

A grammar of Choguita Rarámuri

In collaboration with Luz Elena León
Ramírez, Sebastián Fuentes
Holguín, Bertha Fuentes Loya and
other Choguita Rarámuri language
experts

Gabriela Caballero

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Abbreviations

1	first person	INT	intensifier
2	second person	IRR	irrealis
3	third person	LOC	locative
ACC	accusative	MLTP	multiplicative/frequentative
AFF	affirmative	MOT	associated motion
ALL	allative	MOT.IMP	motion imperative
APPL	applicative	MOV	movement
CAUS	causative	MPASS	medio-passive
CAUS.I	indirect causative	NEG	negation
CER	certainty	NMLZ	nominalizer
CL	final clause particle	NOM	nominative
COLL	collective	PASS	passive
COND	conditional	PL	plural
COP	copula	PLC	pluractional
DEF	definite article	POSS	possessive
DESID	desiderative	POT	potential
DEM	demonstrative	PROG	progressive
DUB	dubitative	PROH	prohibitive
DS	different subject	PROX	proximal
DIST	distal	PRS	present
EGO	egophoric	PST	past
EMPH	emphatic	PTCP	participial
EP	epistemic	PURP	purposive
EV	(auditory) evidential	Q	question particle
EXH	exhortative	REP	reportative
FILL	filler	REV	reversive
FUT	future	SG	singular
GEN	genitive	SS	same subject
GER	gerundive	SUB	subordinating morpheme
IMP	imperative	SUPE	superessive
IMPF	imperfective	TEMP	temporal
INCH	inchoative	TR	transitive
INCL	inclusive	VBLZ	verbalizer
INSTR	instrumental		

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1 Introduction

1.1 Linguistic profile of Choguita Rarámuri

Despite the relevance of the Uto-Aztecan language family in terms of its geographical extension, number of languages, number of speakers and its descriptive tradition (spanning over four centuries), there are still many important gaps in our knowledge of this language family. This book provides the first comprehensive grammatical description of Choguita Rarámuri, a Uto-Aztecan language spoken in the Sierra Tarahumara, a mountainous range in the northern Mexican state of Chihuahua belonging to the Sierra Madre Occidental. The number of speakers of all Rarámuri varieties in the Sierra Tarahumara and diaspora communities in Northern Mexico is estimated to be between 85,000 (INALI 2008) to 100,000 (Embriz Osorio & Zamora Alarcón 2012; Merrill & Burgess 2014). Choguita Rarámuri is the native language of approximately 1,000 people, most of whom use the language in their daily interactions, though continued political violence in the area has led to increased displacement of the Rarámuri people and consequent accelerated language attrition. As documented since the first contact with European settlers, the Rarámuri people continue to resist the encroachment of outsiders on their land and violations of their autonomy as a sovereign nation.

In the remainder of this introductory Chapter, I provide a typological profile of Choguita Rarámuri (§1.1.1), I discuss the genetic relationship between Choguita Rarámuri and other language varieties (§1.1.2), and I survey previous work on the language (§1.1.3). The following sections focus on the geographical (§1.2), historical and socio-political (§1.3) contexts Choguita Rarámuri is spoken within. The history of contact with Europeans is addressed in §1.3.1, §1.3.2 addresses the linguistic ecology and the current socio-political context of the area, while §1.3.3 considers the development of literacy and bilingual education projects sponsored by the Mexican government.

This chapter concludes in §1.4 with a meta-description of this grammar, which includes a description of how this project developed (§1.4.1), theoretical assumptions made in this work (§1.4.2), the data it draws upon and methodologies used to gather it (§1.4.3), the Choguita Rarámuri language experts who contributed to the data and analysis (§1.4.4), and conventions employed in the presentation of

1 Introduction

examples (§1.4.5). Finally, this chapter provides an overview of the topics covered in this grammar and the content covered in each chapter (§1.5).

1.1.1 Choguita Rarámuri in typological context

Choguita Rarámuri is a highly synthetic, agglutinating language with a complex morphological system. It displays many of the recurrent structural features documented across Uto-Aztecan, including a predominance of suffixation, head-marking (as defined in Nichols (1986)), and patterns of noun-incorporation and compounding (Sapir 1921; Whorf 1935; Haugen 2008b). Other recurrent Uto-Aztecan features present in Choguita Rarámuri include a complex word prosodic system, a wide range of morphologically-conditioned phonological processes, and exuberant derivational morphological marking, all of which are grammatical phenomena that are of great typological and theoretical interest. Choguita Rarámuri is also of great comparative/historical importance: while several analytical works of Uto-Aztecan languages of Northern Mexico have been produced in the last years (Guerrero Valenzuela 2006, García Salido 2014, Reyes Taboada 2014, Morales Moreno 2016, Villalpando-Quiñonez 2019, *inter alia*), many varieties still lack comprehensive linguistic description and documentation.

