b))

nito ku(-n) u-dáu pastel-n
none NEG-ANIM PERF-eat cake-SPF
Nobody ate the cake

- d. **nito** ku-*(n) b-réd Bédu
none NEG-ANIM PERF-see Pedro
Nobody saw Pedro

(104) Postverbal Subject

- a. Bédu ku(-b) b-réd=be' **nito**
Pedro NEG(-INAN) PERF-see=3.H.I none
Nothing saw Pedro

- b. kù b-ràg(=gak) **nitó beku-n** ris-n
NEG PERF-chase=PL none dog-n squirrel-n
None of the dogs chased the squirrel

- c. ?? ku u-dín **nito** Bédu
NEG PERF-hit none Pedro
Nothing hit Pedro / Pedro hit nothing

- d. ?? ku u-dáu **nito** pastel-n
 NEG PERF-eat none cake-SPF
 Nobody ate the cake
- e. ?? ku-nn u-dáu **nito** pastel-n
 NEG-SPF PERF-eat none cake
 Nobody ate a single one of the cakes

In the event that both the subject and the object are QPs, then either the subject can be preverbal and the object postverbal (105a), or the object preverbal and the subject postverbal (105b), but having both subject and object postverbal is odd in an out of the blue context (105c).

- (105) a. **yòu=té** **bdo-n** b-ared=gak=be' yòu=té libr-n
 all.EXH=INT child-n PERF-read=PL=3.H.I all.EXH=INT book-n
 Every child read every book
- b. **yòu=té** **libr-n** b-ared yòu=té bdo-n
 all.EXH=INT book-n PERF-read all.EXH=INT child-n
 Every child read every book
- c. * b-ared yòu=té bdo-n **yòu=té** **libr-n**
 PERF-read all.EXH=INT child-n all.EXH=INT book-n
 Every child read every book

It is possible to get both the subject and the object QPs postverbally, in a question and in the affirmative answer to a question (106).

- (106) a. á b-ared **yòu=té** **bdo-n** yòu=té libr-n
 POLAR-Q PERF-read all.EXH=INT child-n all.EXH=INT book-n
 Did all of the children read all of the books?

b. (repeated from 72)

b-ared=te **yòu=té** **bdo-n** yòu=té libr-n
PERF-read=INT all.EXH=INT child-n all.EXH=INT book-n

(Yes indeed,) all of the children read all of the books

Quantifier stranding

SCLZ allows quantifier stranding of *yòuté* ‘all.EXH’ where the quantifier is stranded in an immediately postverbal position and the nominal restrictor has moved to a preverbal position, with the quantifier taking plural and pronominal clitics agreeing in number and person/animacy/formality with the nominal restrictor (107).

- (107) **beku-n** b-ràg=gak=ba’ **yòu=té=*(gak=ba’)** peloto-n
dog-n PERF-chase=PL=3.ANIM all.EXH=INT=PL=3.ANIM ball-n
All of the dogs chased the ball

The presence of clitics in a position associated with a moved NP is reminiscent of appearance of clitics postverbally when the subject is topicalized. As discussed in Chapter 1, when the subject is postverbal, then there are no person/animacy/formality clitics following the verb (108) although there is optionally a plural clitic if the subject is plural (109).

- (108) ù-dáu(***=be’**) Bédu pastél-n
PERF-eat(=3.H.I) Pedro cake-SPF
Pedro ate the cake

- (109) ù-dáu(=gak)(***=be’**) bdo-n pastél-n
PERF-eat-PL-3.H.I child-n cake
The children ate the cake

However, if the subject is preverbal, then the verb takes the number and pronominal clitics agreeing with the subject (110).

(110) a. (repeated from (7))

Bédu ù-dáu=**be'** pastél-n
 Pedro PERF-eat=3.H.I cake-SPF
 Pedro ate the cake

b. **gazh bdo** ù-dáu=**gak=be'** pastél-n
 seven children PERF-eat=PL=3.H.I cake-SPF
 Seven children ate the cake

This means that when a subject nominal restrictor has moved preverbally from out of a QP, as in (111), both the verb and the stranded quantifier are followed by plural/pronominal clitics.

(111) **beku-n** b-ràg=gak=ba' **yòu=té=gak=ba'** peloto-n
 dog-n PERF-chase=PL=3.ANIM all.EXH=INT=PL=3.ANIM ball-n
 All of the dogs chased the ball

However, quantifier stranding where the nominal restrictor is moved just above the quantifier is questionable (112).

(112) *? **beku-(n)** **yòu=té(=gak)(=ba')** b-ràg=gak=ba' peloto-n
 dog-n all.EXH=INT=PL=3.ANIM PERF-chase=PL=3.ANIM ball-n
 All of the dogs chased the ball

Stranding the quantifier in a position after the object (113) is also questionable, but allowed.

- (113) ? **beku-(n)** b-ràg=gak=ba' peloto-n **yòu=té(=gak)(=ba')**
 dog-n PERF-chase=PL=3.ANIM ball-n all.EXH=INT=PL=3.ANIM
 All of the dogs chased the ball

This is unexpected because what the sentence in (113) suggests is that at some point in the derivation, the subject followed the verb and object (i.e. to have VOS order) in order for the subject to strand its quantifier after the verb and object. Given the typical ungrammaticality of VOS sentences in SCLZ and in Zapotec languages in general (Galant, p.c.), we would expect this structure to be completely ungrammatical. However, it is accepted, and we do see VOS sentences later in this section in (119c) and (119d). One option for explaining the grammaticality of (113) is that it means ‘The dogs chased the ball, all of them’ rather than ‘the dogs chased the ball all,’ which would be genuine quantifier stranding.

When negation separates the NP from the quantifier, as in (114), then the interpretation is Neg > All, not All > Neg (compare with (83a), repeated in (115)).

- (114) **beku-n** ku b-ràg=gak=ba' **yòu=té=gak=ba'** peloto-n
 dog-n NEG PERF-chase=PL=3.ANIM all.EXH=INT=PL=3.ANIM ball-n
 Not all of the dogs chased the ball (some may have) (Neg > All)
 #None of the dogs chased the ball (All > Neg)

- (115) **nito beku-n** kù b-ràg=gak=ba' peloto-n
 none dog-n NEG PERF-chase=PL=3.ANIM ball-n
 none of the dogs chased the ball

Unlike with the quantifier *yòuté* ‘all.EXH,’ *nitó* ‘none’ and numbers only marginally strand. Stranding *nitó* ‘none’ postnominally is questionable (116a-116b), and stranding

chop ‘two’ in this position is outright ungrammatical (116c).

- (116) a. ***beku nitó** kù b-ràg=gak=ba’ peloto-n
 dog-n none NEG PERF-chase=PL=3.ANIM ball-n
 None of the dogs chased the ball
- b. ?**beku-n nitó=gak=ba’** kù b-ràg=gak=ba’ peloto-n
 dog-n none=PL=3.ANIM NEG PERF-chase=PL=3.ANIM ball-n
 (Because) the dogs, none of them chased the ball
- c. ***beku chop(=z)=gak=ba’** b-rag=gak=ba’ peloto-n
 dog-n two=only=PL=3.ANIM PERF-chase=PL=3.ANIM ball-n
 Two dogs chased the ball

There is a structure that looks like postnominal stranding, but I suspect is not true stranding. If the nominal restrictor is in a ‘because’ phrase, then the quantifier can look as though it is stranded postnominally (117), but I suspect that this is coreference rather than true stranding. Also, there is a significant intonational pause between the noun and the quantifier, and it is possible to put a phrase in between them, indicating that they do not form a constituent.

- (117) a. le **beku-n nitó=gak=ba’** kù b-ràg=gak=ba’
 because dog-n none=PL=3.ANIM NEG PERF-chase=PL=3.ANIM
 peloto-n
 ball-n
 Because the dogs, none of them chased the ball
- b. le **beku-n chop-z=gak=ba’** b-rag=gak=ba’
 because dog-n two=only=PL=3.ANIM PERF-chase=PL=3.ANIM
 peloto-n
 ball-n
 It’s because the dogs, only two of them chased the ball

- c. le **beku-n** ka zo=z=gak=ba'
 because dog-n spontaneously STAT.live=only=PL=3.ANIM
nitó=gak=ba' kù b-ràg=gak=ba' peloto-n
 none=PL=3.ANIM NEG PERF-chase=PL=3.ANIM ball-n

Because the dogs, all of a sudden, none of them chased the ball

Stranding *nitó* 'none' or a numeral, e.g. *yon* 'three.EXH' in the immediate postverbal position is also not natural (118a-118b), in contrast to *yòuté* 'all.EXH' (118c).

(118) a. (repeated from (115))

- * **beku** b-ràg=gak=ba' **nitó=gak=ba'** peloto-n
 dog PERF-chase=PL=3.ANIM none=PL=3.ANIM ball-n

None of the dogs chased the ball

- b. * **beku-n** b-ràg=gak=ba' **yon=gak=ba'** peloto-n
 dog-n PERF-chase=PL=3.ANIM three=PL=3.ANIM ball-n

Three of the dogs chased the ball

- c. **beku-n** b-ràg=gak=ba' **yòu=té*(=gak=ba')** peloto-n
 dog-n PERF-chase=PL=3.ANIM all.EXH=INT=PL=3.ANIM ball-n

All of the dogs chased the ball

Stranding in the post-object position is also not allowed except for *djopté* 'both' and *yòuté* 'all.EXH' (119).

- (119) a. * **beku-(n)** b-ràg=gak=ba' peloto-n **nitó(=gak=ba')**
 dog-n PERF-chase=PL=3.ANIM ball-n all=PL=3.ANIM

None of the dogs chased the ball

- b. * **beku-(n)** b-ràg=gak=ba' peloto-n **yon(=gak=ba')**
 dog-n PERF-chase=PL=3.ANIM ball-n three=PL=3.ANIM

Three of the dogs chased the ball

- c. **beku-(n)** b-ràg=gak=ba' peloto-n **djop-te(=gak=ba')**
 dog-n PERF-chase=PL=3.ANIM ball-n two.EXH=INT=PL=3.ANIM

Both of the dogs chased the ball

- d. **beku-(n)** b-ràg=gak=ba' peloto-n **yòu=té(=gak=ba')**
 dog-n PERF-chase=PL=3.ANIM ball-n all.EXH=INT=PL=3.ANIM

All of the dogs chased the ball

2.2.8. *Demonstratives*

SCLZ has three demonstratives: when there is a nominal restrictor, their form is *ngã* ‘this (in hand, underneath),’ *nĩ* ‘this (near, beside),’ and *na* ‘that’, illustrated in (120).

19

- (120) a. **bà** b-àréd=a' **yísh nnga**
 already PERF-read=1SG book this
 I read this book (in my hand)
- b. **bà** b-àréd=a' **yísh nĩ**
 already PERF-read=1SG book this
 I read this book (near me)

¹⁹Unlike Macuilianguis Zapotec (Foreman, 2002), in SCLZ there is no separate demonstrative for objects which are out of sight. The MacZ demonstratives are given in (i).

- (i) a. carru=ni
 car=PROX
 This car
- b. ca i'ya=nà'
 ? mountain=DIST
 Those mountains
- c. ùntó'=á
 child=INVIS
 That child (unseen)

- c. *bà* *b-àréd=a'* **yísh na**
 already PERF-read=1SG book that
 I read that book (over there)

Nngă ‘this here,’ *nĩ* ‘this,’ and *na* ‘that’ are also the forms of the locatives *right here*, *here*, and *there*, respectively (121).

- (121) *nngă* / *nĩ* / *na*
 Right here! / Here! / There!

When there is no nominal restrictor, then the bare demonstratives take the forms *da*, *di*, and *dgă* (122).

- (122) *da* / *di* / *dgă* *n-ak=n* *chi=a'*
 that / this / this STAT-be=3.INAN of=1SG
 That / this / this is mine!

All three demonstratives are postnominal, as shown in (123).

- (123) a. * *bà* *b-àréd=a'* **nga yísh**
 already PERF-read=1SG this book
 I read this book (in my hand)
- b. * *bà* *b-àréd=a'* **nĩ yísh**
 already PERF-read=1SG this book
 I read this book (near me)
- c. * *bà* *b-àréd=a'* **na yísh**
 already PERF-read=1SG that book
 I read that book (over there)

The demonstratives do not have a singular/plural distinction (124).

- (124) *libr*(*=*gak*) *nga*(*=*gak*) *b-aréd=a'*
 book=PL this=PL PERF-read=1SG
 I read this/these book(s)

They are also not inflected for person/animacy/formality, as shown by the lack of distinct forms of *na* for human (informal/formal), animate, and inanimate DPs in (125).

- (125) a. bdo.nore **na** b-wizh=gak=be=ba'
 girl that PERF-greet=PL=3.H.I=3.ANIM
 Those girls greeted it (the dog)
- b. benne bxoze **na** u-yó=gak=e' (lo) yo'o-n
 people priest that PERF-enter=PL=3.H.F inside house-SPF
 Those priests entered the house
- c. to beli **na** b-ràg=ba' Bédu
 one snake that PERF-chase=3.ANIM Pedro
 That snake chased Pedro
- d. ba b-àréd=a' yísh **na**
 already PERF-read=1SG book that
 I read that book

Bare demonstratives also do not inflect for number, as shown in (126).

- (126) a. **da** n-ak=n chi=a'
that PERF-be=3.INAN of=1SG
 That is mine (talking about a car)
- b. (yòu=té) **da** n-ak(*=gak)=n chi=a'
 all.EXH=INT **that** PERF-be=PL=3.INAN of=1SG
 Those are mine (talking about cars)

Normally, if a subject is plural, then even though the subject itself does not take plural morphology, the verb takes a plural clitic, and this conveys the plurality of the subject (127).

- (127) beku na u-kro=**gak**=**ba**'
 dog that PERF-win=PL=3.ANIM
 The dogs won

However, when a bare demonstrative is the subject of a sentence, then the number/animacy clitics on the verb are obligatorily singular and inanimate ((128a)-(128b))²⁰
 Only by adding *yòuté* 'all.EXH' can one indicate plurality (128d).

- (128) a. **da** n-ak(*=**gak**)=n chi=a'
that STAT-be=PL=3.INAN of=1SG
 Those are mine (talking about cars)
- b. ***da** n-ak=**ba**' chi=a'
that STAT-be=3.ANIM of=1SG
 That is mine (talking about a dog)
- c. ***da** n-ak=**be**' chi=a'
that STAT-be=3.H.I of=1SG
 That is mine (talking about a child)
- d. *yòu*=*té* **da** n-ak=n chi=a'
 all.EXH=INT **that** STAT-be=3.INAN of=1SG
 Those are all mine (talking about cars)

²⁰Galant (p.c.) notes that when a demonstrative is the object of a sentence, then the verb can or possibly must take GAK, e.g. *Benngak di* 'Give (me) these ones.' / **Benngak da** 'Give (me) those ones.' I did not find this – plurality is expressed using a plural positional verb rather than plural morphology on the verb (i).

- (i) a. dj-end=a' da / da dj-end=a'
 CONT-want=1SG that
 I want that one
- b. da-n zha **nĩ** dj-end=a'
 that-n STAT.be.there.PL here CONT-want=1SG
 I want those

mother (lit. your old mother)’ but it can also be used as an intensifier, as in *xhí=gor* ‘very delicious.’

(131) a. (repeated from (71))

na=te u-ya’=á’
there=INT PERF-go=1SG

I went there (Santa Monica to UCLA)

b. na=te=gor u-ya’=á’
there=INT=INT PERF-go=1SG

I went there (Santa Monica to Oaxaca)

c. na=te=gór=shiga u-ya’=á’
there=INT=INT-? PERF-go=1SG

I went there (Santa Monica to the moon)

While the locative *na* ‘there’ can be modified, the demonstrative *na* ‘that’ cannot be (132).

(132) a. beku-n ze na=te=(gor)=(shiga) u-din=be’
dog-n STAT.stand there=INT=INT=INT=INT PERF-hit=3.H.I

He hit that dog all the way over there (lit. He hit the dog that is standing there (very far away))

b. * beku na=té
dog that=INT

Intended: that dog (very far away)

2.2.9. *Specificity/Familiarity N*

The *-n* affix is a lenis *n*, which is typically velar [ŋ] word-finally after a vowel but alveolar [n] after a consonant. As it never appears syllable-initially (it is always word-final), it never surfaces as [r], which lenis *n* does sometimes.

- (133) beku b-zhebe=ba' bdo-n
 dog PERF-scare=3.ANIM child-n
 the dog scared the child

- (134) bdo-n ni-tónn ù-dáu=be' yet-n
 child-n STAT-tall PERF-eat=3.H.I tortilla-n
 the child who is tall ate the tortilla

It is phonologically identical to the inanimate pronominal enclitic *=n* 3.INAN. However, the nominal *-n* only attaches to NP phrases (136), while the inanimate pronominal clitic attaches to verbs, prepositions, and possessed nouns (135). Koopman (p.c.) points out that this does not necessarily mean that they are different morphemes, since in French the articles *le/la/les* are identical to the accusative clitic pronouns (*Je le/la/les veux* 'I want him/her/it/them.')

- (135) a. yo'o nnga **dj-zé=n** shop pies de alto
 house this STAT-stand=3.INAN six feet of tall
 That house is 6 ft tall

- b. **ro=n** b-et Bédu yish-n
 to=3.INAN PERF-sell Pedro book-n

Pedro sold the book to him (the one I don't like, *=n* is the derogatory use of the pronominal clitic for someone you don't like)

c. taka=n
 POSS.arm=3.INAN
 Its arm

- (136) Bédu b-àréd=be' **yish-n** b-ziya Ziku
 Pedro PERF-read=3.H.I book-N PERF-write Francisco
 Pedro read the book that Francisco wrote

the NPs that *-n* that attaches to have a wide distribution. *-n* can attach to subject NPs and object NPs (137) in the same clause, NPs with both definite and indefinite interpretations (138-139), and NPs with meanings such as ‘nobody’ or ‘nothing’ (140-141). It also seems to act as a topic marker rather than a definiteness marker, and is often seen on fronted subjects, even when they are indefinite (142).

- (137) to=z Bédu-n ù-dáu=be' pastel-n
 one=only Pedro-n PERF-eat=3.H.I cake-n
 Only Pedro ate the cake

- (138) beku b-zhebe=ba' bdo-n
 dog PERF-scare=3.H.I child-n
 the dog scared the child

- (139) Bédu g-au=be' to pastel-n na Wer g-arédu=be to yish-n
 Pedro IRR-eat one cake-n and Manuel IRR-read=3.H.I one book-n
 Pedro will eat a cake and Manuel will read a book

- (140) nito-n ku u-dau=n pastel-n
 nobody-n NEG PERF-eat=3.INAN cake-n
 Not a one of them ate the cake (and we're upset about it)

- (141) nito-n ku-b u-dau Bédu
 nothing-n NEG-INAN PERF-eat Pedro
 Pedro ate not a single thing (nothing)

- (142) to beli yá'á-n ù-dáu=ba' to blozh-ín
 a snake green-n PERF-eat=3.ANIM a frog-n
 a green snake ate a frog

One of my consultants reported that an NP with *-n* can sometimes have a plural sense, as shown in (143), but this is not a consistent interpretation of nouns with *-n* affixed.

- (143) beku-n ù-dáu=ba' to ris-do'
 dog-n PERF-eat=3.H.I one squirrel-little
 #a dog ate a little squirrel
 more than one dog ate a little squirrel

Another reported interpretation is a specific interpretation. In (144a), Pedro ate a/the single cake, but in (144b), the interpretation is that Pedro eats cake generally. This is also the case in (145) with 'dogs,' where the generic interpretation is only available without *-n* (145b). Generic subjects tend to be post-verbal, as shown in (145c).

- (144) a. Bédu ù-dáu=be' pastél-n
 Pedro PERF-eat=3.H.I cake-n
 Pedro ate the/a cake
- b. Bédu ù-dáu=be' pastél
 Pedro PERF-eat=3.H.I cake
 Pedro ate cake
- (145) a. ka-(t) zhdíl beku na biz, dj-akro **beku**
 when-? fight dog and cat, CONT-win dog
 When cats and dogs fight, dogs win

- b. # ka(t) zhdíl beku na biz, **beku-n** dj-akro=gak=ba’
- c. * ka(t) zhdíl beku na biz, **beku** dj-akro=gak=ba’

The *-n* is clearly related to specificity in (146) (also discussed in §3.5.1).

- (146) a. b-rezhag=a’ Wer [to libr [u-xhi=a’]]
 PERF-give=1SG Manuel one book PERF-buy=1SG
 I gave Manuel a book that I bought (non-specific)
- b. b-rezhag=a’ Wer [libr-**n** [u-xhi=a’]]
 PERF-give=1SG Manuel book-n PERF-buy=1SG
 I gave Manuel the book that I bought
- c. Wer b-rezhag=a’ [to libr-**n** [u-xhi=a’]]
 Manuel PERF-give=1SG a book-n PERF-buy=1SG
 I gave Manuel a specific book that I bought (I bought a bunch and gave
 him this one)

The *-n* that attaches to NPs is actually two distinct morphemes – a topic *-n*, and a specificity/familiarity *-n*, which is a determiner. We can use the behavior of *shon* ‘three’ and *yon* ‘three.EXH’ to differentiate these two morphemes. The numeral *three* is sensitive to the specificity/definiteness of the noun – the exhaustive *yon* can occur with both the focus *-n* and the specificity *-n* (147a-147c), while the non-exhaustive *shon* can occur with the topic *-n* but not the specificity/familiarity *-n* (147d-147e).

- (147) a. *yon* + topic
- b. **yon beku-n** u-kro=gak=ba’
 three dog-TOPIC PERF-win=PL=3.ANIM
 The three dogs won

c. *yon* + specificity

- i. u-dau=gak **yon beli-n** to blo'ozh-n
PERF-eat=PL three snake-SPF a frog-SPF
Three snakes ate the frog
- ii. nàdà-n b-réd=a' **yon beku-n** b-rag=gak=ba'
1sg-TOPIC PERF-see=1SG three dog-SPF PERFchase=PL=3.ANIM
peloto-n
ball-SPF
I saw the three dogs that chased the ball

d. *shon* + topic

- i. nure beku na-n gu-kró?
which dog that-n PERF-win
which dogs won?
- ii. **shon beku-n** u-kro=gak=ba'
three snake-TOPIC PERF-win=PL=3.ANIM
Three of the dogs won

e. *shon* + specificity

- i. *u-dau=gak **shon beli-n** to blo'ozh-n
PERF-eat=PL three snake-SPF a frog-n
Three snakes ate the frog
- ii. *nàdà-n b-réd=a' **shon beku-n** b-rag peloto-n
1sg-TOPIC PERF-see=1SG three dog-SPF PERF.chase ball-SPF
I saw the three dogs that chased the ball

This shows that we are dealing with (at least) two different *-n* morphemes with a similar distribution within the NP but with different meanings. Zochina Zapotec also has a morpheme *=nhà'* which is a focus marker and also a definiteness / specificity marker (López Nicolás, 2021). López Nicolás (2021) states that the *=nhà'* elements

are historically derived from a locative adverb, which became a distal demonstrative, which became a definite marker / copula, and finally became a focus/topic marker. This accounts for the polysemy of the morphemes.

2.3. *SCLZ Nominal order and structure*

The elements discussed above demonstrate an overall ordering of QUANT NUM PEJORATIVE NOUN DIMINUTIVE ADJECTIVE DEMONSTRATIVE DETERMINER for SCLZ nominal phrases, e.g. in (148).