In traditional morphological typology, agglutinative morphologies are placed within a scale of agglutination-flexion, with isolating languages on one end of the spectrum and introflexive (or non-linear) languages at the other (isolating > agglutinative > flexive > non-concatenative (or introflexive)). This single scalar hierarchy results from conflating the parameters of phonological fusion, the degree to which individual exponents are phonologically fused to their host (isolating > concatenative > non-concatenative), and flexibility, the degree to which individual exponents exhibit lexically-conditioned variance (suppletive allomorphy) (Bickel & Nichols 2007). Agglutinative languages thus involve concatenative, non-flexive morphological patterns. Uto-Aztecan languages have been described as prototypically agglutinative, with complex verbal morphological systems, a high degree of synthesis, a low degree of phonological cohesion between exponents, and a low degree of cumulation in morphological exponence (see e.g., Langacker 1977: 158). Choguita Rarámuri morphology, which is also highly synthetic and almost exclusively suffixing, displays the following agglutinative-like properties (1):

- (1) Agglutinative-like properties of Choguita Rarámuri
 - Mostly concatenative, separative exponence
 - Limited flexive exponence
 - Zero exponence

- Moderate syncretism
- Large derivational paradigms
- Widespread multiple exponence (through multiple affixation)
- Widespread optional marking

While Choguita Rarámuri shares several morphological and morpho-phonological properties and phenomena with other morphologically complex languages that have been characterized as agglutinative, it also crucially departs from the canonical “agglutinative” type in that it has less transparent morpheme boundaries, due to a fair amount of phonological cohesion between exponents closer to the stem, a pattern more frequently attested in flexive morphological patterns (Caballero 2008; Caballero & Kapatsinski 2021). Departures from prototypical agglutinative characteristics are documented elsewhere in Uto-Aztecán (e.g., Cupeño, a Takic language; Hill 2005).

Description of particular word prosodic systems in Uto-Aztecán languages has traditionally received a great deal of attention in the arealist literature, as well as in the typological and theoretical literature, given their complexity. Uto-Aztecán languages have been documented to have a wide variety of stress-accent systems. Some recurrent features of these systems include presence of lexical stress, iterative stress assignment, left-edge alignment, and window restrictions (Munro 1977). One of the most typologically unusual features of the word-prosodic system of Choguita Rarámuri is its initial three-syllable stress window. Stress is assigned within the first three syllables of the word, and there are alternations that maintain this ternarity, such as compounding and multiple affixation (Caballero 2008; 2011b). This kind of stress system is extremely uncommon cross-linguistically, described in the literature in only four other languages of the world (Kager 2012), and predicted to be unattested by some factorial typologies (Elenbaas & Kager 1999).

The stress system of Choguita Rarámuri is also a topic of particular interest given its morphological conditioning. Although stress is lexically governed in some morphemes, there is also emergent default stress assignment. As described for other Uto-Aztecán languages (e.g. Cupeño, Hill & Hill (1968); Alderete (2001)), there is a contrast between underlyingly stressed and unstressed roots in Choguita Rarámuri. Affixes, on the other hand, are either stress-shifting or stress-neutral, meaning that they can perturb the root’s stress or be neutral regarding stress assignment, respectively. The interaction between roots and affixes of different prosodic types yield complex interactions in verbal paradigms: in words containing no underlyingly stressed roots or stress-shifting suffixes, stress falls by default in the second syllable of the stem; in words containing an underlyingly

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unstressed root and a stress-shifting affix, stress falls by default in the third syllable of the word (the immediately adjacent stress-shifting suffix with disyllabic roots). This is exemplified below in Table 1.1 (stressed syllables are in boldface).

Table 1.1: Stress patterns of morphologically complex verbs

Stem	Stress-neutral	Stress-shifting	Stressed roots
	Past <i>-li</i>	Conditional <i>-sa</i>	
be'nè 'learn'	be'nè-li	be'nè-sa	
ba'hî 'drink'	ba'hî-li	ba'hî-sa	
tʃapí 'grab'	tʃapí-li	tʃapí-'sâ	Unstressed roots
sa'kí 'roast corn'	sa'kí-li	saki-'sâ	

These morphological restrictions on stress assignment interact in complex ways with the trisyllabic stress window restriction in compound and other morphological constructions (yielding stress shifts and truncation of nominal roots), and with two subsystems of valency encoded through root allomorphy marked through vocalic alternations and fixed stress for applicative derivation (Caballero 2008).

In addition to stress, the Choguita Rarámuri word prosodic system involves tone. While the development of tonal contrasts has been documented for a number of Uto-Aztecan languages (including Northern Tepehuan (Tepiman; Woo (1970)), Hopi (Manaster-Ramer 1986), Huichol (Corachol; Grimes (1959)), Cahitan (Yaqui (Demers et al. 1999) and Mayo (Hagberg 1989)); and Balsas Nahuatl (Aztec; Guion et al. (2010))), no variety of Rarámuri, to the best of my knowledge, had been previously described as featuring a tonal contrast. Except for Balsas Nahuatl, tonal Uto-Aztecan languages are located in the Southwest, a linguistic area where tone has also developed in other language families (Caballero & Gordon 2020).

The tone system of Choguita Rarámuri has a restricted distribution, as lexical tone contrasts are exclusively realized on surface stressed syllables (i.e., there is a single lexical tone per prosodic word). This restricted distribution of tone in Choguita Rarámuri is a characteristic shared by all other tonal Uto-Aztecan languages, all of which have “hybrid” word prosodic systems (featuring both stress and tone). The Choguita Rarámuri lexical tone inventory features a three-way contrast (/HL/, /L/ and /H/) in stressed syllables (Caballero & Carroll 2015),

which contrasts with the binary tone systems documented in neighboring Cahitan languages (Mayo and Yaqui). Stress and tone in Choguita Rarámuri are not only phonologically independent systems, but they are also acoustically distinct: duration and intensity are correlates of stress, whereas fundamental frequency (f0) is the primary correlate of tone (Caballero & Carroll 2015).

Tone also plays a role in the morphological system of Choguita Rarámuri: tone alone may be the exponent of morphological information, it may be associated with specific affixes as a morphologically-conditioned effect, or it may have a morphemic distribution in verbal paradigms (Caballero & German 2021). This type of grammatical tone phenomena has not yet been documented in other tonal Uto-Aztecan languages.

In addition to encoding lexical and morphological contrasts, f0 is also deployed in the Choguita Rarámuri intonation system. Declarative sentences are characterized by a high boundary tone, which stands in contrast to the general cross-linguistic tendency for low boundary tones in these types of sentences (Jun 2014). Analysis of acoustic data reveals that lexical tones may be enhanced in utterance-final position and that both lexical and grammatical tones take precedence over phrase-level tones if these tones conflict (Caballero et al. 2014, Aguilar et al. 2015, Garellek et al. 2015). In addition to f0, Choguita Rarámuri implements intonational contrasts through duration and non-modal phonation (Aguilar et al. 2015; Caballero et al. 2022). Both tone and intonation are under-studied for Uto-Aztecan languages, except for recent work that addresses Nahuatl language varieties (Guion et al. 2010; Patiño Velázquez 2014; Aguilar 2020).

In terms of its morphological system, Choguita Rarámuri exhibits a case of free affix order where alternative orders are determined by semantic scope, templatic constraints, phonological subcategorization and phonological conditions on stem shape (Caballero 2010). Choguita Rarámuri also exhibits complex patterns of multiple (extended) exponence (ME), a one-to-many mapping between morphological categories and their formal expression. The Choguita Rarámuri case offers an important opportunity to explore the properties of this morphological phenomenon, given that ME in Choguita Rarámuri: i) involves derivational information (*contra* suggestions that ME is exclusively displayed by markers of inflectional categories (Matthews 1972, Stump 2001)); and ii) that it involves categories in specific areas of the layered structure of the verb with characteristic morpho-prosodic properties which make them difficult to parse and prone to be reanalyzed as part of the stem (Caballero 2008, Caballero 2011b). Choguita Rarámuri also provides a relevant testing ground for investigating the potential functional role complex morpho-phonological patterns in morphologically complex languages may have (Caballero & Kapatsinski 2015; 2021).

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Finally, Choguita Rarámuri is also typologically relevant given a rich set of valency-changing morphology, and a complex system of case marking and lexical distinctions to refer to spatial and topographic properties of the landscape, also documented for closely-related Guarajío (Miller 1996). These and other aspects of the structure of Choguita Rarámuri are addressed in this reference grammar.

1.1.2 Rarámuri language varieties and genetic/genealogical relationships

1.1.2.1 Dialect variation

Rarámuri dialect diversity has not yet been systematically investigated, but a local-government sponsored dialect survey carried out two decades ago yielded a classification with five dialect areas: North (*Norte*), South (*Sur*), Central (*Centro*), West (*Oeste*) and Highland (*Cumbres*) (Valiñas 2001; see also INALI (2008)).¹ This classification was established on the basis of the assessment of lexical, phonological and syntactic variation.² These five dialect areas roughly correspond to the dialect areas proposed by the SIL International published in *Ethnologue*, labeled Central, Western, Northern, Southeastern and Southwestern. There is a high degree of overlap between these classifications, but there is no consensus about the precise boundaries of each dialect: the *Ethnologue*'s Central Tarahumara dialect, for instance, corresponds to an area occupied by two dialects in the local government survey, Central Tarahumara and Northern Tarahumara (Valiñas 2001). The Mexican National Institute for Indigenous Languages (INALI)³ adopts the classification proposed in Valiñas (2001). Table 1.2 presents the two classifications side by side. The classification adopted by INALI also provides endonyms for each variety (INALI 2008).

An uncontroversial main distinction exists between two major sets of dialects, Tarahumara de la Alta (Rarámuri) and Tarahumara de la Baja (Rarómari), which may include mutually unintelligible varieties. Choguita Rarámuri is part of the Alta Tarahumara dialect continuum within a “Central” dialect area within the *Ethnologue*'s classification ([tar]; Eberhard et al. 2021) and is located in a transitional area between the Central Tarahumara and Northern Tarahumara dialects in (Valiñas 2001).