(148) (repeated from (36))

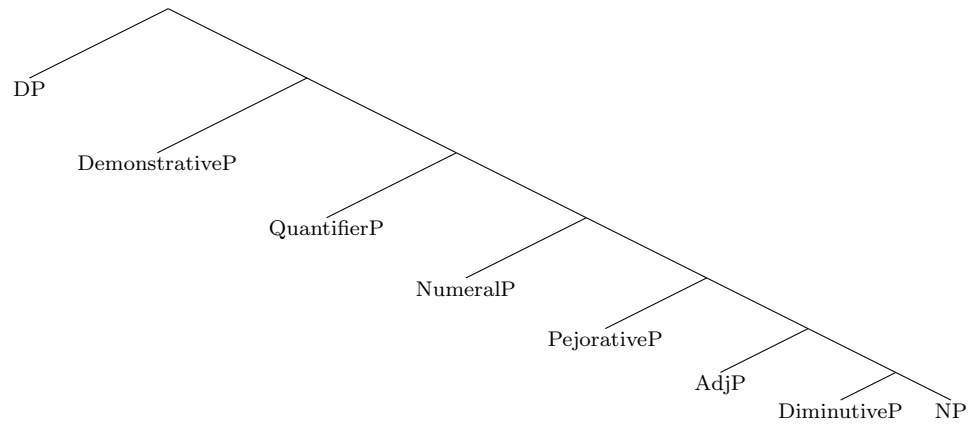
yon=te **bel ya'a na** b-rag=gak=ba' Bédu
 three.EXH=INT snake green that PERF-chase=PL=3.ANIM Pedro

All those three green snakes chased Pedro

As I discussed in §2.1, Cinque (2005) proposes a universal hierarchy of DEMONSTRATIVE NUMERAL ADJECTIVE NOUN resulting from the merge order of the elements, and other orders are the result of movement. To produce the *Numeral Noun Adjective Demonstrative* linear order such as what we see in SCLZ, Cinque (2005) proposes that the NP moves above AP (to an Agr specifier position), followed by raising and *picture of who*-type pied-piping of [Num N A] above Dem. I will adopt a similar analysis, which produces the correct linear order in SCLZ.

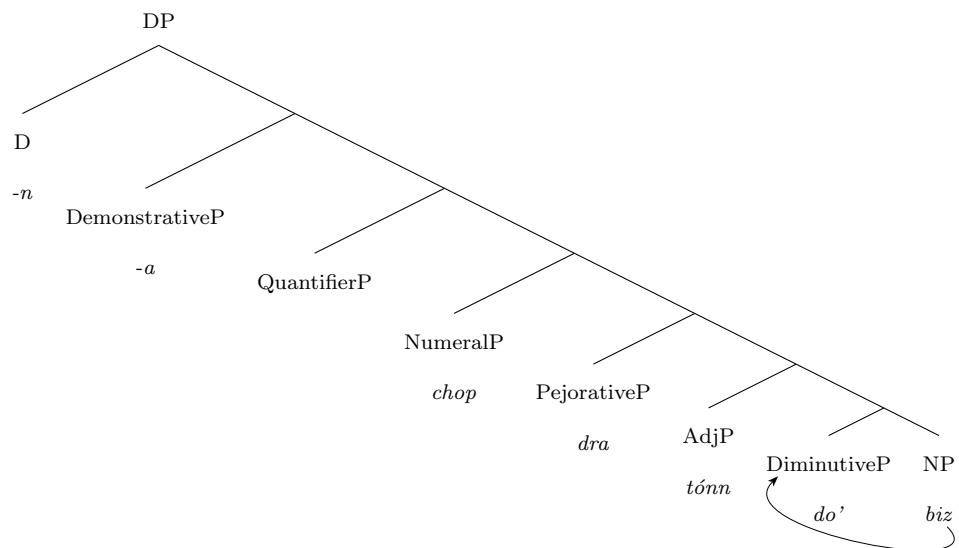
I propose the following tree for SCLZ (149):

(149)

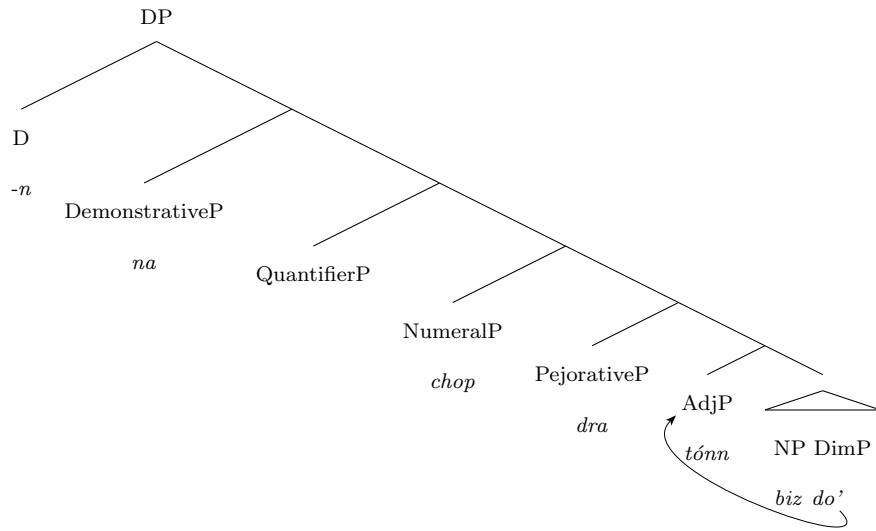


The movement of elements in the tree follows Cinque (2005)'s proposal. NP moves to the left of DiminutiveP, resulting in [DP DemP QP NumP PejP NP DimP] (150). Then, [NP DimP] moves to the left of AP, resulting in [DP DemP QP NumP PejP NP DimP AP] (151). This gives us the correct order for [QP NumP PejP NP DimP AP], but DP and DemP should be postnominal. Now, the node containing QP raises to the left of DemP, resulting in the order [DP QP NumP PejP NP DimP AP DemP] (152). Lastly, the node containing [QP NumP PejP NP DimP AP Dem] raises above DP, resulting in the final linear order [QP NumP PejP NP DimP AP Dem DP] (153).

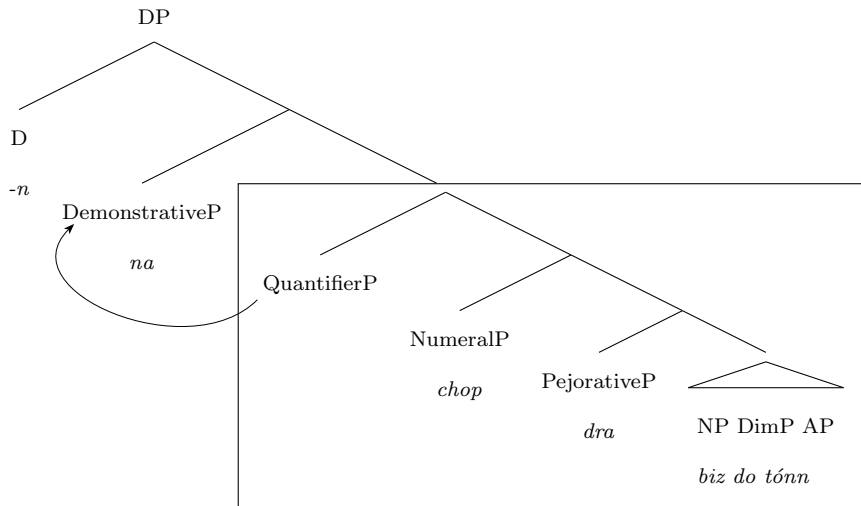
(150)



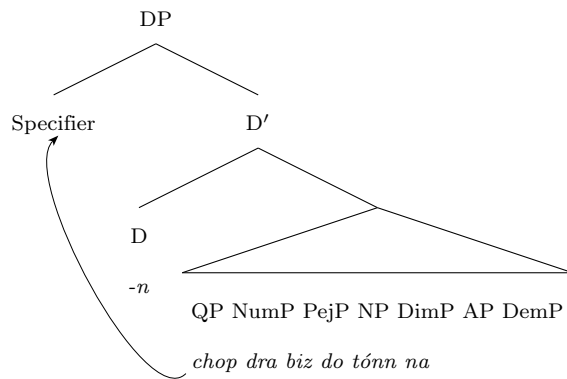
(151)



(152)



(153)



2.4. *Chapter Summary*

In this chapter, I have discussed the elements in the SCLZ nominal domain, including nouns, adjectives, diminutives/pejoratives, numerals, quantifiers, and demonstratives, and the specificity/familiarity determiner *-n*. This chapter showed the linear order of these elements, and I proposed an analysis for how to derive that linear order. The structure of relative clauses will be discussed in §3.6, and the structure of possessives in §4.3.2. Both those analyses will assume the derivation of nominals argued for in this chapter.

Chapter 3

Relative Clauses

3.1. Overview

In this chapter, I will first discuss in §3.2-3.4 wh-questions in SCLZ in order to show how wh-movement works in a non-relative clause context, and because wh-questions will be relevant for the later discussion of headed and headless clauses. After that, in §3.5.1 I will discuss SCLZ headed relative clauses and what relative pronouns look like in those headed relative clauses (§3.5.2). I will then go over the relativization strategies for different syntactic positions in SCLZ, and how SCLZ fits into Keenan and Comrie (1977)'s Accessibility Hierarchy (§3.5.3). After discussing the headed relative clauses, I will review SCLZ headless relative clauses (§3.5.5-3.5.4), including headless free relative clauses and light-headed relative clauses.

3.2. Wh-terms

The wh-terms in SCLZ are given in Table 3.1.

Table 3.1: Wh-terms in SCLZ

Wh-term	Gloss
nũ	who, which
bĩ	what
nũre	which N
bata	when
bi goru	what hour
gã	where
gar	which way, which place
bal	how many
gakato	how much
biz	how
bché'	why

3.2.1. *Wh-terms in matrix clauses*

The wh-terms in Table 3.1 are shown in matrix questions in (154).

(154) a. *nũ* 'who'

nũ-n ù-dapa' Bédu
 who-n PERF-hit Pedro

Who hit Pedro / who did Pedro hit?

nũ=gak=be' ni-tónn
 who=PL=3.ANIM STAT-tall

Who among them is tall?

b. *bĩ* 'what, what N'

i. bĩ-n ù-dau Bédu
 what-n PERF-eat Pedro

What did Pedro eat / What ate Pedro?

ii. bĩ-n ù-dìzh re'
what-n PERF-bite PRO.2SG
What bit you?

iii. bĩ libr-n ù-xhi=u'
what book-n PERF-buy=2SG
What book did you buy?

c. *nũre* 'which'

i. nũre libr-n ù-xhí=u'
which book-n PERF-buy=2SG
Which book did you buy?

ii. nũre-n ù-xhí=be'
which-n PERF-buy=3.H.I
Which did he buy?

iii. (from (Booth et al., 2021))

nũre bénné-n b-et xop yé'ené' ro Maur
which person-n PERF-sell six plate to Maur
Which person/people sold six plates to Maur?

iv. nũre bdo-n ù-dau(=be') pastel
which child-n PERF-eat=3.H.I cake
Which child ate the cake?²¹

v. nũre bdo-n ù-dau(=gak=be') pastel
which child-n PERF-eat=PL=3.H.I cake
Which children ate the cake?²²

²¹Without =be' 3.H.I, this is ambiguous between *Which child ate the cake* and *which children ate the cake*

²²Without =gak=be' PL=3.H.I, this is ambiguous between *Which children ate the cake* and *which child ate the cake*

d. *bata* ‘when’

bata-n ù-dau Bédu
when-n PERF-eat Pedro

When did Pedro eat?

e. *bi goru* ‘what hour’

bi goru-n ù-dau Bédu
what hour-n PERF-eat Pedro

At what hour did Pedro eat?

f. *gǎ* ‘where’

gǎ-n ù-dau Bédu
where-n PERF-eat Pedro

Where did Pedro eat?

g. *gar* ‘which way, which place’

gar-n ù-jíe Bédu
which.way-n PERF-go Pedro

Which way did Pedro go?

h. *biz* ‘how’

bìz-n u-sini=u’ nis.kwan-an
how-n IRR-make=2SG stew-n

How are you going to prepare the stew?

i. *bché’* ‘why’

bché-n b-aza’a Bédu
why-n PERF-leave Pedro

Why did Pedro leave?

j. *bal* ‘how many’

i. *bal-n dj-end=u’*
how.many-n PERF-want=2SG

How many do you want?

ii. *bal yíshu-n ù-xhi Bédu*
how.many avocado-n PERF-buy Pedro

How many avocados did Pedro buy?

iii. *bal sopa-n dj-end=u’*
how.many soup-n PERF-want=2SG

How many soups (cup of soup) did Pedro buy?

k. *gakato* ‘how much’

i. *gakato ù-xhaka yish-n*
how.much PERF-cost book-n

How much did the book cost?

ii. *gakato* ‘how much’

gakato sopa dj-end=u’ ka’a chi=u’
how.much soup PERF-want=2SG IRR.pour=1SG for=2SG

How much soup do you want me to pour for you?

Note the paired terms *nũ* ‘who’ and *nũre* ‘which (N)’ (155), and *gã* ‘where’ and *gar* ‘which way’ (156).

(155) a. *nũ* ‘who’

nũ-n ù-dapa’ Bédu
who-n PERF-hit Pedro

Who hit Pedro / who did Pedro hit?

b. *nüre* ‘which’

i. *nüre libr-n ù-xhí=u’*
which book-n PERF-buy=2SG

Which book did you buy?

nüre beku na-n ù-kro’
which dog that-n PERF-win

Which dog won?

ii. *nüre-n ù-xhí=be’*
which-n PERF-buy=3.H.I

Which did he buy?

(156) a. *gǎ* ‘where’

gǎ-n ù-dau Bédu
where-n PERF-eat Pedro

Where did Pedro eat?

b. *gar* ‘which way, which place’

gar-n ù-jíe Bédu
which.way-n PERF-go Pedro

Which way did Pedro go?

The wh-terms *nüre* ‘which (N)’ and *gar* ‘which place’ can likely be decomposed as *nũ* ‘who’ + *r* ‘which’ > *nüre* ‘which (N)’ and *gũ* ‘where’ + *r* ‘which’ > *gar* ‘which place.’ Although *nũ* alone refers to people, *nũ* + *r* > *nüre* ‘which’ can take both human and inanimate restrictors (157).

(157) a. *nüre libr-n ù-xhí=u’*
which book-n PERF-buy=2SG

Which book did you buy?

b. (from (Booth et al., 2021))

nũre bėnnė-n b-et xop yė'enė' ro Maur
which person-n PERF-sell six plate to Maur

Which person/people sold six plates to Maur?

Also, although *bché* 'why' looks as though it might be composed of *bĩ* 'what' and *ché* 'of,' I analyze *bché* as monomorphemic since the semantics of this decomposition are dubious and when *bĩ* 'what' is followed by another morpheme like in *bĩ-n* 'what-N', the vowel is clearly audible and has a rising tone contour. This vowel is absent in *bché* 'why.' On the other hand, López Nicolás (2021) parses the Zochina Zapotec cognate of SCLZ's *bché* 'why' as *bix+chė*² 'why,' so analyses vary.

3.2.2. *Wh-terms in embedded interrogative clauses*

The same set of wh-terms used in matrix questions can also occur in embedded interrogative clauses (158).

(158) a. *nũ* 'who'

Ziku u-nabe=be' nũ-n ù-dapa' Bédu
Francisco PERF-ask=3.H.I who-n PERF-hit Pedro

Francisco asked who hit Pedro

Francisco asked who Pedro hit

b. *bĩ* 'what'

u-nabe Ziku bĩ-n ù-dau Bédu
PERF-ask Francisco what-n PERF-eat Pedro

Francisco asked what Pedro ate / what ate Pedro

c. *nüre* ‘which’

Ziku ù-nabe=be’ nüre libr-n ù-xhí Bédu
Francisco PERF-ask=3.H.I which book-n PERF-buy Pedro
Francisco asked which book Pedro bought

d. *bata* ‘when’

Ziku ù-nabe=be’ bata-n ù-dau Bédu
Ziku PERF-ask=3.H.I when-n PERF-eat Pedro
Francisco asked when Pedro ate

e. *bi goru* ‘what hour’

Ziku ù-nabe=be’ bi goru-n ù-dau Bédu
Ziku PERF-ask=3.H.I what hour-n PERF-eat Pedro
Francisco asked when Pedro ate

f. *gã* ‘where’

Ziku ù-nabe=be’ gã-n ù-dau Bédu
Francisco PERF-ask=3.H.I where-n PERF-eat Pedro
Francisco asked where Pedro ate

g. *gar* ‘which way, which place’

Ziku u-nabe=be’ gar-n ù-jé Bédu
Francisco PERF-ask=3.H.I which.way-n PERF-go Pedro
Francisco asked which way Pedro went

h. *bal* ‘how many’

i. Ziku u-nabe=be’ bal-n ù-dau Bédu
Francisco PERF-ask=3.H.I how.many-n PERF-eat Pedro
Francisco asked how many Pedro ate

ii. Ziku u-nabe=be' bal yíshu-n ù-xhi Bédu
 Francisco PERF-ask=3.H.I how.many avocado-n PERF-buy Pedro
 Francisco asked how many avocados Pedro bought

iii. Ziku u-nabe=be' bal sopa-n ù-dau Bédu
 Francisco PERF-ask=3.H.I how.many soup-n PERF-eat Pedro
 Francisco asked how many soups Pedro ate (if the soup is countable,
 like cup of noodles)

i. *gakato* 'how much'

i. Ziku u-nabe=be' gakato sopa-n ù-dau Bédu
 Francisco PERF-ask=3.H.I how.much soup-n PERF-eat Pedro
 Francisco asked how much soup Pedro ate

ii. Ziku u-nabe=be' gakato-n ù-dau Bédu
 Francisco PERF-ask=3.H.I how.much-n PERF-eat Pedro
 Francisco asked how much Pedro ate (how much in value/cost, weight)

j. *biz* 'how'

Ziku u-nabe=be' biz-(n) b-en Bédu nis.kwan-an
 Francisco PERF-ask=3.H.I how-(n) PERF-make Pedro stew-n
 che=be'
 of-3.H.I

Francisco asked how Pedro made the stew²³

k. *bché'* 'why'

Ziku u-nabe=be' bché-n b-azà'à Bédu
 Francisco PERF-ask=3.H.I why-n PERF-leave Pedro

Francisco asked why Pedro left

²³With *biz*-n, sounds more puzzled – it means *how exactly?*

3.3. *Wh-movement: the structure of matrix and embedded interrogative clauses*

In SCLZ, the *wh*-term appears at the left edge of the clause, and the rest of the clause is obligatorily V-initial (159).

- (159) a. *nũ-n ù-dapa' Bédu*
 who-n PERF-hit Pedro
 Who hit Pedro / who did Pedro hit?
- b. * *nũ-n Bédu ù-dapa=be'*
 who-n Pedro PERF-hit=3.H.I
 Who hit Pedro / who did Pedro hit?

Wh-terms cannot be left *in situ* (160a-160b).

- (160) a. ***bĩ-n*** *b-àred Bédu*
 what-n PERF-read Pedro
 What did Pedro read?
- b. * *b-àred Bédu bĩ-n*
 PERF-read Pedro what-n
 What did Pedro read?
- c. *n-unbia=tu' bĩ-n b-àred Bédu*
 STAT-know=1PL.EXCL what-n PERF-read Pedro
 We know what Pedro read
- d. * *n-unbia=tu' b-àred Bédu bĩ-n*
 STAT-know=1PL.EXCL PERF-read Pedro what-n
 We know what Pedro read

All of the *wh*-terms are able to co-occur with *-n* SPF, which gives familiarity or specificity reading to the *wh*-phrase it is attached to (161) (Booth et al., 2021).

- (161) a. *gare=n* *b=gà=be'*
 which.way-SPF PERF=go3.H.I
 Which way did he go, exactly? (a specific place, somewhere we know)
- b. *gar* *b=gà=be'*
 which.way PERF=go3.H.I
 Which way did he go? (have no idea where he went)

When [-Wh] subjects are preverbal, then the verb generally takes person / number clitics agreeing with the subject, as in (162) (this was discussed in §1.2.1).²⁴

- (162) a. *ù-dáu* *Bédu* *pastél-n*
 PERF-eat Pedro cake-n
 Pedro ate the cake
- b. ***Bédu*** *ù-dáu=be'* *pastél-n*
 Pedro PERF-eat=3.H.I cake-n
 Pedro ate the cake
- c. ***gazh*** *bdo* *ù-dáu=gak=be'* *pastél-n*
 seven children PERF-eat=PL=3.H.I cake-n
 Seven children ate the cake

However, with the exception of *nǎre* ‘which’, which I will discuss below, when a [+wh] subject moves to the left edge of the clause, the verb is not followed by any subject pronominal clitics (163).²⁵

²⁴in the case of 3rd person subjects, one clitic matches in person/animacy/formality, and another optional clitic matches plural number; in the case of the ‘st/2nd person subjects, a single clitic expresses both person and number, e.g. =*u'* 2.SG

²⁵In relative clauses, there is slight variation over whether when a subject is relativized, the verb in the relative clause does or does not take a resumptive pronominal clitic (i), but in general it does not (ia). The presence of resumptive pronouns in (ib) may have to do with their role in indicating the plurality of the relative clause head, which without numerals/quantifiers would otherwise have no way of being marked for plurality.

(163) a. (repeated from (29b))

nũ u-dapa(*=**be**) Bédu
 who PERF-hit(=3.H.I) Pedro

Who hit Pedro?

b. n-unbíya=tu' nũ-n b-et(*=**be**) Bédu
 STAT-know=1PL.EXCL who-n PERF-hit(=3.H.I) Pedro

We know who hit Pedro

Because of the absence of the subject-agreeing clitics, moving a *wh*-term from the subject or object position results in an identical string – this leads to ambiguity in questions like (164), where the syntactic function of the *wh*-term is ambiguous.

(164) a. nũ-n ù-dapa' Bédu
 who-n PERF-hit Pedro

Who hit Pedro / who did Pedro hit?

b. n-unbíya=tu' nũ-n b-et Bédu
 STAT-know=1PL.EXCL who-n PERF-hit Pedro

We know who hit Pedro / We know who Pedro hit

In the case of *nũre* ‘which N’ and the possessive *whose N*, the verb is optionally followed by subject clitics (165). Without the subject clitics, the interpretation is ambiguous between a singular and plural reading of the subject (165a-165d).

-
- (i) a. b-réd=a' [benne-n [dj-abéd(*=**be**) __ Bédu]]
 PERF-see=1SG man-n CONT-like=3.H.I [subj] Pedro
 I saw the man who likes Pedro
- b. b-réd=a' [beku-n [u-dáu=gak=ba' pastél-n]]
 PERF-see=1SG dog-n PERF-eat=PL=3.ANIM cake-n
 I saw the dogs who ate the cake

(165) a. (repeated from (154c-iv))

nüre bdo-n ù-dau(=be') pastel
which child-n PERF-eat=3.H.I cake

Which child ate the cake?

b. (repeated from (154c-v))

nüre bdo-n ù-dau(=gak=be') pastel
which child-n PERF-eat=PL=3.H.I cake

Which children ate the cake?

c. nüre bdo-n ù-dau pastel
which child-n PERF-eat cake

Which child/children ate the cake?

d. (from (Booth et al., 2021))

nüre benné-n b-et xop yé'ené' ro Maur
which person-n PERF-sell six plate to Maur

Which person/people sold six plates to Maur?

With other wh-terms that can take nominal restrictors, like *bĩ* ‘what N’ (166a) and the possessive wh-phrases (166c), subject clitics are ungrammatical if the wh-subject is singular, but are optionally allowed if the subject is plural (166d).

(166) a. *bĩ* libr-n b-exa(*=n)

who dog of-n PERF-fall=3.INAN

What book fell?

b. ? *bĩ* libr-n b-exa(=gak)

who dog of-n PERF-fall=3.INAN

What books fell?²⁶

²⁶This is odd, likely because it would be more natural to say “which books fell?”

c. nũ beku che-n u-dau(*=ba') pastel-n
 who dog of-n PERF-eat=3.ANIM cake-SPF

Whose dog ate the cake?

d. nũ beku che-n u-dau(=gak=ba') pastel-n
 who dog of-n PERF-eat=PL=3.ANIM cake-SPF

Whose dogs ate the cake?

Relative clause heads are also ambiguous in terms of their syntactic function, since when the subject position is relativized, the verb in the relative clause does not take subject clitics (167). Relativizing over the subject and object positions produce a string-identical output.

(167) b-réd=a' [benne-n [dj-abéd Bédu]]
 PERF-see=1SG person-n CONT-like Pedro

I saw the man who Pedro likes / who likes Pedro

This will be discussed further in §3.5.3. The ambiguity in questions is also seen in Zoogocho Zapotec (Sonnenschein, 2005), also because of the absence of clitics in this construction (168).

(168) Sonnenschein (2005)

no gu-dap ___ bedo ___
 who IRR-slap Pedro

Who will Pedro slap / Who will slap Pedro?