¹Merrill & Burgess (2014) translate the term *Cumbres* as “Interior”, noting this dialect area does not necessarily correspond with areas that are at a higher altitude, which is implied by the term *Cumbre*.

²Some of the phonological parameters include: use of word-initial [g], [k] or zero; initial syllable truncation; word final vowel deletion; height neutralization of /e/; and pre-aspiration of voiceless stops (Valiñas 2001: 122).

³*Instituto Nacional de Lenguas Indígenas*.

Table 1.2: Rarámuri dialect areas

Ethnologue	INALI
Western Tarahumara [tac]	Rarómari Raicha (<i>Oeste</i>)
Central Tarahumara [tar]	Ralámuli Raicha (<i>Centro</i>)
Southeastern Tarahumara [tcu]	Ralámuli Raicha (<i>Cumbres</i>)
Northern Tarahumara [thh]	Ralámuli Raicha (<i>Norte</i>)
Southwestern Tarahumara [twr]	Rarámari Raicha (<i>Sur</i>)

Speakers are aware of dialect differences, but view all Rarámuri varieties as a single language, different from the neighboring languages. The location of several modern Rarámuri communities and closely related Guarajío (Warihío) is shown in Figure 1.1. Choguita is located 35km northwest of Norogachi. More comprehensive assessments are necessary to determine the number and location of all varieties of Rarámuri, degrees of intelligibility amongst these, and number of speakers per variety.

1.1.2.2 Alternative names

Rarámuri [ra'rámuɾi] is the name applied by the Rarámuri people to their own language, as well as the Rarámuri people, land and culture. The phrase [ra'rámuɾi ra'ʔitʃa] ('Rarámuri language') is used in discourse when disambiguating reference to the language vs. other possible meanings. When referring to people, Rarámuri is the term often used to refer to members of the Rarámuri nation, as opposed to *mestizo* (non-indigenous Mexican) and other non-Indigenous people, but this term has different meanings that are dependent on context. Specifically, Merrill (2001) identifies four levels of self denomination of the term "Rarámuri": (i) all human beings; (ii) indigenous people (vs. *mestizo* and people of European descent); (iii) Rarámuri people (vs. other indigenous people); and (iv) Rarámuri men (vs. Rarámuri women) (2001: 88).

Rarámuri has been mostly known as *Tarahumara* in mass media and previous descriptions and depictions of the language (e.g., the ISO code of the language is [tar]). The term *Tarahumara* was first used in the seventeenth century in the correspondence of Catholic missionaries and the first published works about the language, Tomás de Guadalajara's 1683 grammar and Matthäus Steffel's 1791 dictionary. The term *Rarámuri* was not used in published materials until Miguel de Tellechea's 1826 *Compendio gramatical para la inteligencia del idioma tarahumar* (where the spelling used for the language was *rarámari*) (Merrill 2001: 77).

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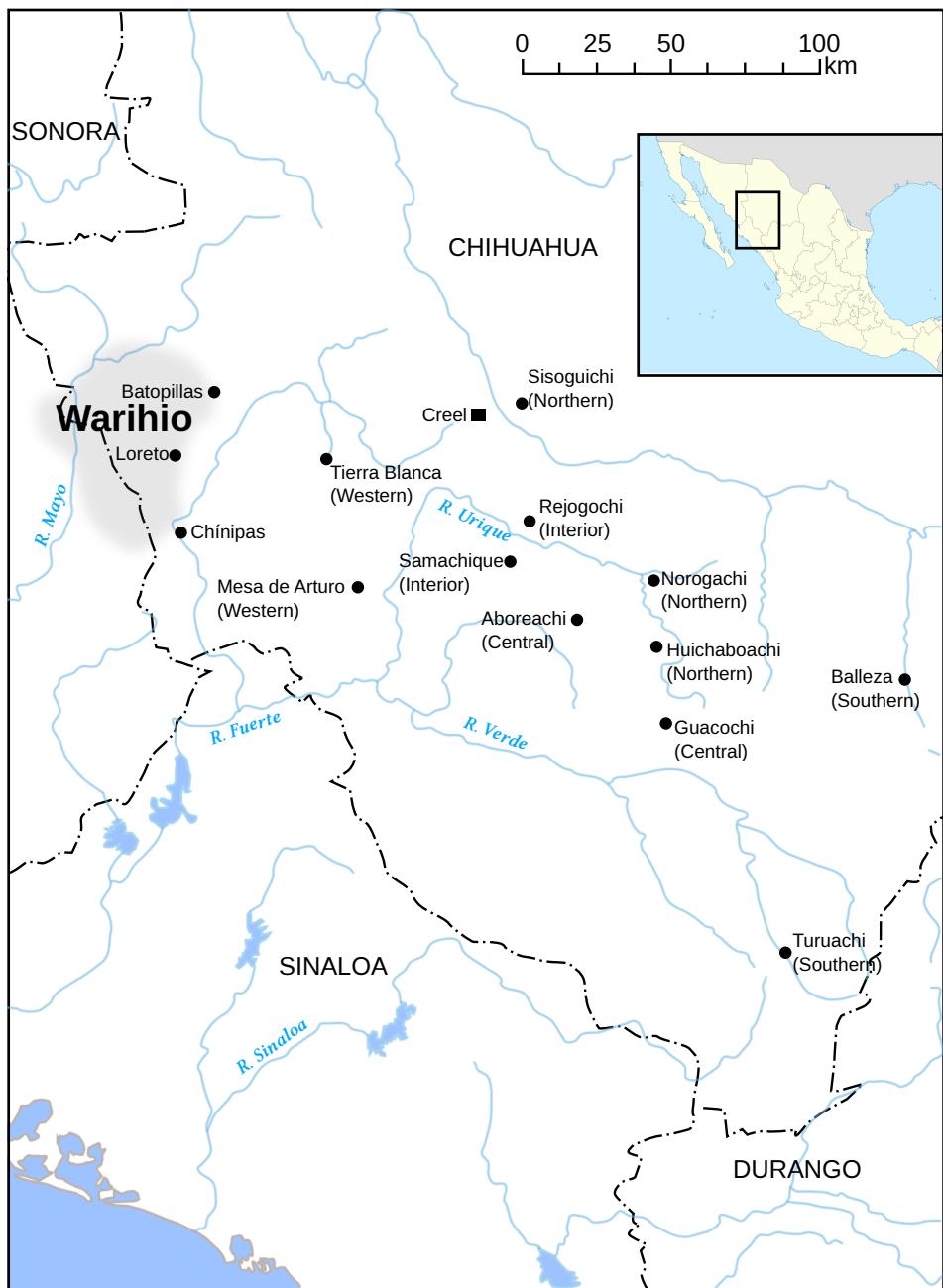


Figure 1.1: Modern Rarámuri communities and neighboring Guarajío (Warihío) territory (map adapted from Merrill & Burgess 2014: 232).

The term *Rarámuri* is one of several spellings found in written media, including school textbooks and other texts written in Rarámuri, as well as publications by the Mexican government's National Institute of Indigenous Languages, INALI. In INALI's publications, Rarámuri varieties are referred to by their endonyms, listed in Table 1.3 above. The variation in the spelling of the language is rooted in the phonological inventory of the language: as discussed in Chapter 3 below, Choguita Rarámuri (like other Rarámuri varieties), has two contrastive liquid sounds, an alveolar flap that resembles the Spanish coronal flap, and a lateral flap, which auditorily resembles both a flap and a lateral (with certain phonological environments favoring one or the other impresionistically) (see §3.2). The name of the language (/ra'ɻamuɻi/ [ra'ɻamuɻi]) in Choguita Rarámuri features an alveolar flap word-initially (allophonically a trill) and two lateral flaps word-medially, leading to orthographic representations of the lateral flaps as either 'r' or 'l' (*Rarámuri* or *Ralámuli*). It is an open question whether other Rarámuri varieties feature this contrast. In addition to spelling variations concerning the liquid consonants of the language, there is also variation in vocalic segments that reflect dialect differences in terms of phonemic vocalic inventories and processes targeting vowels in each variety.

While the name of the language is represented orthographically in this grammar with a single symbol <r>, lateral flaps are uniformly represented with [l] in the data examples presented in this grammar.

1.1.2.3 Genealogical affiliation

Rarámuri belongs to the Uto-Aztecán (UA) language family, which spans several cultural areas of the North American continent and has a time-depth of between 4000 and 5000 years (Campbell 2000; Fowler 1983; Hill 2010; Silver & Miller 1998). The Uto-Aztecán language family is one of the largest language families in the Americas in terms of geographical extension, ranging from the Great Basin (where Numic varieties are spoken) to El Salvador and Nicaragua (where varieties of Aztecán are spoken) (Miller 1984; Campbell 2000; Mithun 2001). The location of each of the individual branches of the Uto-Aztecán language family is illustrated in the map in Figure 1.2.

Subgrouping within the Uto-Aztecán language family has been the subject of a long debate in the literature (Hill 2011). Rarámuri and closely related Guarijío are dialect continua that form two branches of a larger, uncontested Tarahumara-Guarijío or Tarahumaran branch.⁴ The Tarahumaran branch is generally classified within a Taracahitic subgroup (Langacker 1977, Campbell 2000, Mithun 2001,

⁴Referred to as "Tarawarihian" in Merrill & Burgess (2014)