Long distance movement of the wh-term out of an embedded clause is not only possible, but mandatory in matrix questions, where the wh-term must move to the left edge of the matrix clause (169).

- (169) a. **bĩ-n** ù-ne Wer b-àred Bédu
 what-n PERF-say Manuel PERF-read Pedro
 What did Manuel say Pedro read?
- b. * ù-ne Wer **bĩ-n** b-àred Bédu
 PERF-say Manuel what-n PERF-read Pedro
 What did Manuel say Pedro read?
- c. ré-n u-ni=u' María dj-abéd=be' Bédu
 PRO.2SG-n PERF-say=2SG María CONT-like=3.H.I Pedro
 You said María likes Pedro
- d. nũ u-ni=u' re dj-abéd María
 who PERF-say=2SG PRO.2SG CONT-like María
 Who did you say María likes?

Multiple wh-movement is judged ungrammatical for some speakers (170a-170d),
 but judged grammatical by others (170e-170f).

- (170) a. * **nũ-n** ù-dau **bĩ-n**
 who-n PERF-eat what-n
 Who ate what?
- b. * **nũ(-n)** **bĩ-n** ù-dau
 who(-n) what-n PERF-eat
 Who ate what?
- c. * nũ ù-dau pastel che nũ
 who textscperf-eat cake of who
 Who ate whose cake?
- d. * nũ ù-dau nu pastel che-n
 who textscperf-eat who cake of-n
 Who ate whose cake?

e. **nǔ-n** gù-xhi **bǐ**
 who-n PERF-buy what

Who bought what?

f. **nǔ-xh-n** gù-xhi **bǐ-xh-n**
 who-exactly-n PERF-buy what-exactly-n

Who exactly bought what exactly?

3.4. *Wh-movement from within a phrase*

When a wh-term is contained inside a PP, NP, or QP (e.g. *Whose dog, in which box, what did he eat all of*, respectively) is interrogated, then several things may happen, which depend on the construction and sometimes the precise pronoun. In this section, I will discuss Wh-movement from inside a PP (§3.4.1), a non-possessive NP (§3.4.2), a possessive NP (§3.4.3), and a QP (§3.4.4).

3.4.1. *Wh-movement and PPs*

SCLZ prepositional phrases are head-initial, as shown in (171).

(171) a. bíz na ze=ba' **ragu kah na**
 cat that STAT.stand.there=3.ANIM **on.top box that**
 That cat is on top of that box

b. *bíz na ze=ba' **kah na ragu**
 cat that STAT.stand.there=3.ANIM **box that on.top**
 That cat is on top of that box

c. (repeated from (1))

benne na-n ù-yuw=e' lò yò'ò
man that-n PERF-enter=3.H.F **inside house**

it was that guy that entered the house

d. * benne na-n ù-yuw=e' yò'ò lò
man that-n PERF-enter=3.H.F **house inside**

it was that guy that entered the house

What happens when a *wh*-term contained in a PP is moved depends on the preposition/construction. For example, when a *wh*-term contained in an (instrumental) PP headed by *ren* ‘with’ (e.g. (172)) is *wh*-moved, then there are a few options on how the preposition is handled:

1. The whole PP can pied pipe to the left edge of the clause with its base order inverted (Pied-Piping with Inversion, or PPI) (173). PPI is when the usual order of elements in a PP is inverted during pied-piping; for SCLZ, the base order in PPs is [P DP], and the order of elements in the pied-piped PP is inverted to [Wh-DP P]. A PP in SCLZ cannot be pied-piped in the base order (174)
2. The preposition can be dropped entirely or the sentence is rephrased so that the *wh*-term is no longer the object of a preposition (176)

The preposition cannot be stranded (177), not even with a resumptive pronoun (177b).²⁷

²⁷Minerva Dominguez and Ezequiel Ambrosio also accepted sentences in which *ren* ‘with’ is incorporated into the verb and may co-occur with *ren* outside of the verbal complex (i). This must await further analysis.

(172) Base sentence

a. (Minerva Dominguez)

ù-sarag=a' porte **ren to xhínía**
PERF-open=1SG door **with a key**

I opened the door with a key

P > N

b. (Ezequiel Ambrosio)

Jrua ù-sara=be' djí'jo' **ren to xhnía**
Juan PERF-open=3.H.I door **with a key**

Juan opened the door with a key

P > N

c. (Julio Dominguez)

b-chùgù Bédu be'era **ren to kushí**
PERF-cut Pedro meat **with one knife**

Pedro cut the meat with a knife

P > N

(i) a. (Minerva Dominguez)

bí (ren) ù-sara-**ren**=u' porte
what with PERF-open-**with**=2SG door

With what did you open the door?

b. (Ezequiel Ambrosio)

bí ù-sara-**ren**=be' dji'yo'
what PERF-open-**with**=3.H.I door

With what did he open the door?

c. (Ezequiel Ambrosio)

bí (ren) ù-dan-**ren**=u' ga na
what with PERF-touch-**with**=2SG basket that

With what did you touch the basket?

(173) Pied Piping with Inversion

a. (Minerva Dominguez)

bí ren ù-sara porte
what with PERF-open.2SG door

With what did you open the door?

N > P

b. (Ezequiel Ambrosio)

bĩ ren ù-sara=be' djí'jo'
what with PERF-open=3.H.I door

With what did he open the door?

N > P

(174) Pied Piping without Inversion

(175) (Minerva Dominguez)

* **ren bí** ù-sara porte
with what PERF-open.2SG door

With what did you open the door?

P > N

(176) Preposition dropping / rephrasing

a. (Julio Dominguez)

nũre kushí-n u-xhén Bédu b-chùg=be' be'era
which knife-n PERF-use Pedro PERF-cut=3.H.I meat

Which knife did Pedro use to cut the meat with?

b. (Minerva Dominguez)

bí u-ne líana u-xhén djrua ù-sara=be' puert
what PERF-say María PERF-use John PERF-open=3.H.I door

What did María say John used to open the door?

(177) Preposition stranding

a. (Ezequiel Ambrosio)

* **bí** ù-sara dji'yo' **ren**
what PERF-open house.door **with**

With what did you open the door?

b. (Julio Dominguez)

* **nũre kushí-n** u-xhén=u' b-chùg=u' be'era-n **ren(-n)**
which knife-n PERF-use=2SG PERF-cut=2SG meat **with-3.inan**

Which knife did you cut the meat with?

On the other hand, if we try wh-moving an NP out of a locative PP headed by the preposition *lò* 'inside' (178a), then the preposition is dropped (178b)– it does not pied pipe, with or without inversion (178c-178d), and it does not strand, with or without a resumptive pronoun (178e).

(178) a. María ù-zo=be' **lò yo'o na**
María PERF-live=3.H.I **inside house that**

María lived in that house

b. **nũre yo'o na-n** ù-zo María
which house that-n PERF-live María

In which house did María live?

- c. * **lo nùre yo'o na-n** ù-zo María
inside which house that-n PERF-live María
 In which house did María live?
- d. * **nùre yo'o lo-n** ù-zo María
which house inside-n PERF-live María
 In which house did María live?
- e. * **nùre yo'o na-n** ù-zo María **lo(=n)**
which house that-n PERF-live María **inside(=3.inan)**
 In which house did María live?

This is seen again in (179).

- (179) a. u-rò'ò muniéki-n **lo kah-n**
 PERF-put.2SG doll-n **inside box-n**
 You put the doll in the box
- b. Stranding preposition with or without resumptive pronoun
nùre kah-n u-rò'ò muniéki-n (***lo(=n)**)
 which **box-n** PERF-put.2SG doll-n **inside=3.inan**
 Which box did you put the doll in?
- c. Pied Piping PP, with or without inversion
nùre (*lo) **kah-n** (*lo-n) u-rò'ò muniéki-n
 which inside box-n inside=3.INAN PERF-put.2SG doll-n
 Which box did you put the doll in?

We will see in §3.5.3 with relative clauses that prepositions are often dropped rather than being pied piped or left *in situ*. In short, prepositions are either dropped or are pied piped with inversion, but they are not stranded or pied piped in their base order.

3.4.2. *Wh-movement and NPs*

NPs, like PPs in SCLZ, pied-pipe with inversion. The base order is [N Dem] (180), repeated from (120)).

- (180) a. *bà* *b-àréd=a'* **yísh na**
 ALREADY PERF-read=1SG book that
 I read that book
- b. * *bà* *b-àréd=a'* **na yísh**
 ALREADY PERF-read=1SG that book
 I read that book

When *wh*-moved, then we see the NP is pied-piped and inverted (181a-181b). The noun cannot be stranded (181c) or pied piped without inversion (181d).

- (181) a. **nũre beku-n** *u-dita-ren=u'*
 which dog-n PERF-play-with=2SG
 Which dog did you play with?
- b. **nũre yíxu-n** *u-dàu=u'*
 which avocado-n PERF-eat=2SG
 Which avocado did you eat?
- c. * **nũre** *u-dàu=u'* **yíxu**
 which PERF-eat=2SG avocado
 Which avocado did you eat?
- d. * **beku nũre-n** *u-dita-ren=u'*
 dog which-n PERF-play-with=2SG
 Which dog did you play with?

3.4.3. *Wh-movement and Possessive Phrases*

SCLZ possessives will be discussed in depth in Chapter 4, but for the time being, I'll give this summary. SCLZ has alienable possessives (e.g. (182a)), which are optionally possessed and have a possessive preposition *che* 'of,' and inalienable possessives (e.g. (182b),(182c)), which are obligatorily possessed, are typically body parts or kinship terms, and are not morphologically marked.

- (182) a. beku che Bédu
dog of Pedro
Pedro's dog
- b. xa (*che) Zíku
POSS.father Zíku
Zíku's father
- c. táka' (*che) Bédu
POSS.arm Pedro
Pedro's arm

Possessives, whether alienable or inalienable, are possessum-initial, with the possessor following *che* 'of' in alienable constructions (183).

- (183) a. Alienable
- i. beku **che Zíku**
dog **of Francisco**
Francisco's dog
- ii. * beku **Zíku che**
dog **Francisco of**
Francisco's dog

- iii. * **che Zíku** beku
 of Francisco dog
 Francisco's dog

b. Inalienable

- i. xa Zíku
 POSS.father Francisco
 Francisco's father

- ii. * Zíku xa
 Francisco POSS.father
 Francisco's father

When a *wh*-term is contained in an alienable possessive, which has the possessive preposition *che* 'of,' then the whole phrase pied pipes with inversion to the left edge of the clause (184b). It cannot pied-pipe without inversion (184c), and it cannot strand the rest of the possessive phrase, with or without a resumptive pronoun (184d). This is different from what we will see with relative clauses, which can strand the rest of the possessive phrase (§3.5.3).

- (184) a. **beku che Zíku** ù-dau=ba' pastel-n
 dog of Francisco PERF-eat=3.ANIM cake-n
 Francisco's dog ate the cake

N > Poss

- b. **nũ beku che-n** ù-dau pastel-n
 who dog of-n PERF-eat cake-n
 Whose dog ate the cake?

Poss > N

- c. * **beku che nũ-n** ù-dau pastel-n
dog of who PERF-eat cake-n
 Whose dog ate the cake?
 N > Poss
- d. * **nũ** ù-dau pastel-n **beku che(=be')**
who PERF-eat cake-n **dog of=3.h.i**
 Whose dog ate the cake?

PPI is also seen with inalienable possession, which does not have (overt) possessive morphology but still displays inversion when wh-moved (185b-185c).

- (185) a. **xa** (*che) **Ziku** ù-daw=e' yet-n
poss.father (*of) **Francisco** PERF-eat=3.H.F tortilla-n
 Ziku's father ate the tortilla
 N > Poss
- b. **nũ xa-n** n-ak benne na
who poss.father-n STAT-be man that
 Whose father is that man?
 Poss > N
- c. * **xa nũ-n** n-ak benne na
who poss.father-n STAT-be man that
 Whose father is that man?
 N > Poss

3.4.4. *Wh-movement and QPs*

Quantifiers are also prenominal (186), and are arguably the heads of QPs (Broadwell, 2016):

- (186) a. **yòu=te** **beku-n** yaxhén=gak=ba' pelot
all.EXH=INT dog-n PERF.catch.up.to=PL=3.ANIM ball
all the dogs caught up to the ball
- b. ***beku-n** **yòu=te** yaxhén=gak=ba' pelot
dog-n all.EXH=INT PERF.catch.up.to=PL=3.ANIM ball
all the dogs caught up to the ball

PPI with QPs has been documented in San Dionicio Ocotepéc Zapotec (SDZ) (187) and MacZ (188), where it is optional (Broadwell, 2016) .

- (187) SDZ (Broadwell, 2016)
- a. [xhíi rájtè] ù-dàw Juààny
what all COM-eat Juan
What did Juan eat all of?
- b. [xhíi tyóp] ù-dàw Juààny
what two COM-eat Juan
What did Juan eat two of?

- (188) MacZ (Broadwell, 2016)
- a. PPI
- [bíi chùppá]=ní g-útò=nà
what two=CL COM-eat=3
What did he eat two of?
- b. Pied piping without inversion
- [chùppá bíi]=ní g-útò=nà
two what=CL COM-eat=3
What did he eat two of?

However, eliciting questions with QPs was difficult in SCLZ. I could find no grammatical sentences parallel to what we see in (187-188). A quantifier can neither be PPIed (189b) nor stranded (189c), but a grammatical version was also not produced.

- (189) a. you=te=n b-stote Bédu
 all.EXH=INT=3.INAN PERF-finish Pedro
 Pedro finished (eating) all of them
- b. * bĩ you=te=n b-stote Bédu
 What all.EXH=INT=3.INAN PERF-finish Pedro
 What did Pedro finish all of?
- c. bĩ-n b-stote Bédu (*you=te=n)
 What-n PERF-finish Pedro all.EXH=INT=3.INAN
 What did Pedro finish all of?

As for *What did Pedro eat two of*, I was told that there was no way to say this in SCLZ. It is unclear why there is trouble querying QPs in SCLZ.

In summary of wh-movement out of PPs, NPs, and PossPs in SCLZ, SCLZ allows pied piping with inversion and omitting prepositions, but it does not allow preposition stranding or pied piping without inversion.

3.5. *Relative Clauses*

In the upcoming sections, I will discuss SCLZ headed relative clauses (§3.5.1), including the distribution of relative pronouns in them (§3.5.2) and the accessibility of different syntactic positions to relativization per Keenan and Comrie (1977)'s Accessibility Hierarchy (§3.5.3). In §3.5.4-3.5.5, I will discuss SCLZ headless relative clauses.

3.5.1. SCLZ Headed Relative Clauses

SCLZ relative clauses are head-external, postnominal, and obligatorily verb-initial (190).

- (190) a. Zíku-n b-en=be' [**yét-n** [u-dáu beku na]]
 Francisco-n PERF-make-3.H.I tortilla-N PERF-eat dog that
 Francisco cooked the tortilla that that dog ate
- b. * Zíku-n b-en=be' [**yét-n** [beku na u-dáu=ba']]
 Francisco-n PERF-make=3.H.I tortilla-N dog that PERF-eat=3.ANIM
 Francisco cooked the tortilla that that dog ate

The verb in the relative clause can take aspect morphology, as shown in (191a-191c).

- (191) a. [beku-n [u-dáu pastel]]
 dog-SPF PERF-eat cake
 the dog that ate the cake
- b. [benne-n [(bi) **dj**-abed Bedu]]
 person-SPF HUMAN.INF CONT-like Pedro
 the man who likes Pedro
- c. [benne-n [wa-red libr-na]]
 man-SPF IRR-read book-that
 the man who will read that book

The verb does not take subject pronominal clitics since the order in the relative clause is VSO, and VSO word order does not trigger subject pronominal clitics on the verb. However, just as with matrix VSO clauses, the verb can take the plural clitic although the subject is postverbal (192-193)(in relative clauses, this means that an

argument other than the subject was relativized, and the subject is *in situ* after the verb).

- (192) b-réd=a' [peloto-n [b-rag=**gak** beku-n]]
 PERF-see=1SG ball-SPF PERF-chase=PL dog-n
 I saw the ball that the dogs chased

- (193) b-réd=a' [peloto-n [da-n b-rag=**gak** shon beku-n]]
 PERF-see=1SG ball-SPF INAN-n PERF-chase=PL three dog-n
 I saw the ball that three dogs chased

If there is no plural clitic and the subject is plural but has no numeral or quantifier to indicate that it is plural (recall, there is no plural morphology on nouns), then the subject will be ambiguous between a singular and plural reading (194).

- (194) b-réd=a' [benne-n [b-rag beku-n]]
 PERF-see=1SG person-SPF PERF-chase dog-n
 I saw the man that the dog/dogs chased

When a nominal phrase is relativized, there is no element that must come between the nominal phrase and the rest of the relative clause, but several elements can, including the specificity marker *n* and a series of relative pronouns. First, I will discuss *n* in headed relative clauses, and then I will discuss relative pronouns.

-n in (Headed) Relative Clauses

In SCLZ, *-do'* DIMINUTIVE and *-n* SPECIFICITY can come between the head noun and the rest of the relative clause (195) (I discuss the relative pronouns separately below).

- (195) a. [beku-n [u-dáu pastel]] b-rag=ba' nada
 dog-n PERF-eat cake PERF-chase=3.ANIM PRO.1SG
 the dog that ate the cake chased me
- b. [beku-do-n [u-dáu pastel-n]] n-ak=n zhdandó'
 dog-little-N PERF-eat cake-n STAT-be=3.INAN cute
 the little dog that ate the cake is cute

However, these describe the head noun and I do not analyze them as complementizers (195). The diminutive, being a modifier, is completely optional. The case of -N is a bit trickier, since it is identical to the topic morpheme which appear on preverbal topics (196), and could plausibly be acting as a complementizer.²⁸

- (196) beku-**n** u-dau=ba' pastel-n
 dog-TOPIC PERF-eat=3.ANIM cake-SPF
 The dog ate the cake

In addition, some varieties of Zapotec, such as San Pedro Mixtepec Zapotec (SPMZ) (Ramos, 2015), Teotitlán del Valle Zapotec (TdVZ) (Kalivoda and Zyman, 2015), and San Lucas Quiaviní Zapotec (Lee, 1999), have been argued to have a complementizer – *nè* in SPMZ, *ni* in TdVZ, and *nih* in SLQZ (197).

- (197) a. SPMZ Relative Clause (Ramos, 2015)
- b-iěd [xěy [nè r-tõ gixtíl]
 CPL-come man COMP ICPL-sell bread
 The man who sells bread came

²⁸Zoochina Zapotec also has identical morphemes =*nhâ*² for focus and definiteness (López Nicolás, 2021). López Nicolás (2021) also argues that the =*nhâ*² morpheme sometimes found in relative clauses is not the focus morpheme, but rather the definiteness one.

- b. TdVZ Relative Clause (Ramos, 2015)

[libr **ni** ba-to'o Mari]
 book COMP COMPL-sell Mari

The book that Mari sold

- c. SLQZ Relative Clause (Lee, 1999)

[studya'aann **nih** b-inylohoh Pa'amm n-u'uh rèe']
 student COMP PERF-see.at Pam NEUT-exist here

The student that saw Pam / that Pam saw is here

In both SPMZ and TdVZ, *nè* / *ni* COMP can also be used as a non-relative complementizer, as in (198).

- (198) a. (Ramos, 2015)

r-nè x-ùs ná' **nè** r-dzié'b lù mè'dz
 ICPL-say POSS-aunt PRO.1SG COMP ICPL-fear PRO.2SG beasts

My aunt said that you fear wild beasts

- b. (Kalivoda and Zyman, 2015)

Louis ba-in **ni** gu-diny-a lam
 Luis COMPL-make COMP COMPL-kill-1SG 3.ANIM

Louis made me kill it (the animal)

I will give several reasons why the *-n* seen after relative clause heads is neither the topic morpheme nor a complementizer, but the specificity morpheme. First of all, I show in (146), repeated here as (199), that the presence of *n* is neither mandatory nor arbitrary, but depends on the specificity of the head, so this is *-n* SPF, not *-n* TOPIC or a complementizer.

(199) (repeated from (146))

a. b-rezhag=a' Wer [to libr [u-xhi=a']]
PERF-give=1SG Manuel some/a book PERF-buy=1SG

I gave Manuel some book that I bought

b. b-rezhag=a' Wer [libr-n [u-xhi=a']]
PERF-give=1SG Manuel book-n PERF-buy=1SG

I gave Manuel the book that I bought

c. Wer b-rezhag=a' [to libr-n [u-xhi=a']]
Manuel PERF-give=1SG a book-n PERF-buy=1SG

I gave Manuel a specific book that I bought (I bought a bunch and gave him this one)

Second of all, this *-n* is not the topic morpheme because when subjects are focused in declarative sentences, they co-occur with coreferential pronominal clitics which attach to the verb ((196), repeated in (200)). This is not the case with relative clause heads corresponding to subjects (200b), indicating that this is not acting as a topic morpheme.

(200) a. beku-n u-dau=ba' pastel-n
dog-TOPIC PERF-eat=3.ANIM cake-SPF

The dog ate the cake

b. [beku-n [u-dáu pastel]]
dog-n PERF-eat cake

the dog that ate the cake

Third of all, while *-n* may occur after a relative clause head, it does not occur as a non-relative complementizer (201).

(201) nezda=be'(*-n) dj-roku Bedu
know=3.H.I-n CONT-angry Pedro

He knows that Pedro is angry

Lastly, we can point to the behavior of *yon* / *shon* ‘three’ in the relative clause head. As discussed in Chapter 2, the numeral three is sensitive to the specificity of the noun: *yon* is ‘three.EXH,’ used for when one is referring to all entities in a set, and can occur with *-n* TOPIC and *-n* SPF (202a-202b), while *shon* is ‘three,’ and is used to mean all three out of a potentially larger set, and can occur with *-n* TOPIC but not *-n* SPF (202c-202d).

(202) (repeated from 147)

a. *Yon* + Topic

yon **beku-n** u-kro=gak=ba’
 three.EXH dog-TOPIC PERF-win=PL=3.ANIM

Three dogs won (in response to question “who won the race?”)

b. *Yon* + Specificity

i. u-dau=gak **yon** **beli-n** to blo’ozh-n
 PERF-eat=PL three.EXH snake-SPF a frog-n

Three snakes ate the frog²⁹

ii. nàdà-n b-réd=a’ **yon** **beku-n**
 1sg-TOPIC PERF-see=1SG three.EXH dog-SPF
 b-rag=gak=ba’ peloto-n
 PERF-chase=PL=3.ANIM ball-SPF

I saw the three dogs that chased the ball

c. *Shon* + Topic

shon **beku-n** u-kro=gak=ba’
 three dog-TOPIC PERF-win=PL=3.ANIM

Three of the dogs won (in response to question “who won the race?”)

²⁹The specificity / definiteness *n* can also mean familiarity – a frog that we are familiar with. It is possible that this is a separate *-n* entirely.

d. *Shon* + Specificity

- i. *u-dau=gak **shon beli-n** to blo'ozh-n
 PERF-eat=PL three snake-SPF a frog-n
 Three snakes ate the frog
- ii. *nàdà-n b-réd=a' **shon beku-n** b-rag
 1sg-TOPIC PERF-see=1SG three dog-SPF PERFchase=PL=3.ANIM
 pelota-n
 ball-SPF
 I saw the three dogs that chased the ball

We can use this as a diagnostic in (203) to show that with a definite head noun, we get *yon* ‘three.SPF’ and *-n*, and with an indefinite head we get *shon* ‘three’ and no *-n*, but we cannot get a head with *shon* ‘three’ and *-n*. If *-n* were a complementizer or a focus marker, we would expect that we could get *shon* + *-n* – since we can’t, this shows that the *-n* after the head in relative clauses is the specificity *n*, not the focus *n* acting as a complementizer.