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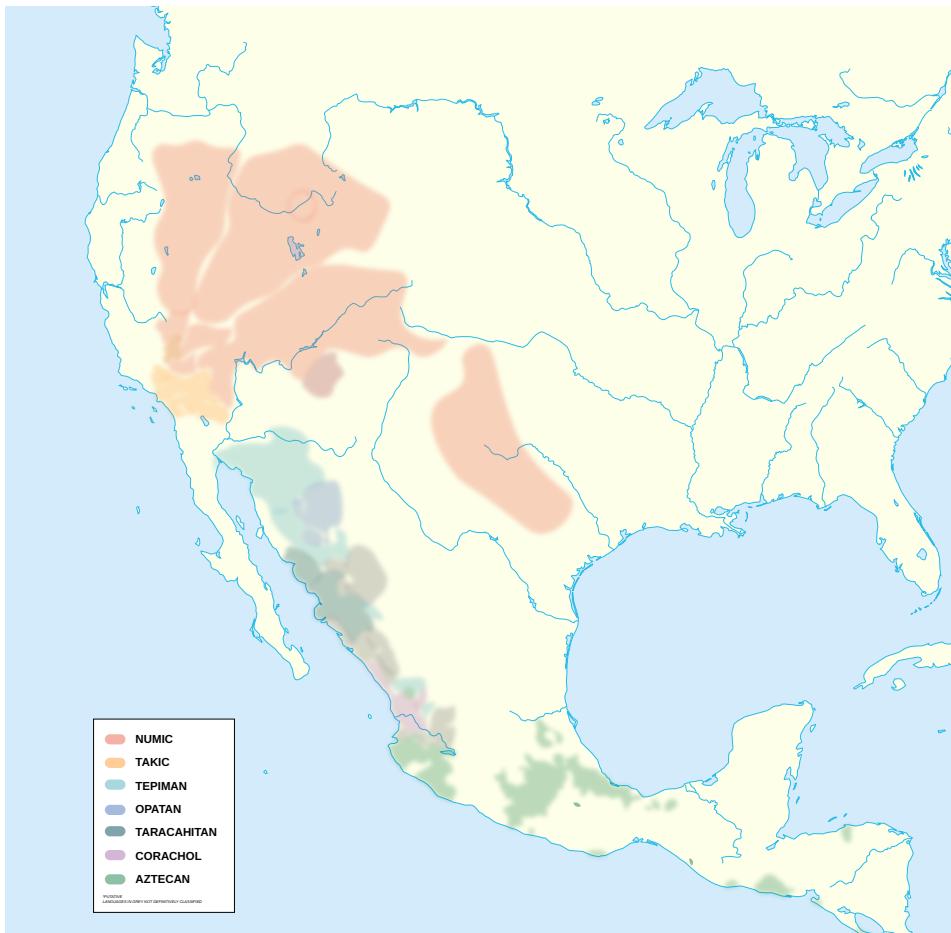


Figure 1.2: Uto-Aztec language subgroups

Miller 1984), and as part of a larger Sonoran branch within Southern Uto-Aztecan (Miller 1984, Hill 2001). The place of Rarámuri within a traditionally assumed subgrouping of Uto-Aztecan is shown in Figure 1.3 (Campbell 2000, Mithun 2001, Hill 2011). There is currently no consensus as to the genealogical status of Southern Uto-Aztecan and Taracahitan (for recent discussion see Hill 2011 and Merrill 2013), and this is indicated with parentheses in these branches. Figure 1.4 illustrates the languages within the traditionally assumed Taracahitan branch.

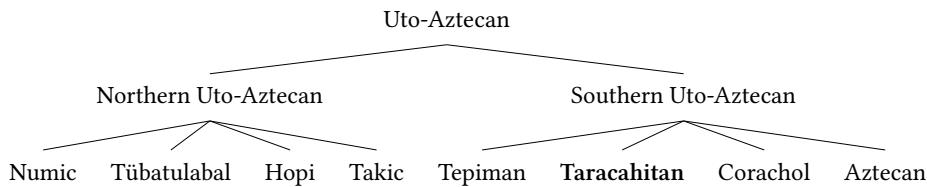


Figure 1.3: Uto-Aztecan language family (adapted from Langacker 1977, Campbell 2000 and Mithun 2001)

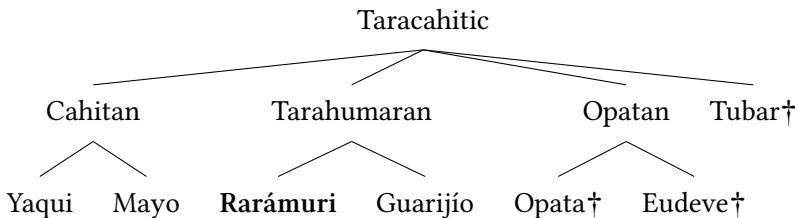


Figure 1.4: Taracahitan branch (adapted from Campbell 2000)

1.1.3 Previous work

Rarámuri varieties have been described since the seventeenth century in the form of grammars, dictionaries, vocabularies and texts. The first known documentation of Rarámuri is by Tomás de Guadalajara, a Jesuit missionary who worked in the missions in the Sierra Tarahumara in 1675, and published a brief grammatical description in 1683, *Compendio del arte de la lengua de los tarahumares y guazapares*. This small grammatical description was followed more than one hundred years later by Matthäus Steffel's publication in 1791 of a German-Tarahumara dictionary based on German orthography.