- (203) a. Wer b-rezhag=a' **shon libr(*-n)** u-xhi=a'
 Manuel PERF-give=1SG three.indef book-SPF PERF-buy=1SG
 I gave Manuel three books that I bought
- b. Wer b-rezhag=a' **yon libr-n** u-xhi=a'
 Manuel PERF-give=1SG three.EXH book-SPF PERF-buy=1SG
 I gave Manuel the three books that I bought

3.5.2. *SCLZ Relative pronouns*

SCLZ has two series of relative pronouns – one set derived from *wh*-terms, and the other set not, and possibly derived from nouns like *person*, *thing*, and *animal*. This is similar

to Zoochina Zapotec, where relative pronouns are derived from both *wh*-terms and “pronominal classifiers” (López Nicolás, 2021), and Zoogocho Zapotec, where “generic nouns” can introduce relative clauses (Sonnenschein, 2005). Both are seen in headed and headless relative clauses in SCLZ (204), although their distribution is different.

(204) a. *Headed relative clause with wh-relative pronoun*

ba gúlrazh=a' [yézh-n [ga-n gura xhin=a']]
 PERF forget=1SG town-n where-n PERF-born POSS.son=1SG

I forgot the town where my son was born

b. *Headless relative clause with wh-relative pronoun*

yawí=a' [gà-n gura xhin=a']
 visit.PERF=1SG where-n born.PERF POSS.son=1SG

I visited where my son was born

c. *Headed relative clause with non-wh-relative pronoun*

María b-redu=be' [to retratu [da(*-n) b-én Bedu]]
 María PERF-see=3.H.I a painting INAN-n PERF-make Pedro

María saw the painting that Pedro painted

d. *Headless relative clause with non-wh-relative pronoun*

dj-abed=a' [da-n n-adé bdo na]
 CONT-like=1SG INAN-n STAT-wear child that

I like what that kid is wearing

I will discuss the distribution of *wh*-relative pronouns and non-*wh*-relative pronouns in headed relative clauses here, and leave headless relative clauses to §3.5.4.

Wh-derived relative pronouns

The wh-term *gǎ* ‘where’ can occur in a headed relative clause (205a) but not *gar* ‘which way’ (205b), possibly because of the lack of a fitting nominal head meaning ‘the direction’.

(205) *gǎ* ‘where’ , *gar* ‘which way’

- a. n-unbiad=a’ [yézh [ga-n zo Zíku]]
STAT-know=1SG town where-n STAT.live Francisco

I know the town where Francisco lives

- b. * n-ézd=a’ [nez [gare-n b-ayíe Bedu]]
CONT-know=1SG path which.way-n PERF-went Pedro

I know the road where Pedro went

Like *gar* ‘which way,’ *Bata* ‘when’ and *bi goru* ‘what hour’ cannot occur as relative pronouns (206a-206b).³⁰

(206) *bata* / *bi goru* ‘when’

- a. * Bedu guk zhwe’e=be’ [zmán [bata-n b-en Zíku
Pedro PERF.be sick=3.H.I week when-n PERF-make Francisco
rizh=bé]]
home=3.H.I

Pedro was sick the week when Francisco built his house

³⁰Koopman (p.c.) points out that some of the heads in these ungrammatical relative clauses, such as *zman* ‘week,’ *rason* ‘reason,’ and *manera* ‘manner,’ are borrowings into SCLZ. This is true, and their inability to occur in these headed relative clauses with relative pronouns is likely because these constructions – relativized obliques with a relative pronoun – are unusual and not how a native speaker would express these sentences naturally. It is closer to a translation of the English, and is ungrammatical.

- b. * Bedu guk zhwe'e=be' [zmán [bi goru-n b-en Ziku
Pedro PERF.be sick=3.H.I week what hour-n PERF-make Francisco
pastel-n]]
cake-n
Pedro was sick the week when Francisco made the cake

Likewise, the wh-terms *nũ* 'who, what N,' *bĩ* 'what,' and *nũre* 'which N' cannot appear as a relative pronoun in a headed relative clause (207).

(207) *nũ* 'who, what N,' *bĩ* 'what,' and *nũre* 'which N'

- a. * baréd=a' [bxoz [nũ-n ù-dau pastel-n]]
PERF-see=1SG priest who-n PERF-eat cake-n
I saw the priest who ate the cake
- b. * b-abéd=a' [mes [bĩ-n ù-xhí Bedu]]
PERF-like=1SG table what-n PERF-buy Pedro
I liked the table that Pedro bought
- c. * dj-abéd=a' [libr [nũre-n ù-xhí Bedu]]
CONT-like=1SG book which-n PERF-buy Pedro
I like the books which Pedro bought

Similarly, neither *bal* 'how many' nor *gakato* 'how much' can introduce a headed relative clause:

(208) *bal* 'how many,' *gakato* 'how much'

- a. * b-ráb=a' [libr [bale-n ù-xhi Bedu]]
PERF-count=1SG book how.many-n PERF-buy Pedro
I counted how many books Pedro bought
- b. * b-wí=a' [sopa [gakato-n ba ù-dau Bedu]]
PERF-measure=1SG soup how.much-n already PERF-eat Pedro
I measured how much soup Pedro ate

Neither the wh-term *biz* ‘how’ nor *bché’* ‘why’ can occur as relative pronouns in headed relative clauses, as shown in (209).

(209) *biz* ‘how’ and *bché’* ‘why’

a. * Headed relative

nunbiad=a’ **manera biz** dj-un=be’ tamal
 know=1SG way how-n CONT-make=3SG tamales
 I know the way she makes tamales

b. * Headed relative

ba gúlrazh=a’ **reason bché-n** b-en=a’ pastel-n
 PERF forget=1SG reason why-n PERF-make=1SG cake-n
 I forgot the reason why I made the cake

Table 3.2 summarizes which wh-phrases may occur as relative pronouns in headed relative clauses. The only wh-term that can occur as a relative pronoun in a headed relative clause is *gã* ‘where’ – the rest cannot.

Table 3.2: Relative pronouns (RP) in headed relative clauses

Wh-term	RP in Headed RC
<i>nũ</i> who, which	✗
<i>bĩ</i> what	✗
<i>nũre</i> which N	✗
<i>bi goru</i> what hour	✗
<i>bata</i> when	✗
<i>gã</i> where	✓
<i>gar</i> which way, which place	✗
<i>bal</i> how many	✗
<i>gakato</i> how much	✗
<i>biz</i> how	✗
<i>bché’</i> why	✗

Wh-term	SCLZ	Zoochina	AO	Matlatzinca	IM	SPMZ
who	✗	✓	✓	✗	%	✗
what	✗	✗	✗	✗	✗	✗
where	✓	✓	✓	✓	✓	✗
when	✗	✗	✗	✗	✗	–
why	✗	✗	✗	✗	✗	✗
how	✗	✗	✗	✗	N/A	✗
which/what (+NP)	✗	✗	✗	✗	✗	✗
how much/many (+NP)	✗	✗	✓	✗	✗	✗

Table 3.3: Distribution of *wh*-terms as relative pronouns in headed relative clauses (✓ = attested, ✗ = not attested, – = no simple *wh*-term, % = speaker variation, N/A = no data available)

There is variation across other Oto-Manguean languages as to which *wh*-terms can be relative pronouns in headed relative clauses. Table 3.3 compares the distribution of *wh*-terms across the Oto-Manguean languages Zoochina Zapotec (López Nicolás, 2021) and Acazulco Otomi (AO), Matlatzinca, Iliatenco Me’phaa (IM), and San Pedro Mixtepec Zapotec (SPMZ) (Caponigro, 2020).

We can see that *where* is commonly a relative pronoun, but that the others vary. Within each language, the majority of *wh*-terms are not used as relative pronouns. Why this distribution is this way would be a fascinating topic to explore, as it perhaps has historical roots, or perhaps semantic ones. However, this will need to be left to further research.

Non-wh relative pronouns

Now, I will discuss the use of non-*wh* relative pronouns. These consist of a set of relative pronouns that occur with relativized arguments and agree with the head in person/animacy/formality (*benn* HUMAN.FORM, *bí* HUMAN.INF, *bía/be* ANIMATE, and

da INANIMATE), and the relative pronoun *ka* ‘at what time,’ which appears with a temporal head.

The first set of relative pronouns can appear in headed relative clauses where they appear after the head, as shown in (210). The relative pronoun agrees with the animacy / formality of the relativized argument with which it is linked.³¹

- (210) a. b-réd=a’ [benne-n [bí dj-abéd Bedu]]
 PERF-see=1SG man-n HUMAN.INF CONT-like Pedro
 I saw the man who likes Pedro
- b. b-réd=a’ [bxoz-n [benne dj-abéd Bedu]]
 PERF-see=1SG priest-n HUMAN.FORM CONT-like Pedro
 I saw the priest who likes Pedro
- c. b-réd=a’ [beku-n [be/bía dj-abéd biz na]]
 PERF-see=1SG dog-n ANIM CONT-like cat that
 I saw the dog that likes that cat
- d. Ziku-n b-én=be’ [yet-n [da u-dau beku na]]
 Francisco PERF-make=3.H.I tortilla-n INAN PERF-eat dog that
 Francisco made the tortilla that that dog ate.

As we see in (211a-211b), *da* can refer to animals as well as inanimate objects. This is similar to what we saw with the pronominal clitic *n* INAN, which can also be used to refer to an animal, especially if one dislikes the animal (§1.3). However, *da* cannot be used to refer to a person (211c).

- (211) a. Ziku-n b-rédu=be’ [beku-n [da u-dáu yet na]]
 Francisco-n PERF-see=3.H.I dog-SPF INAN PERF-eat tortilla that
 Francisco saw the dog that ate that tortilla

³¹Per Caponigro (2020), I use “linked” generally to mean a morpho-syntactic or semantic correspondence.

b. (repeated from (210d))

Ziku-n b-én=be' [yet-n [da u-dau beku na]]
Francisco PERF-make=3.H.I tortilla-n INAN PERF-eat dog that
Francisco made the tortilla that that dog ate.

c. b-réd=a' [benne-n [bi/(da) dj-abéd Bedu]]
PERF-see=1SG man-SPF HUMAN.INF/INAN CONT-like Pedro
I saw the man who likes Pedro

The relative pronoun *ka* 'at what time' cannot appear in interrogative contexts (212-212b), but it does occur as a relative pronoun in relative clauses (212c).

(212) a. *ka-n ù-dau Bedu
when-n PERF-eat Pedro
When did Pedro eat?

b. *Ziku ù-nabe=be' [ka-n ù-dau Bedu]
Francisco PERF-ask=3.H.I when-n PERF-eat Pedro
Francisco asked when Pedro ate

c. Bedu guk zhwe'e=be' [zmán [ka-n b-en Ziku
Pedro PERF.be sick=3.H.I week when-n PERF-make Francisco
rizh=bé]]
home=3.H.I
Pedro was sick the week when Francisco built his house³²

These relative pronouns are morphologically distinct from both wh-type relative pronouns and personal pronouns, although *bía* and *da* can combine with the wh-pronoun *bĩ* 'what', as shown in Table 3.4. They are also distinct from the demonstratives *ni/nga* 'this' and *na* 'that.'

³²Although *zmán* 'week' ends in an *n*, this is not a separate morpheme. We can also get *zmán-an* 'week-N'

Table 3.4: Relative pronouns vs. Wh-pronouns vs. Personal pronouns

	Relative Pronouns	Wh-pronouns	Personal pronouns
human (who/(s)he)	bí/benn	nũ	li/le'e=be'
animate (what/it)	bía/be	bĩ / bí bía	le'e=ba'
inanimate (what/it)	da	bĩ / bí da	le=n

They also appear in adjectival constructions, where they form a DP meaning ‘an [Adj] person/thing/animal’ (213). Their forms with adjectives are given in Table 3.5. These constructions look very much like reduced relative clauses, and further work will be needed on them.

- (213) bí-tónn n-ak bdo na
 HUMAN.INF-tall STAT-is child that
 That child is tall (lit. ‘a person who (is) tall is that child’)

Table 3.5: Relative pronouns with Adjectives

	Rel Pro	Rel Pro + Adj
human (inf/form)	bí/benn	bi-tónn / benn-tónn (tall person)
animate	bía/be	bía-yá'á (green animal)
inanimate	da	da-tónn (tall/long thing)

In summary, the wh-term *gã* ‘where’ can be used as a relative pronoun in headed relative clauses, as can the relative pronouns *ka* ‘at what time,’ *benn* HUMAN.FORM, *bí* HUMAN.INF, *bía/be* ANIMATE, and *da* INANIMATE.

3.5.3. Accessibility of Syntactic Roles to Relativization

Keenan and Comrie (1977)’s accessibility hierarchy refers to the typological generalization that in regards to ease of relativization, there is a hierarchy among syntactic

positions: SUBJECT > DIRECT OBJECT > INDIRECT OBJECT > OBLIQUE³³ > POSSESSOR > OBJECT OF COMPARISON.

There are several constraints that accompany this hierarchy. First of all, all languages must be able to relativize subjects, and the strategy used to relativize subjects is considered the *primary strategy*. By *strategy*, Keenan and Comrie (1977) mean two things: two relative clauses are formed by different strategies if 1) their heads appear in different positions, such as head-initial, head-final, or head-internal, or 2) they differ in whether there is a nominal element which identifies the syntactic role of the head NP (they only discuss definite restrictive relative clauses). For example, in the English relative clauses *the girl who likes John* and *the girl who John likes*, *who* does not identify the syntactic role of the head NP, and so the use of the nominal element here is a *-case* strategy. However, a nominal element that identifies the syntactic role of the head NP, such as a resumptive pronoun or a case-marked relative pronoun, would be a *+case strategy*, and therefore count as a different strategy. For example, in the English relative clause *the chest in which John put the money*, *in which* would be *+case* because the preposition *in* identifies the syntactic role of the head. Languages can also promote a lower position to a higher position and then relativize it from there; for example, Toba Batak (a Malayo-Polynesian language) can relativize subjects using a primary gap strategy, where a gap is left in the embedded clause in the position that the relative clause head corresponds to (e.g. *The dog that I saw ___*), but direct objects

³³By ‘oblique,’ Keenan and Comrie (1977) mean “NPs that express arguments of the main predicate, as *the chest in John put the money in the chest*”, not obliques that are more adverbial.

(DO) in Toba Batak cannot be relativized using a gap, and so the underlying sentence containing the DO must passivize (promote DO to Subject), and then the DO, as a subject, can be relativized. Positions lower than DO on the hierarchy, like IOs, cannot be promoted to subject, so they are relativized with a resumptive pronoun.

Second of all, any strategy used to relativize positions must apply to a continuous segment of the hierarchy – for example, a strategy that applies to subjects and obliques must apply also to direct objects and indirect objects. Lastly, strategies may start applying at any position and can cease to apply at any lower position. For example, a strategy can in theory apply only to obliques and genitives.

In this section I will discuss how SCLZ relates to the Keenan and Comrie (1977) hierarchy of accessibility, including discussing the accessibility of different syntactic roles to relativization and the strategies SCLZ uses to relativize those syntactic roles.

We will see in SCLZ that there is a primary gap / relative pronoun strategy used to relativize over subjects and direct objects, while indirect objects and obliques are either relativized using a gap / relative pronoun, or are promoted to a more accessible position and then relativized using a gap / relative pronoun. Another strategy, a resumptive pronoun, is restricted to the relativization over inalienable possessives.

Subjects and Direct Objects

SCLZ allows the relativization of subjects and objects, with a gap left in the corresponding position in the clause (214).

(214) a. *Subject relativization*

[**bdo-n** [u-bíxe ____]] b-ra=be' lò òspítál
child-spf PERF-fall [subj] PERF-come=3.H.I to hospital

The child that fell came to the hospital

b. *Direct object relativization*

[**bdo-n** [b-sed María ____]] b-ra=be' skwér
[child-spf PERF-teach María [DO]] PERF-come=3.H.I school

The child that María taught came to the school

Subjects and objects can also be relativized with a relative pronoun, as in (215).

(215) a. *Subject relativization*

b-réd=a' [**benne-n** [(bí) dj-abéd Bedu]]
 PERF-see=1SG man-n (HUMAN.INF) PERF-like Pedro

I saw the man who likes Pedro

b. *Direct object relativization*

Ziku-n b-en=be' [**yet-n** [(da) u-dáu beku na]]
 Francisco-n PERF-make=3.H.I tortilla-n (INAN) PERF-eat dog that

Francisco cooked the tortilla that the dog ate

Like wh-movement of subjects in questions (216a), but unlike topicalization in declarative sentences (216b), a relative clause head that corresponds to a subject in the embedded clause does not leave a resumptive pronoun (216c).

(216) a. *Subjects in wh-questions*

nũ u-dapa(*=be') Bedu
 who PERF-hit(=3.H.I) Pedro

Who hit Pedro / Who did Pedro hit?

b. *Topicalization*

Bédu ù-dáu=**be'** pastél-n
 Pedro PERF-eat=3.H.I cake-n
 Pedro ate the cake

c. *subject relative clause heads*

i. beku-n b-xhiya=**ba'**
 dog-n PERF-bark=3.ANIM
 the dog barked

ii. Bedu b-réda=**be'** [**beku-n** [b-xhiya(*=**ba**) ___]]
 Pedro PERF-see=3.H.I [**dog-spf** PERF-bark(*=3.ANIM) [subj]]
 Pedro saw the dog that barked

SCLZ also does not leave a resumptive pronoun / pronominal clitic in the relativization site for objects (217).

(217) *Direct object relativization*

a. beku b-rag le'e=**be'**
 dog PERF-chase PRO=3.H.I
 the dog chased him (the man)

b. b-réd=**a'** [benn-n [b-rag(*=**be'**) beku-n (***le'e=be'**)]]
 PERF-see=1SG HUMAN.FORM-n PERF-chase=3.H.I dog-n (PRO=3.H.I)
 I saw the man that the dog chased

Just as with questions, this creates ambiguity when a head could correspond either to a subject gap or an object gap (218). This ambiguity is also found in Zoogocho Zapotec (Sonnenschein, 2005) and Zochina Zapotec (López Nicolás, 2021), where a lack of resumptive pronouns in the S/DO positions causes ambiguity.

- (218) b-réd=a' [benne-n [dj-abéd ____ Bedu ____]]
 PERF-see=1SG person-n CONT-like [subj] Pedro [obj]
 I saw the man who Pedro likes / who likes Pedro

SCLZ does use resumptive pronouns when an inalienably possessed noun has been relativized over, which will be discussed later.

In summary, with both gaps and relative pronouns, the syntactic role of the head is ambiguous for subjects and objects since neither gaps nor the relative pronouns (except for *ka* 'at what time,' discussed below) indicate the syntactic role of the head – both are -case strategies. Since gaps and relative pronouns are also both head-initial strategies, this means gaps and relative pronouns are both postnominal, -case, and count as the same strategy – the *primary strategy*, since they can be used to relativize subjects – for the purpose of the Accessibility Hierarchy.

Indirect Objects

For indirect objects, Keenan and Comrie (1977) note that many languages treat indirect objects as one of the oblique cases, or as direct objects. However, in SCLZ, indirect objects can be relativized with a gap just like with subjects and direct objects, as in (219). For this reason, it is still part of the gap-strategy continuum on the hierarchy, and I do not group it with the obliques.

- (219) a. **Base sentence**
 b-rézha Bédu yish na bdo.nor na
 PERF-give Pedro book that girl that
 Pedro gave the book to the girl

b. **Relative clause**

Zíku b-réd=be' [bdo.nor-n [b-rézha Bédu yish na]]
 Francisco PERF-see=3.H.I [girl-SPF [PERF-give Pedro book that
 Francisco saw the girl that Pedro gave the book to

Indirect object relativization can also be avoided by promoting the indirect object to a more easily relativizable position. In (220) we see the indirect object is promoted to subject and then relativized. This is consistent with Keenan and Comrie (1977), which states that if a language can relativize a position *n* on the accessibility hierarchy, then it can relativize other lower positions by promoting them to a position where they can be directly relativized.

(220) a. *Base sentence*

Bedu b-rézha=be' benne na medju
 Pedro PERF-give=3.H.I man that money
 Pedro gave the man money

b. *Relative clause*

b-réd=a' [benne-n [u-xhí _____ [medj-n [b-rézha Bedu
 PERF-see=1SG [man-SPF PERF-receive [subj] money-SPF PERF-give Bedu
 chi']]]]
 for.3.H.F

I saw the man who received³⁴ the money that Pedro gave for him (elicited
 = I saw the man who Pedro gave the money to)

³⁴ *uxhí* can mean *received* or *bought*.

Obliques

Under obliques, I include instrumentals (221a), comitatives (221b), benefactives (221c), and locatives (221d). I will also briefly mention temporal adjuncts, although I do not consider these part of the main predicate.

Some obliques like the instrumental and comitative are expressed in a prepositional phrase headed by *ren* ‘with’ (221a-221b) while benefactives are expressed as a biclausal construction (221c-i-221c-ii). We also saw this with wh-question formation in §3.4.1.³⁵ and locatives sometimes do not require a preposition at all (221d). Temporals are expressed as an adverb (221e) or (Galant, p.c.) as noun phrases used adverbially, as in *yi-to xhman* ‘IRR-one week’ > “next week.”

(221) a. Instrumental (Minerva Dominguez)

ù-sarag=a’ porte **ren to xhínía**
PERF-open=1SG door **with a key**

I opened the door with a key

³⁵Sometimes an English benefactive was translated into SCLZ using *che* ‘of’ (i) to express ‘for,’ e.g. (i-ii), but it was clarified that this is still a possessive, and is only grammatical if the object is possessed by the possessor.

(i) (Julio Dominguez)

nada’ u-sarag=a’ djiyo’o che María
PRO.1SG PERF-open=1SG door of María

I opened the door for María (and it’s her door)

(ii) (Ezequiel Ambrosio)

b-kós=a’ ga che djrua
PERF-lift=1SG basket of john

#I lifted the basket for John
I lifted John’s basket

b. Comitative (Minerva Dominguez)

Liana b-gul=be' **ren zhrua**

María PERF-sing=3.H.I with Juan

María sang with Juan

c. Benefactive

i. (Julio Dominguez)

nada' u-sarag=a' chy'o (na) b-ayo'o María
PRO.1SG PERF-open=1SG door and PERF-enter María

I opened the door for María (lit. I opened the door and María entered)

ii. (Ezequiel Ambrosio)

xhua u-sara=be' dji'yo' wakasék sho María
John PERF-open=3.H.I door so.that IRR.enter María

John opened the door for María (lit. so that María could enter)

iii. (Julio Dominguez)

nada' u-sarag=a' djyo'o bche María
PRO.1SG PERF-open=1SG door because.of María

I opened the door for María (because of María)

d. Locative

i. yó'ó na zo María

house that STAT.live María

María lives in that house

ii. María zo=be' yó'ó na

María STAT.live=3.H.I house that

María lives in that house / at home

e. Temporal

b-aréd Bédu to yish nìyá
PERF-read Pedro a book yesterday
Pedro read a book yesterday

In Teotitlán del Valle Zapotec (TdVZ), when a nominal is relativized out of a prepositional phrase, the preposition can be stranded *in situ* with a resumptive pronoun or it can be dropped, but it cannot be pied-piped, even with inversion (Kalivoda and Zyman, 2015). As we will see with the PP-type obliques in SCLZ, they cannot be pied-piped or left with a resumptive pronoun.

Instrumentals in SCLZ matrix sentences can appear in prepositional phrases headed by *ren* ‘with’, as in (222). However, an instrument must be promoted to a direct object before it can be relativized – the instrument is relativized out of a construction like “He used the [instrument], [effect]”, e.g. ‘he used the knife, he cut the meat’ > ‘he used the knife to cut the meat’, where the instrument is a direct object, and we see the verb *zhen* ‘use’ is obligatorily used in the relative clause (222b-i). Because of the promotion of the instrumental to direct object, it is no longer a PP and the preposition *ren* ‘with’ is no longer part of the sentence, and cannot appear in the sentence (222b-i-222b-iv).