After these early grammatical descriptions, most existing documentation of Rarámuri has been produced during the twentieth century. This includes several

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grammatical descriptions, dictionaries, vocabularies and texts for several varieties, mainly of Norogachi Rarámuri, a Northern variety (Brambila 1953, Brambila 1976, Brambila 1983, Lionnet 1968, Lionnet 1972, Lionnet 1985). The most comprehensive of these works is David Brambila's (1953) grammar, which is written in the style of colonial grammars, but also provides many examples from texts.⁵

In addition to these works on Norogachi Rarámuri, several linguistic articles, grammars and short manuscripts about diverse aspects of different dialects of the language were published in the second half of the twentieth century, including descriptions of Samachique Rarámuri (a Central variety) (Hilton 1993), and of Western Rarámuri (Burgess 1970, Burgess 1984, Burgess & Merino Mares 2001, *inter alia*), which differs significantly from Northern and Central varieties. More recent linguistic work includes a BA thesis on the morphosyntax of property concepts in Choguita Rarámuri (Isla Flores 2010), a PhD thesis on Urique Tarahumara syntax (Jara 2013), a master's thesis analyzing basic clause structure and other syntactic aspects of Rochéachi Rarámuri (Morales Moreno 2016), and a PhD thesis focusing on the analysis of grammatical aspect of Norogachi Rarámuri (Villalpando-Quiñonez 2019). A pedagogical grammar of Rarámuri was published by the state government of Chihuahua by Enrique Servín Herrera in collaboration with Rarámuri poet and activist Dolores Batista, a native speaker of Ojachichi Rarámuri (Servín 2002).

Other records of Rarámuri are found in ethnographic studies that have documented ethnobotanical and historical knowledge (Bennett & Zingg 1935; Bye et al. 1975; Bye 1976; Merrill 1988; Pintado Cortina 2012a), as well as audio recordings of language and traditional music. Audio recordings are housed at the government-owned regional radio station, Radio XETAR, where they have been broadcasted since 1982 in Rarámuri, Northern Tepehuan and Pima.⁶ To the best of my knowledge, many of the audio recordings that document speech are scripted and do not constitute a representative sample of patterns of spontaneous language use.

In addition to the publications that have a linguistic focus, much work has been carried out in the state of Chihuahua documenting traditional narratives, poetry and other forms of verbal art of the Rarámuri nation by Rarámuri poets and language activists Dolores Batista and Martín Makawi, and by Enrique Servín Herrera, linguist, activist and poet in charge of a Program for Indigenous and Minority Languages hosted by the state government's Cultural Development

⁵ A list of published references on the Rarámuri language is provided in Appendix 1 of this grammar.

⁶ The Radio XETAR is part of a government office program of indigenous radio stations. The government office is the National Commission for the Development of Indigenous Peoples (*Comisión Nacional para el Desarrollo de los Pueblos Indígenas*, or CDI).

1.2 Geographic location and physical environment



https://commons.wikimedia.org/wiki/File:Mexico_topographic_map-blank_2.svg
<https://commons.wikimedia.org/wiki/User:GrandEscogriffe>
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Figure 1.5: Location of Choguita Rarámuri and neighboring Uto-Aztecán languages

Office.⁷ Their efforts have produced several publications in different Rarámuri varieties and both bilingual and monolingual books and resources for Rarámuri speakers and second language learners (Batista 1994, Servín 2002, Makáwi 2012, *inter alia*).

1.2 Geographic location and physical environment

Rarámuri is spoken in the southwestern part of the Mexican State of Chihuahua, a rugged area in the Sierra Tarahumara that includes the Copper Canyon. The Sierra Tarahumara is part of the Sierra Madre Occidental, a mountain range that extends from the Southwest United States to Central Mexico, with an area of approximately 50,000 square kilometers (Pintado Cortina 2012b). This grammar describes variety spoken in Choguita (also known as “Choguita de Guachochi” or “Choguita de Norogachi”), in the municipality of Guachochi. Geographically adjacent Uto-Aztecán languages include Guarijío (or Warihó), Yaqui (or Hiaki), Mayo, Northern Tepehuan and O’ob Nook Pima. The location of Choguita Rarámuri and neighboring Uto-Aztecán languages in the Mexican Northwest is shown in the map in Figure 1.5.

⁷Programa Institucional de Atención a las Lenguas Indígenas y Minoritarias.

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The community of Choguita is part of the *ejido* system, a Mexican land usage system, where rural land plots are devoted for collective use by community members (*ejidatarios*). Choguita is the head community of the *ejido* of Choguita, one of the largest *ejidos* in the Sierra with a total surface area of 285.6 km² (28,560 hectares, 110.3 miles²) (Casaus 2008). Figure 1.6 shows the boundaries of the *ejido* of Choguita, which includes the communities of Bokimoba, Huichachí, Capochí, Basigochí, Coeche, Rayabó, Cochirachi, Ireachi, Rorichi, Rochibo, Upachi, Sehuarachi and Cocohuichi. According to the Mexican government 2000 national census, the community of Choguita has 234 inhabitants, and the entire population of the *ejido* is approximately 1050 (Casaus 2008). With the exception of secondary school teachers and Protestant missionaries, the community is native Rarámuri.