(222) Instrumentals

a. Underlying sentences

i. Bedu ù-sara=be’ yó **ren to yab**
Pedro PERF-open=3.H.I door with a key
Pedro opened the door with a key

- ii. b-chùgù Bedu bera **ren to kushi**
 PERF-cut Pedro meat with a knife
 Pedro cut the meat with the knife

b. Relative clauses

- i. Bedu b-rite=be' [yab-n *(ù-zhen=be) b-sara=be'
 Pedro PERF-lose=3.H.I key-n PERF-use=3.H.I PERF-open=3.H.I
 yó (***ren**)]
 door with
 Pedro lost the key that he used to open the door (elicited = Pedro lost
 the key that he opened the door with)
- ii. * Bedu b-rite=be' [**ren yab-n** ù-zhen=be'
 Pedro PERF-lose=3.H.I with key-n PERF-use=3.H.I
 b-sara=be' yó]
 PERF-open=3.H.I door
 Pedro lost the key that he used to open the door
- iii. u-xhi=a' (***ren**) [kushi-n u-zhen Bedu b-chugu=be'
 PERF-buy=1SG with knife-SPF PERF-use Pedro PERF-cut=3.H.I
 bera]
 meat
 I bought the knife that Pedro used to cut the meat
- iv. u-xhi=a' (***ren**) [kushi **da-n** u-zhen Bedu
 PERF-buy=1SG with knife INAN-SPF PERF-use Pedro
 b-chugu=be' bera]
 PERF-cut=3.H.I meat
 I bought the knife that Pedro used to cut the meat³⁶

Comitatives are also formed with *ren* 'with' (223c). The preposition *ren* 'with' appears in the verbal complex between the verb stem and the person/number clitics (223a-223b) or an oblique as with (223c). Like instrumentals, the preposition cannot

³⁶J.D. accepted *kushi da-n*, *kushiyi-n da-n*, but not *kushiyi-n da*. The reason for this is unclear.

be stranded, even with a resumptive pronoun (223d). However, unlike instrumentals, it is also ungrammatical to simply drop the preposition (223e-223f). In the sense that the relativized head leaves behind a gap and not a resumptive pronoun, I will class this as a gap/relative pronoun strategy.

(223) Comitatives

- a. b-réd=a' [benne-n [b-gúl-ren Bedu]]
 PERF-see=1SG person-n PERF-sing-with Pedro
 I saw the man that Pedro sang with / that sang with Pedro
- b. dj-abéd=a' [nũ b-gúl-ren=u']
 CONT-like=1SG who PERF-sing-with=2SG
 I like who you sing with (although this is headless, it shows that *ren* comes
 before the person/animacy/formality clitic)
- c. Bedu b-gúl=be' ren benne na
 Pedro PERF-sing=3.H.I with man that
 Pedro sang with that man
- d. * b-réd=a' [bdo.nor-en [dj-gúl Bedu ren(=be')]]
 PERF-see=1SG girl-n CONT-sing Pedro with=3.H.I
 I saw the girl that Pedro sings with
- e. * b-réd=a' [bdo.nor-en [dj-gúl Bedu]]
 PERF-see=1SG girl-n CONT-sing Pedro
 I saw the girl that Pedro sings with
- f. * b-réd=a' [bdo.nor [bí-n dj-gúl Bedu]]
 PERF-see=1SG girl HUMAN.FORM-n CONT-sing Pedro
 I saw the girl that Pedro sings with

Benefactives are expressed paraphrastically rather than with a preposition (224a), and as such are not relativized even when a relative clause was elicited (224b).

(224) Benefactives

- a. Bedu b-sara=be' j́o wenche shó bxoz-n
Pedro PERF-open=3.H.I door so.that IRR.enter priest-n
Pedro opened the door so that the priest may enter (elicited = Pedro opened
the door for the priest)
- b. Bedu u-dèla=be' [bxoz-n [gan ù-sara=be' port
Pedro PERF-hug=3.H.I priest-n when PERF-open=3.H.I door
shu=é]]
IRR.enter=3.H.F
Pedro hugged the priest when he opened the door, he entered (elicited =
Pedro hugged the priest for whom he opened the door)

In locatives in SCLZ, the preposition is dropped, and I have found no cases of a preposition being stranded *in situ* and taking a resumptive pronoun, or it being pied piped (with inversion) (225) (with the exception of *che* ‘of,’ which will be discussed below in the section on relativizing possessives). This is different than what we saw with wh-movement out of PPs, where stranding was not allowed but pied piping with inversion was (§3.4).

(225) Locatives

- a. ù-ròò muniék-n lò kah-n
PERF-put.2SG doll-SPF inside box-SPF
You put the doll in the box
- b. b-réd=ti=a' [kah-n [(*lo) ù-ròò muniék-n
PERF-see=INT=1SG [box-spf (*inside) PERF-put.2SG doll-SPF
(*lò-(n))]]
(*inside-(3.INAN))]
I did see the box that you put the doll in

Locatives and temporal adjuncts are also unique because they can be relativized using the relative pronouns *ka* ‘at what time’ and *gã* ‘where,’ which identify the head noun’s syntactic role. *Ka* ‘at what time’ and *gã* ‘where’ identify their heads as having locative and temporal roles, respectively.

(226) (repeated from (212c))

Bedu guk zhwe’e=be’ [zmán [(ka)-n b-en Ziku rihz=bé]]
 Pedro PERF.be sick=3.H.I week when-n PERF-make Francisco home=3.H.I

Pedro was sick the week when Francisco built his house

(227) (repeated from (204a))

ba g-úlrazh=a’ [yézh-n [ga-n gura xhin=a’]]
 already PERF-forget=1SG town-n where-n PERF-born POSS.son=1SG

I forgot the town where my son was born

In summary, obliques are either promoted to more easily relativizable arguments and are then relativized using the primary strategy, or they are PPs which drop the preposition, or they are relativized using a relative pronoun (in the case of locatives and temporals). They are not relativized using a resumptive pronoun. Because the relative pronouns identify the syntactic role of the head noun, these form a +case strategy. This means that locatives and temporals (insofar as temporals can be considered oblique arguments and not adjuncts) can be relativized using a +case strategy, the first we have seen on the hierarchy.

Possessives

SCLZ allows relativization out of both alienable and inalienable possessive NPs, but with different strategies. When an alienably possessed nominal is relativized, then interestingly, *che* ‘of’ does strand, unlike the prepositions in oblique PPs discussed above. *Che* is stranded with a gap where the relativized noun was, but without a resumptive pronoun (228b-i- 228b-iii).³⁷

(228) a. *Underlying Sentence*

u-ra yesu che bi na
 PERF-break vase of HUMAN.INF that
 That person’s vase broke

b. *Possessive Relative Clauses*

- i. b-azhág=a’ [**nore-n** [u-ra yesu **che(*=be)**]]
 PERF-meet=1SG woman-n PERF-break vase of=3.H.I
 I met the woman whose vase broke
- ii. Bédu b-rédu=be’ [**bdo-n** [gu-t bíz che(*=be’)]]
 Pedro PERF-see=3.H.I child-N PERF-die cat of=3.H.I
 Pedro saw the child whose cat died
- iii. Bédu b-rédu=be’ [**bdo.nore** [**bí-n** gut beku che]]
 Pedro PERF-see=3.H.I girl HUMAN.INF-N PERF.die dog of
 Pedro saw the girl whose dog died

However, when an inalienably possessed nominal is relativized, the possessor strands with a resumptive pronoun (229).

³⁷One consultant notes that using the resumptive pronoun may be alright with some speakers.

(229) a. *Underlying Sentence*

xhná **bdo.nór na'** b-en=e' gayét
 POSS.mother girl that PERF-make=3.H.F cookie
 the girl's mother made cookies

b. *Possessive Relative Clause*

i. bréd=a' [**bdo.nóre-n** [(bí-n) b-en **xhná=be'**
 PERF-saw=1SG girl HUMAN.INF-SPF ANIM-N PERF-make
 gayét]]
 POSS.mother=3.H.I cookie

I saw the girl whose mother made cookies

ii. Bedu b-enbiade=be' [**bdo-n** [n-ak xhna'a*(=be')
 Pedro PERF-meet=3.H.I child-SPF STAT-be POSS.mother=3.H.I
 wasedbenne]]
 teacher

Pedro met the child whose mother is a teacher³⁸

This is the first example on the accessibility hierarchy of relativization leaving a resumptive pronoun. Because resumptive pronouns identify the syntactic role of the head, they count as a +case strategy.

Object of Comparison

The object of comparison cannot be relativized. Instead, this construction is expressed as two sentences (230b-i-230b-ii) or it is rephrased so that the object of the comparison becomes the subject, which is then relativized using a gap (230b-iii).

³⁸The sentence with the resumptive pronoun sounded questionable to one speaker, but sounded completely wrong without it.

(230) a. *Underlying Sentence*

ni-tónn-ch Bedu ka bxoz-n
STAT-tall-CMPR Pedro than priest-n

Pedro is taller than the priest

b. *Comparative Relative Clauses*

i. b-réd=a' bxoz-n Bedu ni-tónn-ch=be' ka
PERF-see=1SG priest-n Pedro STAT-tall-CMPR=3.H.I than
li'
PRO.3SG.FORM

I saw the priest, Pedro is taller than him

ii. b-réd=a' [bxoz-n [zì kwít Bedu ná
PERF-see=1SG priest-n STAT.stand.3.FORM beside Pedro and
ni-tónn-ch=be' ka li']]
STAT-short/young-CMPR=3.H.I than PRO.3SG.FORM

I saw the priest that is standing next to Pedro and he is taller than
him (the priest)

iii. (subject of comparison)

b-réd=a' [bxoz-n [ni-yash-ch ka Bedu]]
PERF-see=1SG priest-n STAT-short/young-CMPR than Pedro

I saw the priest that is shorter than Pedro

In summary, SCLZ uses a -case strategy to relativize subjects, direct objects, sometimes indirect objects and obliques, and alienable possessives. Indirect objects, some obliques, and the object of comparison are either relativized with a gap/relative pronoun or are rephrased, with the noun promoted to a different position and then relativized from there using a gap/relative pronoun. Inalienable possessives are relativized over using a resumptive pronoun strategy, which is a +case strategy. As we can see,

SCLZ uses a primary gap/ relative pronouns (-case) and locative/temporal relative pronouns / resumptive pronouns (+case) for relativization, although it uses paraphrastic constructions / rewording of underlying sentences to promote certain positions to positions which can be relativized using the primary strategy. Indirect objects, obliques, and objects of comparatives are difficult to relativize over, often being promoted to a more easily relativized position on the hierarchy. Over all, SCLZ obeys Keenan and Comrie (1977)'s hierarchy (Table 3.6).

	S	DO	IO	Obl	Loc/Temp	Alien.Poss	Inalien.Poss
GAP/RP	+	+	+	+	+	+	-
WH-RP	-	-	-	-	+	-	-
RES.PRO.	-	-	-	-	-	-	+

Table 3.6: Relativization strategies in SCLZ (+ = strategy applies to position; - = strategy does not apply to position, RP = relative pronoun, RP = wh-derived relative pronoun RES.PRO. = resumptive pronoun)

3.5.4. *Headless Relative Clauses*

Having discussed headed relative clauses in SCLZ, I will now move on to headless relative clauses. Headless relative clauses are a group of constructions which share the following properties (Caponigro, 2020):

1. They are embedded clauses
2. They contain a gap or a resumptive pronoun where an argument or adjunct is missing
3. They have no external head which is coreferential with the missing argument/adjunct
4. They have the same distribution as DPs or PPs³⁹

³⁹Koopman (p.c.) points out that Groos and Van Riemsdijk (1981) argue that headless relatives

SCLZ has free relative clauses (FRCs), which are a type of headless relative clause that are introduced by a *wh*-term (231).

(231) Free Relative Clause

a. *English*⁴⁰

I bought [**what** is on the table]

b. *Spanish*⁴¹

Admiro a [**quien** trabaja duro]
 admire.1SG ANIM.OBJ who works hard

I admire those who work hard

In SCLZ, these have the same form as matrix and embedded *wh*-interrogative clauses, as shown in (232).

(232) a. *Matrix wh-question*

nũ-n b-azhag Bedu
 who-n PERF-meet Pedro

Who met Pedro?

b. *Embedded wh-question*

María u-nabe=be' [nũ-n b-azhag Bedu]
 María PERF-ask=3.H.I who-n PERF-meet Pedro

María asked Who met Pedro

can have the distribution of CPs as well. For my discussion of headless relative clauses, I will follow the properties laid out in Caponigro (2020) and will show DP/PP headless relative clauses.

⁴⁰Caponigro (2020)

⁴¹Caponigro (2020)

c. *FRC*

María b-aredu=be' [nũ-n b-azhag Bedu]
 María PERF-see=3.H.I who-n PERF-meet Pedro
 María saw who met Pedro

Although embedded wh-interrogative clauses and FRCs share the features of being embedded clauses, lacking a constituent, and being introduced by a wh-term, and they are superficially identical, there is a key difference between them – embedded wh-interrogative clauses “occur as the argument of interrogative predicates, i.e., predicates selecting for an argument denoting a question or a proposition” (Caponigro, 2020) – i.e. they have the distribution of a CP, not a DP. On the other hand, FRCs have the distribution of DPs or PPs. This allows us to differentiate between them. In this section, I will discuss the set of wh-terms in SCLZ and whether or not they can introduce FRCs.

There is variation in whether the wh-term *nũ* ‘who, what N’ can appear in a headless relative clause without a restrictor (233).

(233) *nũ* ‘*who*’

a. * b-azhag=tù' [nũ-n bet Bedu]
 PERF-met=1PL.EXCL who-n hit Pedro
 We met who hit Pedro

b. (repeated from (232c))

María b-aredu=be' [nũ-n b-azhag Bedu]
 María PERF-ask=3.H.I who-n PERF-meet Pedro
 María saw who met Pedro

c. (Booth et al., 2021)

Bedu dj-abad=be' [nũ-n b-et y'é'ené ro Maur]
Pedro CONT-like=3.H.I who-n PERF-sell plate to Maur
Bedu likes who sold plates to Maur

There is also variation in whether it can appear with a nominal restrictor (where the restrictor is not necessarily animate or human) (234).

(234) *nũ* 'who' + restrictor

a. ù-xhi=a' [[nũ libr-n] b-red=a']
PERF-buy=1SG what book-n PERF-see=1SG
I bought what books I saw

b. b-azhag=tu' [[nũ benne(*-n)] u-dau pastel-n lo lri-n]
PERF-meet=1PL.EXCL what people-n PERF-eat cake-n at festival-n
We met folks that had cake at the festival / We met which folks had cake
at the festival

c. (Booth et al., 2021)

* Bedu dj-abad=bí [[nũ bénné-n] b-et y'é'ené ro Maur]
Pedro CONT-like=3.H.I who person-n PERF-sell plate to Maur
Bedu likes what people sold plates to Maur

The acceptability of *bĩ* 'what' in headless relative clauses is likewise variable. Some speakers allow it, both bare and with a nominal restrictor, while another does not, and sometimes the same speaker will vary in judgement (235).

(235) *bĩ* 'what'

a. b-abéd=a' [bĩ-n ù-xhí Bedu]
PERF-like=1SG what-n PERF-buy Pedro
I liked what Pedro bought

- b. * u-daw=a' [bĩ-n u-xo Bedu]
 PERF-eat=1SG what-n PERF-cook Pedro
 I ate what Pedro cooked
- c. (Booth et al., 2021)
- * Yadon dj-abad=bí kus [bĩ-n b-gùl Maur]
 Yadon CONT-like=3.H.I really what-n PERF-sing Maur
 Yadon really likes what Maur sang
- d. (Booth et al., 2021)
- % Yadon dj-abad=bí kus [[bĩ kansion-n] b-gùl Maur]
 Yadon CONT-like=3.H.I really what song-n PERF-sing Maur
 Yadon really likes what song Maur sang
- e. * b-abad=a' [[bĩ libr-n] ù-xhí Bedu]
 PERF-like=1SG what book-n PERF-buy Pedro
 I liked what book Pedro bought

Nũre ‘which’ cannot occur bare in a headless relative clause, but it may occur with a restrictor (for some speakers) (236).

(236) *nũre* ‘which’

- a. * dj-abad=a' [nũre-n ù-xhí Bedu]
 CONT-like=1SG which-n PERF-buy Pedro
 I like which Pedro bought
- b. * ù-xhí=a' [nũre libr-n b-red=a']
 PERF-buy=1SG which books-n PERF-buy=1SG
 I bought which books I saw
- c. % ù-dau=bi' [nũre wi-n] b-red=bi'
 PERF-eat=3.H.I which orange-n PERF-see=3.H.I
 She ate which oranges she saw

Bata ‘when (interrogative)’ and *bi goru* ‘what hour’ cannot occur in free relatives, but *ka* can (without a restrictor) (237).

(237) *bata / ka / bi goru* ‘when’

- a. *ù-tas=a’ [bata-n ù-dau Bedu]
 PERF-sleep=1SG when-n PERF-eat Pedro
 I slept when Pedro ate
- b. *b-enbiad=a’ Bedu [[bata zha-n] shtile Bedu yiz]
 PERF-meet=1SG Pedro when day-n CONT.complete Pedro year
 I met Pedro when day Pedro’s birthday is
- c. *ù-tas=a’ [bĩ goru-n ù-dau Bedu]
 PERF-sleep=1SG what hour-n PERF-eat Pedro
 I slept when Pedro ate
- d. ù-tas=a’ [ka-n ù-dau Bedu]
 PERF-sleep=1SG at.what.time-n PERF-eat Pedro
 I slept at the time that Pedro ate
- e. *b-enbiad=a’ Bedu [[ka zha-n] shtile Bedu yiz]
 PERF-meet=1SG Pedro when day-n CONT.complete Pedro year
 I met Pedro when day Pedro’s birthday is

Gǎ ‘where’ can occur in a headless relative (without a restrictor), but *gar* ‘which way’ cannot (238).

(238) *gǎ* ‘where’ , *gar* ‘which way’

- a. yawí=a’ [gǎ-n gu-ra xhin=a’]
 PERF.visit=1SG where-n PERF-born POSS.son=1SG
 I visited where my son was born

- b. * yawí=a' [[gǎ yezh-n] gu-ra xhin=a']
 PERF.visit=1SG where town-n PERF-born POSS.son=1SG
 I visited where town my son was born
- c. * u-zá' [gare b-ayíe Bedu]
 PERF-walk.1SG [which.way PERF-go Pedro]
 I walked which.way Pedro went
- d. * u-zá' [[gare djare-n] b-ayíe Bedu]
 PERF-walk.1SG [which.way upward.direction-n PERF-go Pedro]
 I walked which upward way Pedro went

Bal ‘how many’ cannot occur in a free relative, with or without a restrictor (239).

(239) *bal* ‘how many’

- a. * b-ared=a' [bale-n ù-xhi Bedu]
 PERF-read=1SG how.many-n PERF-buy Pedro
 I read how many Pedro bought
- b. (Booth et al., 2021)
- * Bedu b-la'a=be' [[bal yene-n] b-en Yadon]
 Pedro PERF-break=3.H.I how.many plate-n PERF-make Yadon
 Pedro broke how many plates Yadon made

There is speaker variation in whether *gakato* ‘how much’ can appear in a free relative, with or without a restrictor (240).

(240) *gakato* ‘how much’

a. * u-daw=a’ [gakato-n b-en Bedu]
PERF-eat=1SG how.much-n PERF-make Pedro

I ate how much Pedro made

b. w-aw=a’ [gakato-n gu-n dia.María]
IRR-eat=1SG how.much-n IRR-make María

I will eat how much María makes

c. w-aw=a’ [gakato=z gu-n dia.María]
IRR-eat=1SG how.much=only IRR-make María

I will eat only how much María makes

d. (Booth et al., 2021)

? b-abéd=be’ [gakato-n u-tas=be’]
PERF-like=3.H.I how.much-n PERF-sleep=3.H.I

He liked how much he slept

e. [[gakato=z sopa-n] b-en Bedu] u-daw=a’
how.much=only soup-n PERF-make Pedro PERF-eat=1SG

I ate how/as much soup Pedro made

f. * u-daw=a’ [[gakato sopa-n] b-en Bedu]
PERF-eat=1SG how.much soup-n PERF-make Pedro

I ate how/as much soup Pedro made

g. (Booth et al., 2021)

% Bedu w-è=be’ [[gakato=z nis] b-et Yadon
Pedro PERF-drink=3.H.I how.much=only water-n PERF-sell Yadon
che=be’]
of=3.H.I

Bedu drank how much water Yadon sold

Biz ‘how’ may be able to occur in FRCs (judgements vary) (241), as is the case

with *bché* ‘why’ (242).

(241) *biz* ‘how’

- a. * b-en=a’ yet-n [**biz-n** gu-n María yet-n]
 PERF-make=1SG tortilla-n how-n IRR-make María tortilla-n
 I made tortillas the way that María makes tortillas

b. (Booth et al., 2021)

% b-en=a=n [**biz-n** b-en=u’]
 PERF-do=1SG=3.INAN how-n PERF-do=2SG

I did it how you did

- c. * b-en=a’ yet-n [[**biz manera**]-n gu-n María yet-n]
 PERF-make=1SG tortilla-n how

way-n IRR-make María tortilla-n

I made tortillas the way that María makes tortillas

(242) *bché*’ ‘why’

- a. b-zíag=a’ [[**bché-n**] b-en Bedu-n pastel-n]
 PERF-write=1SG why-n PERF-make Pedro-n cake-n

I wrote down why Pedro made the cake

- b. * dj-ní=a’ ren Bedu [bche dj-nía María ren Bedu]
 CONT-angry=1SG with Pedro why CONT-angry María with Pedro

I am angry at Pedro for the reason that María is angry at Pedro

c. (Booth et al., 2021)

* Bedu ya-get=be’ xop xhiga’ [**bche-n** Yadon
 Pedro PERF.go.and-sell=3.H.I six bowl why-n Yadon
 za-get=be’ xop yenne’]
 STAT.go.and-sell=3.H.I six plate

Bedu went to sell six bowls for the reason that Yadon goes to sell six plates

- d. *dj-ní=a' ren Bedu [[**bche rason**] dj-nía María ren
 CONT-angry=1SG with Pedro why reason CONT-angry María with
 Bedu]
 Pedro
 I am angry at Pedro for the reason that María is angry at Pedro
- e. *b-zíag=a' [[**bché rason-an**] b-en Bedu-n pastel-n]
 PERF-write=1SG why reason-n PERF-make Pedro-n cake-n
 I wrote down the reason why Pedro made the cake

To summarize, there is significant variation among speakers, and within individual speakers' judgements, on which wh-terms can introduce FRCs in SCLZ. In Table 3.7, I give the distribution of wh-terms in FRCs in SCLZ.

Wh-term	RP in FRC
<i>nũ</i> who, which	%
<i>bĩ</i> what	%
<i>nũre</i> which N	% (with restrictor)
<i>bi goru</i> what hour	✗
<i>bata</i> when	✗
<i>ka</i> at what time	✓(w/o restrictor)
<i>gã</i> where	✓(w/o restrictor)
<i>gar</i> which way/ place	✗
<i>bal</i> how many	✗
<i>gakato</i> how much	%
<i>biz</i> how	%
<i>bché'</i> why	% (w/o restrictor)

Table 3.7: Relative pronouns (RP) in Free Relative Clauses (✗= ungrammatical, ✓= grammatical, % = variation)

In Table 3.8, I compare the distribution of wh-terms in SCLZ FRCs to those in other Oto-Manguean languages (Caponigro, 2020).⁴² As we can see, more wh-terms are

⁴²Zoochina is not in this table because it was unclear from López Nicolás (2021) whether the wh-terms discussed in Table 3.3 could also introduce FRCs. Also, the wh-terms in SPMZ FRCs are morphologically distinct from wh-interrogative terms.

available for introducing FRCs in SCLZ than are found acting as relative pronouns in headed relative clauses. Interestingly, across this sample of Oto-Manguean languages, the wh-term *where* is usually available both in headed and headless relative clauses, but why this is is unclear.

Wh-term	SCLZ	AO	Matlatzinca	IM	SPMZ
who	%	✓	✓	%	✓
what	%	✓	✓	✗	✓
where	✓	✓	✓	✓	✓
when	✓	✗	✗	✓	–
why	%	✗	✓	✓	✓
how	%	✓	✓	✓	✓
which/what (+NP)	%	✗	✗	✓	✓
how much/many (+NP)	%	✗	✗	✓	✓

Table 3.8: Distribution of wh-terms as relative pronouns in free relative clauses (✓ = attested, ✗ = not attested, ? = no simple wh-term, % = speaker variation, N/A = no data available, – = no simple wh-term)

3.5.5. *Light-headed relative clauses*

In addition to free relatives, SCLZ has light-headed relative clauses, which in SCLZ have the form in (243), e.g. (244). Note that in (244a), the relative clause acts as a free-choice relative clause, while in (244b) it has a specific (albeit unidentified) referent, and in (244c-244d) it modifies a unique referent (Pedro’s shirt, Pedro).

(243) [RELATIVE PRONOUN-N [rest of clause]]

(244) a. María b-arédu=be’ [da-n u-dau Bedu]
 María PERF-see=3.H.I INAN-N PERF-eat Pedro
 María saw what Pedro ate

- b. nũ-n n-ak [bĩ-n u-dau nga]
 who-n STAT-be HUMAN.INF-N PERF-eat here
 Who is that person who ate here?
- c. dj-abad=a' xhá Bedu [da-n n-ak kolor ya'a]
 CONT-like=1SG shirt Pedro INAN-N STAT-be color green
 I like Pedro's shirt, which is green
- d. Bédu [bĩ-n n-ak to wàsedbén] u-dáu=be' pastel-n
 Pedro HUMAN.INF-N is one teacher PERF-eat=3.H.I cake-n
 Pedro, who is a teacher, ate the cake

Light-headed relative clauses (Citko, 2004; Caponigro, 2020) are argued to be a type of headless free relative. While free relative clauses are introduced by a *wh*-term, light-headed relative clauses are introduced by a D-head, optionally alongside a *wh*-expression, relative marker, or complementizer (245) (Caponigro, 2020; Citko, 2004).

(245) Light-headed Relative Clauses

- a. *English*⁴³
 I like [**those which/that/** you like]
- b. *Polish*⁴⁴
 Jan czyta [**to, co** María czyta]
 Jan reads this what María reads
 Jan reads what María reads

In this section, I will discuss the distribution of these light-headed relative clauses in SCLZ, and I will discuss how they fit the typology of light-headed relative clauses.

⁴³Caponigro (2020)

⁴⁴Citko (2004)

First of all, all the set of non-wh relative pronouns can serve as the head of these relative clauses:

(246) *benne* HUMAN.FORM

xa BÉdu [**benne**-n [b-rede María]] b-re lò
 POSS.father Pedro HUMAN.FML-n PERF-greet María PERF-come.3.H.F to
 òspítál
 hospital

Pedro's father, who greeted María, came to the hospital

(247) *bí* HUMAN.INF

migu chi=a, [**bí**-n [ni-tónn]], b-wízh=be' nada'
 friend of=1SG HUMAN.INF-n STAT-tall PERF-greet=3.H.I PRO.1SG

My friend, who is tall, greeted me

(248) *be/bía* ANIMATE

a. [**bía**-n [u-bixe]] u-dau=ba' pastel-n
 ANIM-n PERF-fall PERF-eat=3.ANIM cake-n

The one (animal) that fell ate the cake

b. Bedu b-reda=be' [**be**-n [b-xhia]]
 Pedro PERF-see=3.H.I ANIM-n PERF-bark

Pedro saw the one (animal) that barked

(249) Zíku [**bía**-n n-ak to beku] u-dáu=ba' pastél-n
 Francisco ANIMATE-n STAT-be one dog PERF-eat=3.ANIM cake-n

Francisco, who is a dog, ate the cake

(250) *da* INANIMATE (repeated from (244c))

dj-abed=a' xhá Bedu [**da**-n [n-ak kolor ya'a]]
 CONT-like=1SG shirt Pedro INAN-N STAT-be color green

I like Pedro's shirt, which is green

These clauses are often used appositively (non-restrictive relative clauses), where they follow a specific referent and the relative pronoun (generally) agrees in person/animacy/formality with the head noun, e.g. (251). There is an intonational pause between the full NP head and the light-headed relative clause.

- (251) pastél [**da-n** [bexa lò yu']] b-dáu=n xhí
 cake INAN-n fell on floor PERF-taste=3.INAN delicious

The cake, which fell on the floor, tasted good (not good in response to the question “which cake tasted delicious?”)

Nominals which identify a unique referent (e.g. *Bédu* ‘Pedro’, *xa Bédu* ‘Pedro’s father’) cannot be the heads of relative clauses (e.g. (252c)), but light-headed relative clauses can be used as appositives to describe them (252).

- (252) a. *Formal human DP*

Bédu **ben(.gore)-n** n-ak to wàsedbén u-dáu=e’
 Pedro HUMAN.FML-n STAT-be one teacher PERF-eat=3H/FORM
 pastél-n
 cake-n

Pedro, who is a teacher, ate the cake

- b. *Informal human DP*

Bédu [**bí-n** n-ak to wàsedbén] u-dáu=be’ pastél-n
 Pedro HUMAN.INF-n STAT-be one teacher PERF-eat=3.H.I cake-n

Pedro, who is a teacher, ate the cake

- c. *Formal/informal human DP*

* [Bédu-n [n-ak to wàsedbén]] u-dáu=e’ pastél-n
 Pedro-SPF STAT-be one teacher PERF-eat=3.H.F cake-n

Pedro, who is a teacher, ate the cake

d. *Animate DP* (repeated from (249))

Zíku [bía-n n-ak to beku] u-dáu=ba' pastél-n
Francisco ANIMATE-n STAT-be one dog PERF-eat=3.ANIM cake-n

Francisco, who is a dog, ate the cake

e. *Animate DP*

* [Zíku-n [n-ak to beku]] u-dáu=ba' pastél-n
Francisco-SPF STAT-be one dog PERF-eat=3.ANIM cake-n

Francisco, who is a dog, ate the cake

f. *Inanimate DP*

udíle na zhìze' [da-n n-ak to yish] bexa=n kan yia=n
war and peace INAN-n STAT-be one book fell=3.INAN where lay=3.INAN

lò mes

to the table

War and Peace, which is a book, fell to the table

g. *Inanimate DP*

* [udíle na zhìze'-n [n-ak to yish]], bexa=n kan
War and Peace-SPF STAT-be one book fell=3.INAN where

yia=n lò mes

lay=3.INAN to floor

War and Peace, which is a book, fell to the table

h. *inalienably possessed head*

xa Bédu [ben-n b-rede María] b-re' lò
POSS.father Pedro HUMAN.FML-n PERF-greet María PERF-come.3.H.F to

òspital

hospital

Pedro's father, who greeted María, came to the hospital

i. *inalienably possessed head*

* [xa Bédu-n [b-rede María]] b-re' lò òspítál
 POSS.father Pedro-SPF PERF-greet María PERF-come.3.H.F to hospital

Pedro's father, who greeted María, came to the hospital

On the other hand, non-unique nominals like *migu che Bédu* 'Pedro's friend' can be either the head of a restrictive relative clause (253a) or the head of a non-restrictive relative clause (253b).

(253) a. [migu che Bédu-n [b-red María]] b-re' skwér
 friend of Pedro-n PERF-see María PERF-come.3.H.F school
 Pedro's friend who María saw came to school

b. migu che Bédu [bí-n n-ak ras] u-dáu=be' pastél-n
 friend of Pedro HUMAN.INF-n STAT-be thin PERF-eat=3.H.I cake-n
 Pedro's friend, who is thin, ate the cake

It is reasonable to assume that this variability is because the information provided by the relative clause can restrict the referent of the head (e.g. identifying which of Pedro's friends ate the cake), in which case a restrictive relative clause is appropriate, but it can also only add information about the nominal, in which case a non-restrictive relative clause is appropriate.

That SCLZ appositive relative clauses require a relative pronoun while restrictive relatives do not is reminiscent of English appositive/non-restrictive relative clauses. In English, restrictive relative clauses do not require an overt *wh*-pronoun (254a-254b), while appositive relative clauses do (254d-254f) (Stowell, 2005).

- (254)
- a. Max wants to visit the doctor who his sister works for
 - b. Max wants to visit the doctor that his sister works for
 - c. Max wants to visit the doctor his sister works for
 - d. Max wants to visit Doctor Brown, who his sister works for
 - e. * Max wants to visit Doctor Brown, that his sister works for
 - f. * Max wants to visit Doctor Brown, his sister works for

In addition to being used as non-restrictive appositive relative clauses, these light-headed relative clauses also have a maximal interpretation like free relative clauses

(255):

- (255) a. (repeated from (244a))

María b-aredu=be' [da-n u-dau Bedu]
 María PERF-see=3.H.I INAN-N PERF-eat Pedro

María saw what Pedro ate

- b. dj-abéd=a' [da-n n-adé bdo na]
 CONT-like=1SG INAN-N STAT-wear child that

I like what that kid is wearing

Light-headed relatives are known to receive maximal and also referential interpretations (Caponigro, 2020), so these data are consistent with relative pronoun headed relative clauses being a type of light-headed relatives. If we take *-n* SPF to be a determiner, then these relative clauses fit the description of light-headed relative clauses – they are introduced by a D-head and a relative pronoun, and can have both referential and free-choice interpretations.

3.6. Chapter Summary

In this chapter, I have discussed SCLZ headed and headless relative clauses. The wh-term *gǎ* ‘where’ and the relative pronouns *da* INAN, *be/bía* ANIM, *benn* HUMAN.FORM, *bi* HUMAN.INF, and *ka* ‘at what time’ are found in headed clauses. A different and highly variable set of wh-terms can introduce free headless relative clauses, and the relative pronouns may be heads of light-headed relatives. SCLZ conforms to Keenan and Comrie (1977)’s Accessibility Hierarchy, using a primary gap / relative pronoun -case strategy and also a relative pronoun / resumptive pronoun +case strategy.

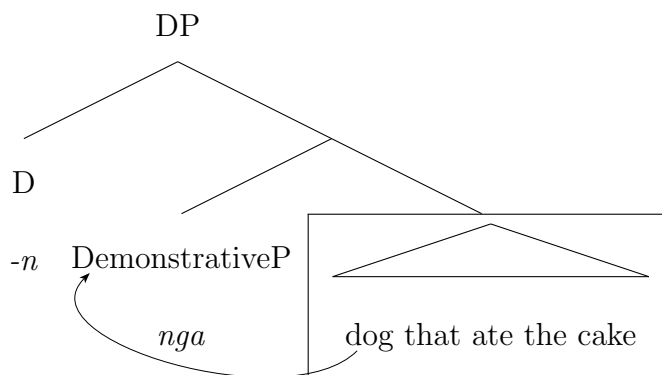
A full exploration of the structure of relative clauses in SCLZ will be left for future research, but I give here a basic analysis for the derivation of headed relative clauses, assuming the analysis of the nominal domain in §2.3. While the determiner *-n* follows the head, a demonstrative cannot – instead, demonstratives follow the entire relative clause (256).

- (256) a. *beku-n u-dau pastel nga n-ak=n zhdando’*
dog-SPF PERF-eat cake this PERF-be=3.INAN cute
This dog that ate the cake is cute
- b. * *beku nga-n u-dau pastel n-ak=n zhdando’*
dog this-SPF PERF-eat cake this PERF-be=3.INAN cute
This dog that ate the cake is cute

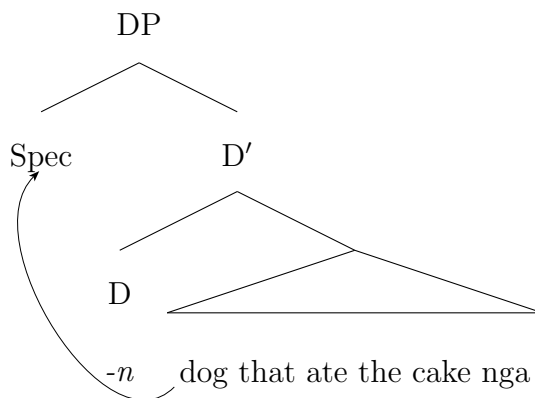
Given the nominal structure in §2.3, I propose the following way of deriving this linear order: Dem(onstrative) merges above the relative clause. The relative clause pied-pipes above Dem, resulting in the Dem-final order for the whole relative clause.

Then, the head raises up to [Spec, DP], yielding the linear order HEAD (DET) [RELATIVE CLAUSE] DEM (257-258)

(257)



(258)



Chapter 4

Possessives

4.1. Overview

In the literature on possession in Zapotec, there are two general approaches to discussing the way the attributive possessive is formed; one, by dividing nouns into classes and discussing how they form a possessive, and two, by discussing the ways the possessive is formed and which nouns typically use which strategy. I will follow the latter way of discussing the possessive because some nouns can form the possessive in multiple ways.

In this chapter I will begin by discussing three varieties of attributive possession found in the Central Villa Alta Zapotec varieties of Yatzachi (Butler, 1980), Tabaa (Earl, 2011), and San Bartolomé Zoogocho (Sonnenschein, 2005) (§4.2). I will then discuss the types of attributive possessive found in SCLZ (§4.3), and in §4.3.2 I will discuss previous work on possessive syntax and propose analyses for the structure of SCLZ possessives.

4.2. *Possession across Central Villa Alta Zapotec varieties*

Between the Central Villa Alta Zapotec varieties of Yatzachi, Tabaa, and Zoogocho, there are three main ways of forming attributive possession.

4.2.1. *The Syntactic Possessive*

Firstly, the attributive possessive is formed with a possessed noun (possessum) followed by the preposition *che* (Yatzachi) ~ *chee* (Tabaa) ~ *che* (Zoogocho), then followed by the possessor, expressed either as a full NP or as a pronominal clitic. In Yatzachi, Tabaa, and Zoogocho, the pronominal clitics used in possession are the same as used in subject marking on verbs (Butler, 1980; Earl, 2011; Sonnenschein, 2005). Butler (1980) and Earl (2011) call the nouns that form a possessive this way ‘invariable nouns’ (*sustantivos zapotecos del tipo invariable*), while Sonnenschein (2005) calls this construction the ‘syntactic possessive.’ I will follow Sonnenschein in this terminology, although I will also call these ‘alienable possessives.’

(259) Yatzachi (Butler, 1980, p.190)

- a. *bia che* Bed
animal of Pedro
Pedro’s animal
- b. *bia che=bo’*
animal of=3.H.I
His/her animal

(260) Tabaa (Earl, 2011, p.92)

- a. be xixre' chee Bedu
animal of Pedro
Pedro's animal
- b. be xixre' chee'
animal of.3.H.I
His animal

(261) Zoogocho (Sonnenschein, 2005, p.147)

- a. son che tigr
song of tiger
The tiger's song
- b. libr che=be'
book of=3.H.I
His/her book

4.2.2. *The Unmarked Possessive*

The second way the attributive possessive can be formed is by just the unmarked possessed noun followed by the possessor, again either as an NP or a pronominal clitic. In Yatzachi, Tabaa, and Zoogocho, kinship and body parts are possessed this way, and must be possessed – they cannot occur without a possessor (Butler, 1980; Earl, 2011; Sonnenschein, 2005). This I will call the unmarked possessive or the inalienable possessive.⁴⁵

⁴⁵Galant (p.c.) notes that some of these nouns, at least in some varieties of Zapotec, include what was historically a possessive prefix (retroflex fricative), even though there are no current corresponding unpossessed forms (Galant, p.c.)

(262) Yatzachi (Butler, 1980, p.192)

a. yichj Juan
head Juan
Juan's head

b. yichj=bo'
head=3.H.I
His/her head

(263) Tabaa (Earl, 2011, p.94)

a. xichaj=bi'
head=3.H.I
His/her head

(264) Zoogocho (Sonnenschein, 2005, p.134)

a. tao lalo
grandmother Lalo
Lalo's grandmother

b. yichgh=a'
head=1SG
My head

4.2.3. *The Morphological Possessive*

The third way the possessive is formed involves modifying the possessed noun, either with prefixation, stem change, or both. Nouns that can form the possessive this way are not obligatorily possessed. It is unclear in Tabaa and Yatzachi if nouns that form a possessive this way can also form a syntactic possessive, but in Zoogocho, the nouns that can form a possessive using the possessive prefix / stem change can also

form a possessive using syntactic possession (Sonnenschein, 2005). Because of the morphological marking on this group, I will call this the morphological possessive.

The morphological possessive can be broken down into three subgroups: prefixation + no stem change, prefixation + stem change, or no prefixation + stem change. The first group is clear, the other two less so. In Yatzachi the possessive prefix is *x-*, in Tabaa it is *xr-* or *zr-*, and in Zoogocho *x-*.⁴⁶ For the prefixation + no stem change group, this looks like (265) in Yatzachi, (266) in Tabaa, and (267) in Zoogocho.

(265) Yatzachi (Butler, 1980, p.193)

- a. jeid
chicken
chicken
- b. x-jeid Masə
POSS-chicken Máximo
Maximo's chicken
- c. x-jeid=bo'
POSS-chicken=3.H.I
His/her chicken

(266) Tabaa (Earl, 2011, p.96)

- a. neza
path
path, way
- b. x-néza=be'
POSS-way=3.H.I
His/her way

⁴⁶In San Lucas Quiavini Zapotec, there is also an *x:-* possessive morpheme (Lee, 1999)

(267) Zoogocho (Sonnenschein, 2005, p.64,120)

- a. kuzh
pig
pig
- b. x-kuzh Lalo
POSS-pig Lalo
Lalo's pig
- c. x-kuzh=a'
POSS-chicken=1SG
My pig

The other two subgroups involve a stem change between the unpossessed and possessed noun. Butler (1980) breaks down this group in Yatzachi into three sub-groups; nouns that take a prefix *x-* and show a stem change, nouns that do not take a prefix but do show a stem change, and nouns with an irregular stem in their possessed form (defined as two or more letters – this seems to correspond to phonemes – having changed between the forms). Earl (2011) breaks down this group into two different subgroups; nouns that take the prefix *zr-* and undergo a stem change, and nouns that have an irregular stem in their possessed form. It seems that this difference in divisions comes down to a difference in analysis; for example, in Yatzachi the unpossessed form for ‘dog’ is *beco'* and the possessed form is *xico'* *Mel* ‘dog of Imelda’ and *xicua'a'* ‘my dog,’ and in Tabaa ‘dog’ is *becu'*, and when possessed it is *zricu*, as in *zricu-a'* ‘my dog’ and *zricu'* ‘your (sg) dog.’ In Butler’s analysis of Yatzachi, *beco'* > *xico'* counts as an irregular stem change since two or more root letters have changed, while in Earl’s analysis of Tabaa, *becu'* > *zricu* counts as the prefix *zr-* plus a stem change. It is worth

noting that one particular type of stem change arises when, in many of these cases, the possessive prefix causes a stem-initial lenis consonant to become fortis (Butler, 1980; Sonnenschein, 2005). To abstract away from these differences, I will refer to these groups collectively as the ‘stem change’ group, as contrasted with the group of nouns which takes a possessive prefix but whose stem remains constant. I give some examples of the nouns that undergo a stem change in Yatzachi (268), Tabaa (269), and Zoogocho (270).

(268) Yatzachi (Butler, 1980, p.195-199)

a. bey > x-pey=a’
 handkerchief > POSS-handkerchief=1SG
 handkerchief > my handkerchief

b. za > x-sa=o’
 bean > POSS-bean=2SG
 bean > your bean

c. yišə > x-liš=a’
 metate > POSS-metate=1SG
 metate > my metate

d. yež > laž=a’
 town > POSS-town=1SG
 town > my town

(269) Tabaa (Earl, 2011, p.96-97)

a. becu’ > zr-icu=a’
 dog > POSS-dog=1SG
 dog > my dog

- b. dizra' > xr-tizr=a'
word > POSS-word=1SG
word > my word
- c. xiche > xrlich=a'
paper > POSS.paper=1SG
paper > my paper
- d. nu'ula > zru'ul=a'
woman > POSS.wife=1SG
woman > my wife

(270) Zoogocho (Sonnenschein, 2005, p.64)

- a. dao' > x-tao=be'
corn.tassel > POSS-corn.tassel=3INF
corn tassel > his corn tassel
- b. becu' > zr-icu=a'
dog > POSS-dog=1SG
dog > my dog

To summarize, in three varieties of Zapotec closely related to SCLZ, possession can be marked in three general ways: syntactically, with the possessed noun followed by *che* 'of' plus the possessor, in the case of relational nouns; unmarked, a strategy is reserved for obligatorily possessed kinship terms and body parts; and morphologically, with a possessive prefix and/or a stem change.

4.3. *Possession in SCLZ*

In this section, I will show that SCLZ has a syntactic possessive for relational nouns (§4.3.1), an unmarked possessive for obligatorily possessed kinship terms and body parts (§4.3.2), and some instances of the morphological possessive (§4.3.3), although this last group is less robust than what is seen in Yatzachi, Tabaa, and Zoogocho.

4.3.1. *Syntactic Possessive (Alienable Possession)*

Nearly all nouns that are not obligatorily possessed kinship terms and body parts form possessives using the syntactic possessive. This is formed in SCLZ with the possessed noun first, followed by *che* ‘of,’ and then the possessor, either as a noun (271b) or the corresponding pronominal clitic, identical to the corresponding subject pronominal clitic (271d). In the following examples, I give the unpossessed form of the noun to show that it can occur without a possessor, and then I give the possessed noun.

(271) a. **migu** shau=gor n-ak Ziku
friend special=INT STAT-be Francisco

Francisco is a real friend

b. **migu** *(che) Bédu
friend of Pedro

Pedro’s friend

c. be-yá’á n-ak=n **karro** kób-un
INAN-green STAT-be=3.INAN car new-n

The new car is a green one

- d. **karro** che=be'
 car of=3.H.I
 His car

The relationship between the possessum and possessor in these constructions is not necessarily one of ownership. *Yish che Bedu* ‘Pedro’s book’ can mean ‘a book that Pedro owns’ but also ‘a book about Pedro’ and ‘a book that Pedro wrote’ (i.e. owner, agent, and theme).

The head nouns from these sentences are not obligatorily possessed, and so can appear without a possessor (271a, 271c). Also, interestingly, the *che* ‘of’ + possessor can appear without an (overt) head noun with a predicative function, as in (272).

- (272) yet nnga n-ak=n chi=a'
 tortilla this STAT-be=3.INAN of=1SG
 This tortilla is mine / for me (benefactive)

The result of combining *che* ‘of’ and the possessor’s pronominal clitic is given in Table 4.1.

Table 4.1: *Che* ‘of’ + pronominal clitic

	Clitic	Che + clitic		Clitic	Che + clitic
1sg	=a'	chia'	1pl incl	=dju	chedju
			1pl excl	=tu'	che'tu'
2sg	=u'	chi'u'	2pl	=(e)re'	chere'
3sg human inf	=be'	chebe'	3pl human inf	=gak=be'	chegakbe'
3sg human fml	=e'	chi', chege'	3pl human fml	=gak=e'	chegake'
3sg anim	=ba'	cheba'	3pl anim	=gak=ba'	chegakba'
3sg inan	=n	chen	3pl inan	=gak=n	chegakn

Che ‘of’ is likely a preposition on the grounds that it is always appears before its

NP complement (e.g. *che Bédu* ‘of Pedro,’ **Bédu che*) and is often translated as the possessive ‘of’ or as a prenominal Saxon genitive. It is also used for recipients/indirect objects in benefactives where something ends up possessed (273), but not when there is no possessive sense (274).

(273) (Julio Dominguez)

- a. nada-n ben=a’ yete nnga chi=u’
 1SG-n made=1SG tortilla this of/for=2SG

I made this tortilla for you / I made this tortilla of yours

(274) (Ezequiel Ambrosio)

- a. nada’ gu-krén=a’xhua b-kos=a’ gǎ na
 PRO.1SG PERF-help=1SG John PERF-lift=1SG basket that

I lifted that basket for Juan (lit. I helped John, I lifted the basket)

- b. * b-kos=a’ gǎ na che xhua
 PERF-lift=1SG basket that of John

I lifted that basket for Juan

- c. b-kos=a’ gǎ che xhua
 PERF-lift=1SG basket of John

I lifted John’s basket

#I lifted the basket for John

Like other prepositions, *che* also undergoes Pied-Piping with Inversion, as discussed in Chapter 3 §3.4 and repeated in (275).

- (275) a. **beku che Ziku** ù-dau=ba' pastel-n
dog of Francisco PERF-eat=3.ANIM cake-n
 Francisco's dog ate the cake
 N > Poss
- b. **nũ beku che-n** ù-dau pastel-n
who dog of-n PERF-eat cake-n
 Whose dog ate the cake?
 Poss > N
- c. ***beku che nũ-n** ù-dau pastel-n
dog of who PERF-eat cake-n
 Whose dog ate the cake?
 N > Poss

However, *che* is unusual among prepositions in that it can – and must be – be stranded in a relative clause when the possessor is relativized ((228), repeated in (276)).

- (276) Bédu b-rédu=be' [bdo-n [gu-t bíz che(*=**be'**)]]
 Pedro PERF-see=3.H.I child-N PERF-die cat of
 Pedro saw the child whose cat died

Typically, when the object of a preposition is relativized, the preposition is not stranded (277). It is either dropped, or the object of the preposition is promoted to a position higher up on the Accessibility Hierarchy from where it can be relativized using a gap (see §3.5.3 for a more detailed discussion).

- (277) a. (repeated from (223d))
- * b-réd=a' [bdo.nor-en [dj-gúl Bedu **ren**]]
 PERF-see=1SG girl-n CONT-sing Pedro with
 I saw the girl that Pedro sings with

b. (repeated from (225b))

* b-réd=ti=a' [kah-n [ù-ròò muniék-n lò-(n)]]
PERF-see=INT=1SG [box-spf PERF-put.2SG doll-SPF inside-(3.INAN)]

I did see the box that you put the doll in

While in normal possessive constructions, *che* 'of' precedes the possessor (e.g. *beku che Bédu* 'Pedro's dog'), in interrogative possessive phrases, e.g. *nũ beku che* 'whose dog,' the wh-possessive undergoes pied-piping with inversion (PPI) (278), as discussed in §3.4. In PPI, the [+WH] phrase moves to the left edge of the DP, resulting in the 'inverted' order [nũ [beku che ___]]. The whole DP pied-pipes to the left periphery. In the case of possessives, this means that the wh-possessor and the possessum precede *che* 'of,' as in (278b, 278d). PPI is an areal characteristic of Mesoamerican languages (Broadwell, 2016).

(278) (repeated from (184))

a. **beku che Ziku** ù-dau=ba' pastel-n
dog of Francisco PERF-eat=3.ANIM cake-n

Francisco's dog ate the cake

N > Poss

b. **nũ beku che-n** ù-dau pastel-n
who dog of-n PERF-eat cake-n

Whose dog ate the cake?

Poss > N

c. * **beku che nũ-n** ù-dau pastel-n
dog of who PERF-eat cake-n

Whose dog ate the cake?

N > Poss

- d. Wer u-né=be' nũ beku che-n ù-dau pastel-n
 Manuel PERF-say=3.H.I **who dog of-n** PERF-eat cake-n
 Manuel said whose dog ate the cake

Poss > N

Compare this to PPI in San Dionicio Ocotepc Zapotec (SDZ) (Broadwell, 2016).

- (279) a. Cù'á Juààny **x-pè'cw Màríí**
 com:grab Juan **poss-dog** Mary
 Juan grabbed Mary's dog

N > Poss

- b. **Túú x-pè'cw** cù'á Juààny
who poss-dog com:grab Juan
 Whose dog did Juan grab?

Poss > N

- c. ***x-pè'cw túú** cù'á Juààny
poss-dog who com:grab Juan
 Whose dog ate the cake?

N > Poss

The syntactic possessive allows recursive possession, shown in (280).

- (280) [beku che [migu che Bédu]] u-dau=ba' pastel-n
 dog of friend of Pedro PERF-eat=3.ANIM cake-n
 The dog of the friend of Pedro ate the cake

Deverbal nominalizations, as in *The stealing of the book*, cannot be formed using the syntactic possessive (281). This is likely because there is no way to form the deverbal

nominalization *stealing*,⁴⁷ just as deverbal adjectives like *barking* in *the barking dog* are not possible either (281c).⁴⁸

- (281) a. dj-analzhiyaz=a' kan b-end=a' u-ram=be' dá
 CONT-be.shocked=1SG when PERF-hear=1SG PERF-steal=3.H.I that
 I was shocked when I heard he stole that (#the theft/stealing of it surprised
 me)
- b. kan ye-lan=gak=e' libr-n
 when PERF.go-steal=PL=3.H.F book-n
 the time that they went and stole the book
 # Their theft/stealing of the book
- c. beku-n b-xhiyá b-shebe=ba' bdo-n
 dog-n PERF-bark PERF-scare=3.ANIM child-n
 The dog that barked scared the child
 # The barking dog scared the child

Unlike what we will see with inalienable possessives in §4.3.2, in alienable possessives the possessum can be followed directly by adjectives (282) and demonstratives (283), but not *-n* (284). As will be discussed in §4.3.2, this is consistent the alienable possessive being formed by pied-piping [N Adj Dem] above the possessor and *che* in D up to [Spec, DP].

(282) Adjectives

⁴⁷Galant (p.c.) says that *yela* + a form of the verb 'to steal' might be a way to say 'stealing', but my consultant interpreted *yela urambe* as 'because he stole' rather than a deverbal nominalization.

⁴⁸Instead of deverbal nouns, we see reduced relatives in copular constructions, as with 'Pedro is a singer' *bí-djgul nak Bédu*, lit. 'one who sings is Pedro.', but not as far as I've seen in non-copular constructions (**bréda bí-djgul* 'I saw the singer'), where a light-headed relative clause is used (*bréda [bí-n djgul]* 'I saw the person who sings').

- a. **migu** *tónn* **che** **Bédu**
 friend tall of Pedro
 Pedro's tall friend
- b. **més** *ya'a* **che** **Bédu**
 table green of Pedro
 Pedro's green table
- c. **més** **che** [**Bédu** *ya'a*]
 table of Pedro green
 #Pedro's green table
 Green Pedro's table

(283) Demonstratives

- a. b-réd=a' [migu *na*] **che** **Bédu**
 PERF-see=1SG friend *that* of Pedro
 I saw that friend of Pedro's
- b. b-réd=a' **migu** **che** [**Bédu** *na*]
 PERF-see=1SG friend of Pedro *that*
 I saw that Pedro's friend
- c. [beku [che benne]]-nga-n
 dog of man-**this**-n
 [beku [che [benne-nga-n]]]
 dog of man-**this**-n
 This dog of the man / the dog of this man

(284) -n

- a. * **beku-n** **chi=a'** u-dáu=ba' pastel-n
 dog-n of=1SG PERF-eat=3.ANIM cake-n
 My dog ate the cake

- b. **beku chi=a-n** u-dáu=ba' pastel-n
 dog of=1SG-n PERF-eat=3.ANIM cake-n
 My dog ate the cake

In summary, the syntactic possessive is formed with the preposition *che* ‘of’ followed by the possessor. It is used for alienable possession, but not for kinship terms or body parts, which are obligatorily possessed and will be discussed in §4.3.2. The possessum can be directly followed by adjectives and demonstratives but not *-n*.

4.3.2. *Unmarked Possessive (inalienable possession)*

In SCLZ, body parts and kinship terms must be possessed, and they form possessives with the head noun followed directly by the possessor or by a pronominal clitic referring to the possessor (285). (285e-285f) show that even if there is not a specific possessor, e.g. if you wish to discuss three arms, or three fathers, a generic possessor must be inserted.⁴⁹

- (285) a. *xa* zíku
 POSS.father Francisco
 Francisco’s father
- b. *xa=be*
 POSS.father=3.H.I
 His father
- c. *taka* Bédu
 POSS.arm Pedro
 Pedro’s arm

⁴⁹It is worth pointing out that some words in this group, like *xa* ‘POSS.father’, *xna* ‘POSS.mother’, *xlapa* ‘POSS.red belt’ begin with a retroflex fricative, which is likely derived historically from the possessive prefix discussed in §4.2.3 (Galant, p.c.)

- d. taka=be'
 POSS.arm=3.H.I
 His arm
- e. shon xa *(benne) bid=gak=e' lo ospital-n
 three POSS.father people PERF.come=PL=3.H.I in hospital-n
 three fathers (lit. three people's fathers) came to the hospital
- f. b-enbíad=a' xa to benne
 PERF-meet=1SG POSS.father a person
 I met someone's father

The unmarked possessive is not compatible with the *che* 'of' found in syntactic possessives (286).

- (286) a. xa (*che) zíku
 POSS.father of Francisco
 Francisco's father
- b. taka' (*che) Bédu
 POSS.arm Pedro
 Pedro's arm

Some other nouns, especially clothing, are also inalienably possessed and form the possessive without *che* 'of', including those given in Table 4.2

Table 4.2: Inalienably possessed nouns in SCLZ

Term	Gloss
xhlá'p=a'	my hat
xpáxh=a'	my women's red belt
zúd=a'	my skirt
rízh=á'	my home

The result of combining the possessed noun and a pronominal clitic is not always regular for these constructions (this is reminiscent of the ‘stem change’ group in §4.2). An example of an irregular paradigm is *xá’* ‘POSS.father’ (Table 4.3.) Note the change in vowel in the second person singular, and the appearance of *n* in the first person singular and third person singular inanimate.

Table 4.3: *Xa* ‘father’ + pronominal clitic

1sg (=a’)	xána’	1pl inclusive (=dju)	xádju
		1pl exclusive (=tu’)	xátu’
2sg (=u’)	xó’	2pl ((e)re’)	xáre
3sg human informal (=be’)	xábe’	3pl human informal (=gak=be’)	xágakbe’
3sg human formal (=e’)	xáge’	3pl human formal (=gak=e’)	xágake’
3sg animate (=ba’)	xába’	3pl animate (=gak=ba’)	xágakba’
3sg inanimate (=n)	xánan	3pl inanimate (=gak=n)	xhnagakn (mother)

When the possessor is [+WH], the typical order of *possesum* - *possessor* is inverted

(287), as it is with the syntactic possessive and [+WH] possessors.

- (287) a. **xa** **zíku** u-daw=e’ yet-n
poss.father Francisco PERF-eat=3.H.F tortilla-n

Francisco’s father ate the tortilla

N > Poss

- b. **nũ** **xa-n** b-red Bédu
who poss.father-n PERF-see Pedro

Whose father did Pedro see?⁵⁰

⁵⁰Although we can get Wh-phrases without an *-n* suffix attached to them (e.g. *nũ brá’ lerin* ‘who came to the party?’), *nũ xa b-red Bédu* lit. ‘who father saw Pedro’ is judged ungrammatical. If it were grammatical, it would be a rare instance of an obligatorily possessed noun with nothing following it (p.c. Pam Munro)

Poss > N

- c. ***xa** **nũ-n** n-ak benne na
 poss.father who-n STAT-be person that
 Whose father is that?

N > Poss

Like the syntactic possessive, the unmarked possessive also allows recursive possession, shown in (288).

- (288) gu-sha **xhi'ka'** **xa** **Bédu**
 PERF-break POSS.arm POSS.father Pedro
 Pedro's father's arm broke

In inalienable possessives, the possessum and possessor form a tight constituent. Adjectives cannot follow directly after the possessum (289a). They can come after the whole possessive, but only if they are describing the (NP) possessor they are adjacent to (289b) and they do not describe the whole possessive (289c).

- (289) a. ***xa** *tónn* **Bédu**
 POSS.father tall Pedro
 Pedro's tall father
- b. **xa** **migu** *tónn* chi=a'
 POSS.father friend tall of=1SG
 My tall friend's father
- c. ***xa** **Bédu** *tónn*
 POSS.father Pedro tall
 Pedro's tall father⁵¹

⁵¹*xa Bédu benn-tónn* is not grammatical as an NP meaning 'Pedro's tall father', but *xa Bédu, bennen ni-tónn, udawe pasteln* 'father pedro HUMAN.FORM STAT-tall, ate cake' is possible for 'Pedro's father, the man who is tall, ate the cake'

Instead, to describe the entire possessive, one must use a periphrastic construction like in (290).

- (290) **nor** **xhén**-an u-dau pastel-n n-ak=e' **nor_zan** **Bédu**
 woman big-n PERF-eat cake-n STAT-be=3.H.F POSS.sister_{of_m}ale **Pedro**
 Pedro's big sister ate the cake (lit. The big woman that ate the cake is Pedro's
 sister)

Demonstratives also cannot directly follow the possessum, and can only follow the whole NP (291).

- (291) a. **xhinn** (**nga*) **Bédu** *nga*-n ù-dau=be' pastel-n
 POSS.son this Pedro this-n PERF-eat=3.H.I cake-n
 This son of Pedro ate the cake

The determiner *-n* cannot come after the possessum, but can follow the entire possessive (292).

- (292) a. nada-n u-dish=a' **taka'** **Bédu**-*n*
 1SG-n PERF-break=1SG POSS.arm Pedro-n
 I broke Pedro's arm
- b. *nada-n u-dish=a' **taka**-*n* **Bédu**
 1SG-n PERF-break=1SG POSS.arm-n Pedro
 I broke Pedro's arm

In summary, the unmarked possessive in SCLZ does not have an apparent possessive prefix, nor does it use *che* 'of' to indicate possession. It consists of a possessum and a possessor, both unmarked. This type of possessive is associated with inalienable possession since it is used for body parts and kinship terms which must be possessed.

Like the syntactic possessive, *-n* must go after the entire possessive, but unlike the syntactic possessive, adjectives and demonstratives are not allowed to directly follow the possessum.

4.3.3. *Morphological possessive*

So far, we've discussed the syntactic possessive, e.g. *beku che Bédu* 'Pedro's dog' and the unmarked possessive, e.g. *xa Bédu* 'Pedro's father.' At least in their surface form, these correspond to the syntactic possessive in Yatzachi, Tabaa, and Zoogocho (Butler, 1980; Earl, 2011; Sonnenschein, 2005), e.g. (293), and their unmarked possessive, e.g. (294), respectively.⁵² The distribution of nouns which take these possessives is also similar, with the syntactic possessive being used for the open class of alienably / optionally possessed nouns, and the unmarked possessive being used for inalienable / obligatory possession, particularly of body parts and kinship terms and some clothing items.

(293) Yatzachi syntactic possessive (Butler, 1980)

- a. *bia che* Bed
 animal of Pedro
 Pedro's animal
- b. *bia che=bo'*
 animal of=3.H.I
 His/her animal

⁵²The sources I consulted did not include information on the placement of adjectives, affixes, or demonstratives, so thus far I cannot comment on that.

(294) Yatzachi unmarked possessive (Butler, 1980)

- a. yichj Juan
head Juan
Juan's head
- b. yichj=bo'
head=3.H.I
His/her head

This leaves a third type of possessive to explore, the morphological possessive. These consist of possessives that are morphologically marked, either with a possessive prefix or a stem change or both. It turns out that these are very marginal in SCLZ, and are almost unattested. Nouns that would/could take a morphological possessive in Yatzachi, Tabaa, and Zoogocho generally take a syntactic possessive in SCLZ, as shown in Table 4.4.

Table 4.4: Comparison of Morphological Possession

Tabaa		SCLZ
<i>nez</i> 'path' > <i>xrneza</i> 'my path'		<i>nez</i> 'path' > <i>néz chia, *x(h)neza</i> 'my path'
<i>cama</i> 'bed' > <i>xrcama</i> 'my bed'		<i>kam</i> 'bed' > <i>kam chia, *x(h)kama</i> 'my bed'
<i>becu</i> 'dog' > <i>xhicua</i> 'my dog'		<i>beku</i> 'dog' > <i>beku chia, *x(h)iku</i> 'my dog'

There are a few nouns in SCLZ that can take a morphological possessive. For example, *rapa* 'hat' can take either the syntactic possessive as *rapa chia* 'my hat' or the morphological possessive, *xhlapa* 'my hat.' When I first elicited the possessive of *di'izha* 'word' in SCLZ (which takes the morphological possessive in Tabaa: *dixha* 'word' > *xrtixha* 'my word'), my consultant only gave the syntactic possessive *di'izha*

chia ‘my word,’ and only later said that it can also be said as *xhtizha* ‘my word.’ Likewise, the possessive of *zá* ‘elote’ was originally given as *zá chia*, but in later elicitations it turned out that it could also be said as *xheze=be* ‘his elote.’ Likewise, *nis* ‘water’ can be *nis chia* ‘my water’ or *xhiza* ‘my water.’ The group of nouns that can take the morphological possessive in SCLZ is a much smaller group than in the other varieties I’ve discussed, and so I consider this type of possessive not to be productive in SCLZ. Further research will need to be done on the productivity of this possessive strategy.

4.4. *Proposal for inalienable and alienable possessive structures*

This section will discuss the distribution of alienable and inalienable possessives cross-linguistically and an analysis of the structures proposed in the literature.

WALS notes that inalienably possessed nouns are found primarily in the Americas (Bickel and Nichols, 2013). Cross-linguistically, alienable possession often involves possessive morphology, e.g. a possessive morpheme or a preposition, while inalienable possession involves reduced or no morphological marking. This is seen in SCLZ (295), Yatzachi (296) (Butler, 1980), and also in Ojibwe (297) and Cupeño (298) (Newell et al., 2018).

(295) SCLZ

a. Alienable possession

libr̩ che Bédu

book of Pedro

Pedro's book

b. Inalienable possession

xá Bédu

POSS.father Pedro

Pedro's father

(296) Yatzachi (Butler, 1980)

a. Alienable possession

bia che Bed

animal of Pedro

Pedro's animal

b. Alienable possession

x-jeid Masə

POSS-chicken Máximo

Maximo's chicken

c. Inalienable possession

yich̩ Juan

head Juan

Juan's head

(297) Ojibwe (Newell et al., 2018)

a. Alienable possession

nidakw:em

ni-akwe:-im

1-woman-POSS

My wife

- b. Inalienable possession no:komis

ni-o:komis

1-grandmother

My grandmother

- (298) Cupeño (Newell et al., 2018)

- a. Alienable possession

nepaxaki'am

ne-paxa-ki-'a-m

1-cradle-POSS-N-PL

My cradles

- b. Inalienable possession

pe'eyewek'a

pe-'eyewek-'a

3-chin-N

his/her chin

Languages such as Semitic languages like Hebrew also have what looks like a distinction between a possessive which does not take possessive morphology and a possessive which does, commonly called the construct state (299a) and the free state (299b), respectively (Sichel, 2002).

- (299) Hebrew Possessives

- a. *Hebrew construct state*

tmunat ha-xamaniot

CS.picture the-sunflowers

The picture of the sunflowers

b. *Hebrew free state*

ha-tmuna Sel ha-xamaniot
the-picture of the-sunflowers
The picture of the sunflowers

In Hebrew, the free state includes the possessive *Sel* ‘of’ morpheme, while the construct state does not include a distinct possessive morpheme although it can involve a potentially distinct form of the possessum. Also, adjectives cannot come after the head of a Hebrew construct state possessive (300), just as with inalienable possession in SCLZ (289a), repeated in (301) .

(300) Hebrew

*tmunat **ha-axronot** ha-xamaniot
picture the-last the-sunflowers
The last picture of the sunflowers

(301) SCLZ

*xa **tónn** Bédu
POSS.father tall Pedro
Pedro’s tall father

However, there the similarities end. First of all, the nouns in Hebrew which take the construct state are not obligatorily possessed. Secondly, nouns can be possessed using both the free state or the construct state, as we saw in (299) where *xamaniot* ‘sunflower’ participated in both possessive strategies. This can also be seen with relational nouns with kinship (302) and part-whole relations (303) (Heller, 2002).

(302) a. *Construct state*

horey ha-psixolog
parents.CS the-psychologist

The psychologist's parents

b. *Free state*

ha-horim Sel ha-psixolog
the-parents of the-psychologist

The psychologist's parents

(303) a. *Construct state*

galgaley ha-otobusim
wheels.CS the-buses

The wheels of the buses

b. *Free state*

ha-galgalim Sel ha-otobusim
the-wheels of the-buses

The wheels of the buses

This is not possible with the alienable / inalienable possession distinction that we have seen in Zapotec varieties. In Zapotec, nouns which are possessed using the inalienable non-marked possession must be possessed (hence the term 'inalienable'). Also, the possessive constructions are in complementary distribution; inalienable/ obligatory possession is restricted to a closed class of nouns, typically body parts and kinship terms, which cannot also be possessed using the other possessive structure. Thus in terms of obligatoriness and distribution, the distinction is different between construct state vs. free state possessives and alienable vs. inalienable possession.

Additionally, although adjectives in the Hebrew construct state cannot follow the head noun, just as in SCLZ (304), they can follow the whole possessive, unlike in SCLZ (305).

(304) Adjective after head noun

a. Hebrew

*tmunat **ha-axronot** ha-xamaniot
 picture the-last the-sunflowers
 The last picture of the sunflowers

b. SCLZ

*xá' **tónn** Bédu
 POSS.father tall Pedro
 Pedro's tall father

(305) Adjective after whole possessive

a. Hebrew

tmunat ha-xamaniot **ha-yafa**
 picture the-sunflowers the-beautiful
 The beautiful picture of the sunflowers

b. SCLZ

*xá Bédu **tónn**
 POSS.father Pedro tall
 Pedro's tall father

Returning to languages with alienable vs. inalienable distinctions, the fact that there is possessive morphology in alienable possessives and none in inalienable possessives has been argued to show that there is more structure associated with the

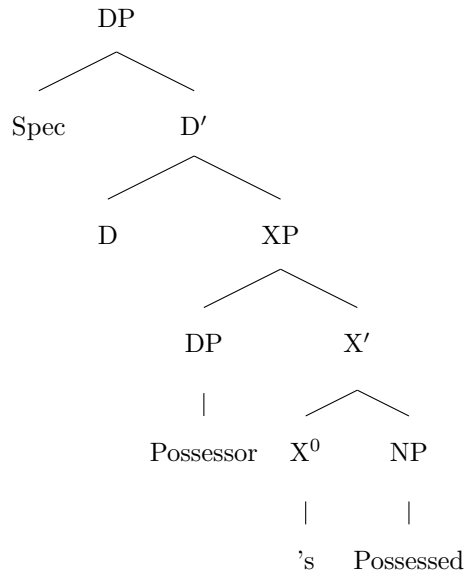
alienable possessives than with the inalienable possessive (Newell et al., 2018). I will discuss next some analyses of possessive structures that include possessive morphology (alienable possession), and then some proposals for inalienable possession, and lastly I will propose a structure for SCLZ possessives.

4.4.1. *Alienable / morphologically marked possession*

I discuss here two main varieties of proposals for the structures of postnominal possessives like POSSESSUM OF POSSESSOR, where the order is N > Gen, since this is the order in SCLZ.

One common proposal for the structure of postnominal possessives begins with a prenominal possessive, e.g. *John's car*. This prenominal possessive involves an XP (sometimes called PossP, or IP in Kayne (1994)) with the possessor in the specifier of XP and the possessed noun is a complement to X^0 , which has possessive semantics (306). Possessors are thus like external arguments, parallel to subjects in VPs. The XP is nested inside a DP, giving it its distribution. Some variation of this structure is common to many proposals, e.g. Kayne (1994); Alexiadou (2003); Newell et al. (2018).

(306)



This yields the surface order Gen > N, as in the English prenominal possessive *John's car*. In order to get the postnominal possessive order N > Gen, as in the French possessive *la voiture de Jean* 'the car of John,' Kayne (1994) proposes that the possessed noun raises up to the specifier of DP (307).

(307) la [_{DP} [_{NP} voiture]_j de [_{IP} Jean [_{I^o} [e]_j]]]

In (307), the possessive morpheme / “prepositional determiner” *of/de* sits in D⁰, and the relationship between the possessor *Jean* and the possessed *voiture* is established within IP. Also note that the possessive determiner *de* is base generated in D⁰ under this analysis, not in I^o. This allows for English postnominal possessors as in the phrase *two pictures of John's* (308), where the possessive head 's sits in I⁰ and the possessive determiner *of* sits in D⁰. For languages like French, where there is only the possessive marker *de*, it is unclear whether it should be base generated high or low. Kayne (1994) does not seem to favor head-raising it from I⁰ to D⁰, but rather base generating it in D⁰.

Either way, the surface order is the same. Just as prenominal possessives are parallel to clauses, postnominal possessives are parallel to relative clauses with the head raised to a higher position.

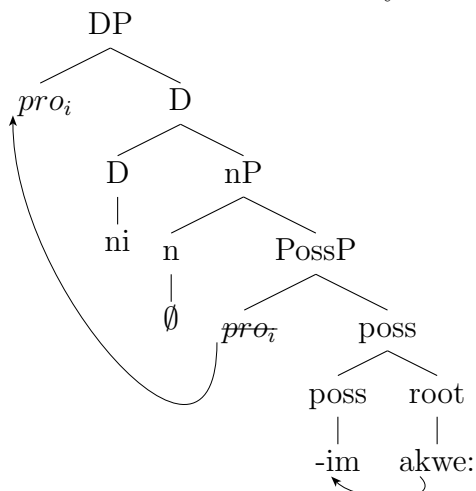
(308) $[_{DP} [_{NP} \text{two pictures}_j] \text{ of } [_{IP} \text{John ['s } [e]_j]]]]$

In addition to Kayne (1994)'s analysis of possessives, we can also see the general structure in Newell et al. (2018)'s proposal for Ojibwe alienable possessives. Newell et al. (2018) proposes that alienable possessives in Ojibwe are formed by the possessed noun merging with a possessive phrase (PossP) or DP, which has as its head the possessive morpheme and which introduces the possessor in its specifier. The possessed noun raises to the PossP head, gaining possessive morphology, and the possessor then raises to [Spec, DP] to satisfy EPP (Newell et al., 2018). This yields the surface order Possessor-Possessum-Possessive Morpheme, as in *nidakw:em* 'my wife' (309)⁵³. In more abstract terms, the possessor is introduced as a specifier and undergoes phrasal movement. The head and the possessor are not merged as sisters.⁵⁴

⁵³it is unclear what the order is in the case of a full nominal possessor, and not a pronominal one

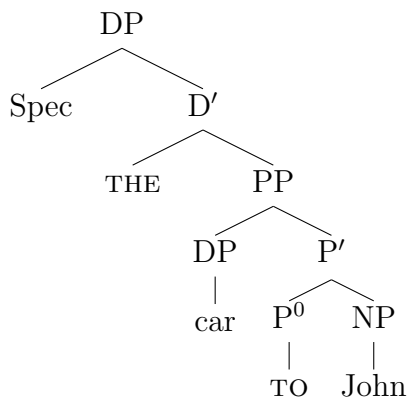
⁵⁴nP is merged above PossP for phonological / spell-out reasons – since in previous work (Newell and Piggott, 2014) they argued that nP defines a cyclic domain, all morphemes within nP will be interpreted at the semantic and phonological level in the same spell-out cycle. Phonological data on hiatus resolution is used to argue that the possessor (*ni*) and the head noun are not interpreted in the same cycle, hence why the possessor sits above nP in (309). They argue that this is also why the alienable head noun does not have an inherently possessed semantic interpretation, but this argument is unclear to me since PossP and the head noun are interpreted in the same cycle.

(309) Structure for *nidakw:em* ‘my wife’ (Newell et al., 2018)



A different analysis, such as den Dikken (1997) and Larson and Cho (2003)’s analysis of alienable possessives, treats the possessive not as a relative clause but as a small clause in which the possessive morpheme – now treated as a preposition-like element, not a D-like element – is the head of the small clause and the possessed noun act as a locative construction (310).

(310)



This has the opposite underlying order than (306), and a different approach to possessives – the possessive morpheme is treated as a prepositional head (here an abstract morpheme TO rather than a real lexical head *to*), the possessor is its complement, and the possessed noun sits above (in Larson and Cho (2003), in Spec, PP). Without

movement, this yields the order $N > \text{Gen}$, which is the surface order in SCLZ. For a language with surface $\text{Gen} > N$ order, as in English, this would require movement. Larson and Cho (2003) propose that the possessor raises to Spec, DP, and that the abstract possessive head TO moves to the abstract definite head THE and they combine to form the English possessive 's. This yields the English order $\text{Gen} > N$.

This approach aligns possession with location, the possessive morpheme with a preposition-like rather than a determiner-like or possessive-like element. This accounts for certain facts cross-linguistically, such as the fact that in Latin, both dative and genitive cases appear in possessive copular sentences, and both cases are associated with possession (311)(den Dikken, 1997):

- (311) a. Dative possessive
- liber est Marco/ei
 book is Marcus-DAT/he-DAT
 Marcus/he has a/the book
- b. Genitive possessive
- liber est Marci/eius
 book is Marcus-GEN/he-GEN
 The book belongs to Marcus/him

In French, one possessive construction is *La voiture de Jean* 'The car of John,' but another possessive construction is *La voiture à Jean* 'the car to John,' which uses the preposition *à* 'to' to express possession (312).

- (312) la voiture à Jean
 the car to Jean
 John's car

French *à* can also be used in a copular sentence to express possession, e.g. (313).

- (313) C'est *à* moi
it-is to me
It's mine

Kayne (1994) argues that *de* 'of' and *à* 'to' do not have the same syntactic status. One piece of evidence Kayne (1994) offers that *de* 'of' and *à* 'to' are not exponents of the same head is that they are not always in complementary distribution – in Walloon, both can be used together in possessives, e.g. (314) (Remacle, 1952). The combination of *de* 'of' and *à* 'to' in (314) to express the possessive is highly reminiscent of Larson and Cho (2003)'s analysis of English possessives discussed above, where TO raises to THE and is spelled out as the Saxon possessive 's.

- (314) C'è d-*à* mîne
it.is of-to mine
It's mine

Remacle (1952) says that, like French, Walloon has constructions like *un tapis à fleurs* (French) / *on tapis à fleûrs* (Walloon) 'a rug of flowers', but will sometimes have *à* where French would have *de*, e.g. *à la fabriqué de couleurs* (French) / *à l'fabriqué à coleûrs* (Walloon) 'at the colored paint factory.' And in some instances with food terms, Walloon uses *à* where French uses *de*, e.g. *salâd à navês* (Walloon) / *salade de navets* 'salad of turnips.'

Like the Latin example (311), Walloon can form copular sentences with *à* 'to', e.g. (315)

(315) (Remacle, 1952)

- a. il è à fleurs
he is to flowers
(not provided)

- b. mès solés sont tos à trôs
my shoes are all to holes
My shoes are all full of holes

Remacle (1952) notes that “the preposition à is used normally to indicate the destination⁵⁵ (in the general sense): *aiguille à tricoter* ‘knitting needle’, *moulin à café* ‘coffee grinder.’ ... In lg. [a Walloon variety? abbreviation unclear], one encounters this construction [à] about as often as in French; but in gl. [likely a Walloon variety], in front of a noun, it is often replaced by *de*, where the destination is not expressed: gl. *lu fiêr du wafes* (French: *le fer à gauffres*) ‘the waffle iron’, cf. lg. *li fiér âs wafes.*”⁵⁶. It is unclear to me how a waffle iron is less ‘destination-ish’ than a coffee grinder, but the sentiment that although both à and *de* can be used in possessive-like constructions, as with *of*, there is a semantic difference between them, is clear, as is the sense that à, while being quasi-possessive, has a location/destination meaning that *de* does not.

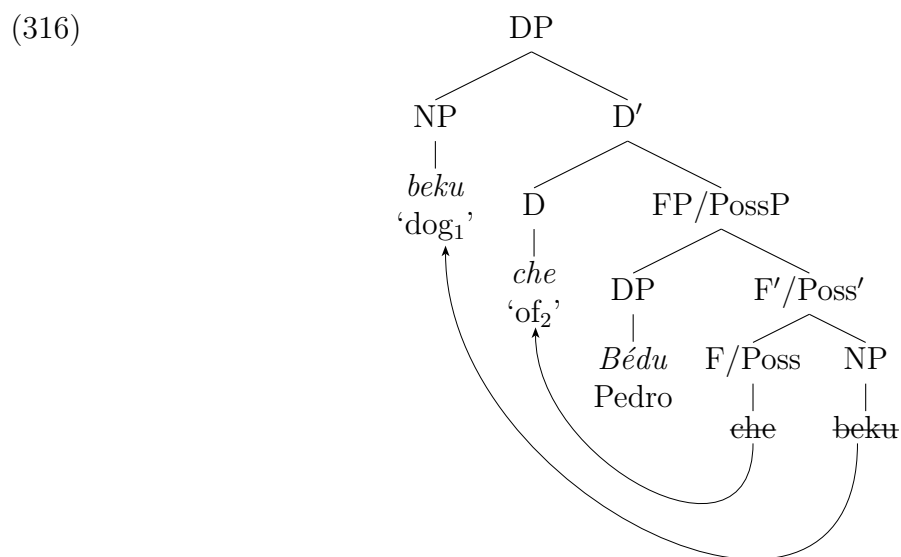
So, we have two general options for how to analyze the alienable possessive – a clause-based analysis, where the possessive morpheme is a Poss(essive) or D head parallel to C in a relative clause, and the possessum raises above the subject-like possessor, or a locative-based analysis, where the possessive morpheme is a prepositional head,

⁵⁵Koopman (p.c.) notes that this behaves more like a purposive, which I agree with.

⁵⁶Translation from French to English made by me

and it plus the possessor form a locative PP. As den Dikken (1997) says, “There is no compelling reason to exclude either approach; on the contrary, it turns out that there is good reason to allow both types of derivation for ‘have’ sentences. The two scenarios do not bite each other but they complement each other...” In this spirit, I will provide two analyses for SCLZ alienable possessives.

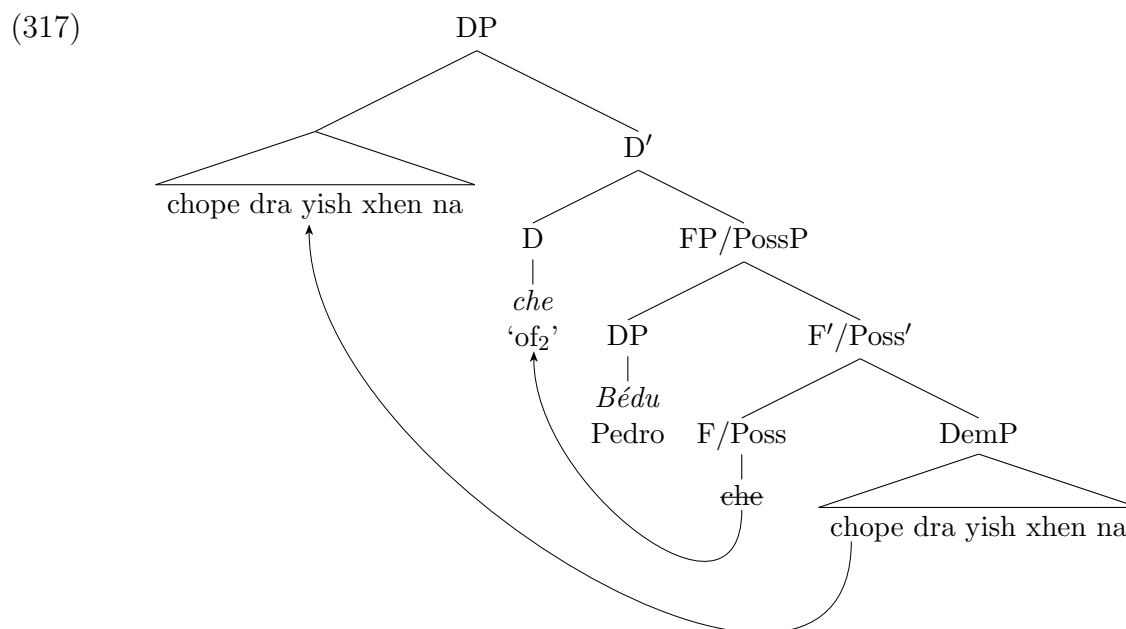
First, the relative clause-based analysis, in which the possessum raises above the possessor. For SCLZ, this would look like the following structure for an alienable possessive like *beku che Bedu* ‘Pedro’s dog’ (316):



The possessor *Bédu* ‘Pedro’ is merged as a subject in a FP / PossessiveP, while *che* ‘of’ is a Possessive head (following Newell et al. (2018), *contra* Kayne (1994) where it is merged in C/P)⁵⁷, and the possessed noun is its complement. *Beku* ‘dog’ raises to Spec, DP. This is similar to what Kayne (1994) proposed for English postnominal possessives like *two pictures of John’s* (308).

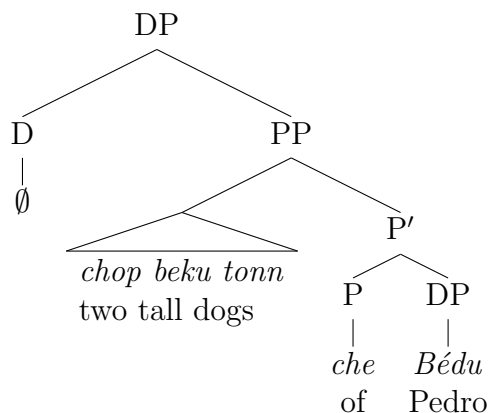
⁵⁷If we merged *che* ‘of’ in D, then we would get the same surface order in the end – this is a matter of preference

Given the structure for the full nominal domain proposed in §2.3, we can derive the possessive *chope dra yish xhen na che Bedu* ‘Those darn two big books of Peter’s.’ The PossP merges above QP, and below DP. Derivation of the NP *chope dra yish xhen na* ‘those darn two big books’ proceeds as normal, with the NP *yish* ‘book’ raising above the AP *xhen* and then [*chope dra yish xhen*] raising above Dem to yield the order *chope dra yish xhen na*. From there, PossP merges, and then DP. *Chope dra yish xhen na* raises to Spec, DP and the possessive *che* raises to D, as in (317).



The locative analysis for *beku che Bedu* ‘Pedro’s dog’ is given in (318), similar to the analyses by den Dikken (1997) and Larson and Cho (2003).

(318)



I will give two arguments in support of the locative analysis over the relative clause analysis for SCLZ – the behavior of possessives when pied-piped, and the locative aspect of *che*.

First of all, as discussed in Chapter 3 and §4.3.1 in this chapter, when a [+Wh] possessor is interrogated, the whole phrase pied-pipes with inversion ((319), repeated from (184)).

- (319) a. **beku che Ziku** ù-dau=ba' pastel-n
dog of Francisco PERF-eat=3.ANIM cake-n
Francisco's dog ate the cake
N > Poss
- b. **nũ beku che-n** ù-dau pastel-n
who dog of-n PERF-eat cake-n
Whose dog ate the cake?
Poss > N

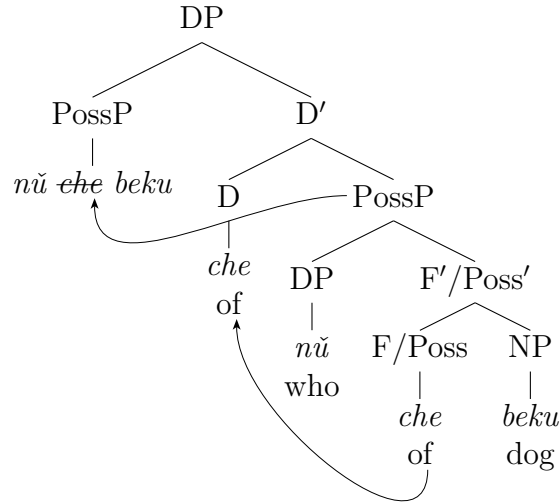
The linear order of the inverted pied-piped phrase is [+Wh] Gen > N > *che* 'of.'

Let us see how the two analyses compare when producing this structure.

For the relative clause analysis, I propose the following transformation for pied-

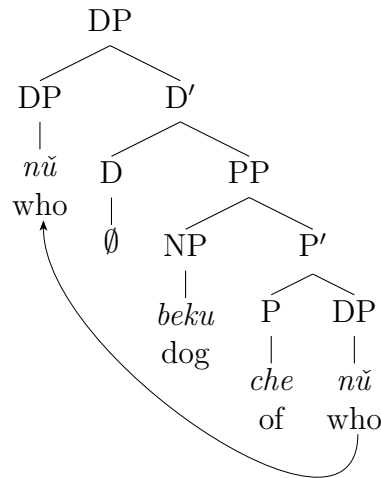
piping with inversion (320). This involves raising *che* to D⁰ and then remnant moving *nũ ehe beku* up to Spec, DP.

(320)



For the locative analysis with PPI, I propose (321):

(321)



The locative analysis straight-forwardly generates the desired surface order, both in the usual possessive and in the pied-piped and inverted possessive.

Another point in favor of the locative analysis is that *che* ‘of’ often has locative properties in SCLZ, and can act predicatively.

First of all, *che* can act like a destination / locative with indirect objects, as

in (322).⁵⁸

- (322) b-gúl=a=n che bi na
PERF-sing=1SG=3.INAN of HUMAN.INF that
I sang it to him

Like Latin (311), French (313), and Walloon (315), SCLZ can form a copular sentences with *che* ‘of,’ e.g. (323).

- (323) a. sí yá’á che mestr-n ni-tòne
chair green of teacher-SPF STAT-tall
The tall teacher’s green chair (lit. the green chair of the teacher who is tall)
- b. sí yá’á n-ak=n che mestr-n ni-tòne
chair green STAT-be=3.INAN of teacher-SPF STAT-tall
The green chair is the tall teacher’s

It can also occur in non-copular sentences on its own without a possessor, as in

(324).⁵⁹

- (324) b-aréd=a’ to yish ch-shala che Ziku
PERF-read=1SG a book CONT-speak of Francisco
I read a book about Francisco (lit. “that speaks of F.”)⁶⁰

⁵⁸However, you cannot use it to express a goal, e.g. (i)

- (i) *u-yà’=à che skwer
PERF-go=1SG to school
I went to school

⁵⁹So can the English *of* – *I thought of him*, *I spoke of him*, but I am making no claim that English should also have a locative-style possessive.

⁶⁰One speaker said that it could be *ch-shala=n*, but that without the *n* it is a paper or a document rather than a book. Why this is is unclear.

SCLZ, like other varieties of Zapotec, has a series of positional verbs (Table 4.5).⁶¹

A further exploration of these verbs in SCLZ is needed, but is outside the scope of this thesis. In (325), we see the positional verbs being used to describe a location/position, and being used existentially (e.g. (325i)).

Table 4.5: Locative Verbs in SCLZ

SCLZ	gloss
de	lies
xho	lies, floats, swims
yò'ò	is.inside
zè	stands
zo	live in, exists
djè'è	sits

- (325) a. lo mes **de** pastel-n
in table STAT.lie cake-n
The cake is lying on the table
- b. lo mes **de** bdo-n
in table STAT.lie child-n
The child is lying on the table
- c. lo mes **xho**/(**de*) peloto-n
in table STAT.lie ball-n
The ball is lying on the table⁶²

⁶¹This is almost certainly not an exhaustive list of SCLZ's positional verbs; Galant (2012) lists 23 positional verbs in San Juan Yae Zapotec (SJYZ), and that list is not necessarily exhaustive either. It is also not clear to what extent these verbs form an exclusive class separate from other verbs, but in SCLZ and SJYZ they appear in existential constructions, possessive constructions, and location/position constructions. They also do not take perfective tense/aspect marking, as far as I am aware. Galant (p.c.) says that they can take tense/aspect if they are in contexts that force an inchoative or durative meaning

⁶²*xro* may have to do with size, or being horizontal. Galant (p.c.) says that it might take a subject that is not long and/or thin, or that it has to do with lying somewhere high rather than low. Presumably in example (325c), *xro* is used because the table is seen as a high place

- d. lo mes **xho** yet-n
 in table STAT.lie tortilla-n
 The tortilla is lying on the table
- e. ragu yégu-n **xho** làgà-n
 on.top.of river-n STAT.lie leaf-n
 The leaf is floating in the river
- f. ragu yégu-n **xho** bdo-n
 on.top.of river-n STAT.lie child-n
 The child is floating in the river
- g. lo kah-n **yò'ò** pastel-n
 in box-n STAT.be.inside cake-n
 The cake is in the box
- h. le'e yág **zè** benne na
 side tree STAT.stand person that
 That man is standing by the tree
- i. na **zè** to bdo-n
 there STAT.stand a child-n
 There's a kid (standing there)
- j. yie-n **zo** la'a'
 mountain-n STAT.live Oaxaca
 There's a mountain in Oaxaca
- k. yo'o na **zo** Maria
 house that STAT.live Maria
 Maria lives in that house
- l. Bédu b-rédu=be' bxoz-n **zha** lashidjiya
 Pedro PERF-see=3.H.I priest-n STAT.stay.in Lachirioag
 Pedro saw the priests from San Cristóbal Lachirioag

- m. lo sí **djè'è** benne na
 in chair STAT.sit man that
 That man is sitting on the chair

In addition to locative PPs, SCLZ also uses these verbs in possessive constructions, sometimes using *che* (326), as is also seen in SJYZ (Galant, 2012) and Macuiltianguis Zapotec (MacZ) (Foreman, 2012).⁶³

- (326) a. shon més **che** Wer **zha**
 three table of Manuel STAT.stay.in
 Manuel has three tables
- b. shon més **che** Wer **de**
 three table of Manuel STAT.lie
 Manuel has three tables lying about
- c. chop pastel-n **zhá** **che=gak=e'** u-xhí=a'
 two cake-n STAT.stay.in of=PL=3FORM PERF-buy=1SG
 I bought two of the cakes that they had

- (327) SJYZ (Galant, 2012)

Meesa zwaa gayu' ni'i
 table NEUT.stand five leg

The table has five legs

- (328) MacZ (Foreman, 2012)

tee yhoo cuubi Felipe=á
 STAT.lie clothing new Felipe=INVIS

Felipe has new clothing (lit. Felipe's new clothes lie)

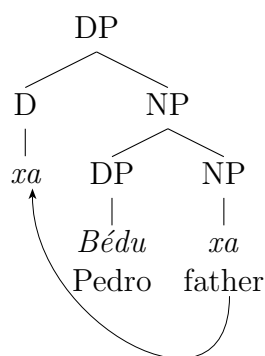
⁶³Foreman (2012) argues that the 'possessives' in these sentences are not a true possessive construction, but that the possessed NP and possessor NP are separate arguments of the verb. However, the interpretation is still one of possession, which is what I am referring to.

In summary, *che* + Possessum behaves like a prepositional phrase, is used as the argument of positional verbs to express possession, can appear on its own without an (overt) possessor, and can be a predicate in copular sentences. These suggest to me that *che* + Possessum should be treated as a PP and a constituent, which is what we get with the locative-based analysis of possession (318).

4.4.2. *Inalienable possession*

The structure of inalienable possessives has been argued a) to be different from the structure of alienable possessives and b) to involve a closer relationship between the possessor and the possessum Alexiadou (2003); Newell et al. (2018); Vergnaud and Zubizarreta (1992). Although the details differ, a typical analysis is that the possessor is a head N and the possessum is its complement, as argued in Alexiadou (2003) for Greek and Sichel (2002) for the Hebrew construct state (not quite inalienable possession, but similar).⁶⁴ I propose my analysis for SCLZ inalienable possessives in (329).

(329)



The structure is corroborated from data on the placement and interpretation of adjectives. As discussed in §4.3.2, an adjective describing the possessive phrase *xa Bédu*

⁶⁴Newell et al. (2018) for Ojibwe argues for a high merging of the possessor in Spec, DP

‘Pedro’s father’ or the possessor *xa* ‘father’ cannot follow the possessum *xa* ‘POSS.father’ but can follow the possessor *Bédu* ‘Pedro,’ so long as it is only describing the possessor (and only NP possessors like ‘friend’ seem felicitous, not proper names like ‘Pedro’, hence **xa Bédu tón* ‘Tall Pedro’s father’). An adjective following the whole possessive does not describe the entire phrase, only the possessor it is adjacent to.

Here is a possible explanation for these facts: the D head of the inalienable possessive can only host an NP constituent, and not a larger constituent. NPs raise above APs in SCLZ (§2.3) and pied-pipe them, so if there were adjectives in the possessum, they would have to pied-pipe with the NP, which would be too large a constituent for *Dinanlien*. APs do not strand in SCLZ – they always raise up with the NP, and they cannot be stranded, giving the order **N Dem A*. Since the adjective cannot pied-pipe with the NP, and also cannot be stranded, adjectival modification of the possessum is not possible. Adjectival modification of the possessor, a DP, is allowable since the restriction is only on the size of the possessum. This explains why adjectives may follow the entire possessive, but only modify the possessor: they are within the possessor’s DP.

4.5. Chapter Summary

In this chapter, I have discussed SCLZ possessives, and placed them within the typology of Zapotec possessives. SCLZ has a syntactic alienable possessive and a morphologically unmarked inalienable possessive restricted mostly to body parts and kinship terms, but it does not have a productive *x-* type morphological possessive seen in Yatzachi,

Tabaa, and Zoogocho. Proposed derivations of the alienable possessive and inalienable possessive were also given, with arguments supporting the chosen derivations.

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