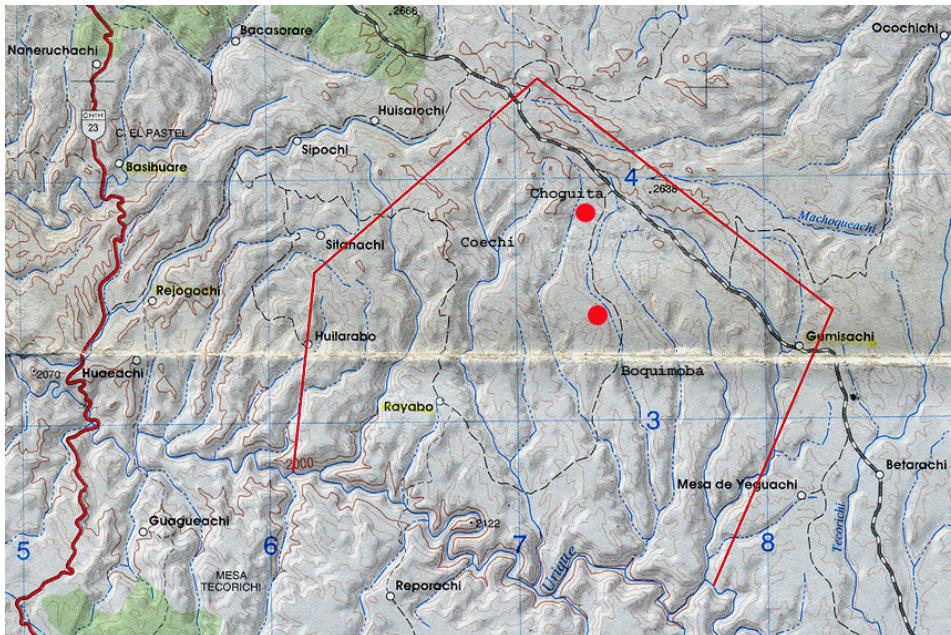


Figure 1.6: Boundary of the ejido of Choguita (Topographic map, Casaus 2008)

1.3 Choguita Rarámuri in social and historical context

This section discusses the historical, social and political contexts in which Choguita Rarámuri is used. First, §1.3.1 addresses the history of contact between the

1.3 Choguita Rarámuri in social and historical context

Rarámuri people and Europeans (and after the establishment of the Mexican state, Mexicans of European descent, referred to as *chabóchi* (a Rarámuri word) in the Sierra Tarahumara). This is followed by discussion of Rarámuri language use in §1.3.2, including bilingualism and the political and social factors affecting speech communities since the twentieth century. This section concludes in §1.3.3, which focuses on programs sponsored by the Mexican government to promote so-called “bilingual /bicultural” education in the sierras and standardization of the language, as well as emerging use of the language in social media by native speakers.

1.3.1 History of contact with Europeans

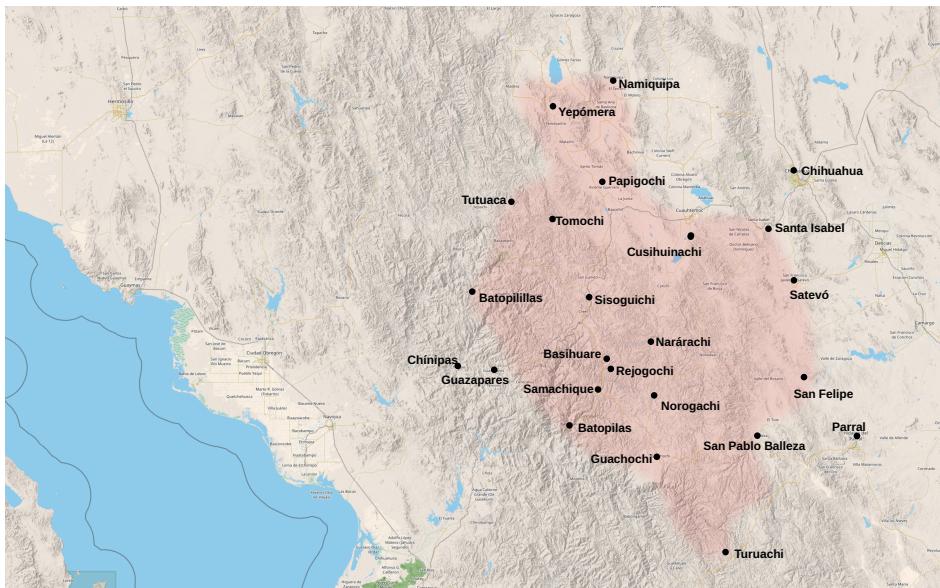
The earliest contact between the Rarámuri and Europeans was in the late sixteenth century (Merrill & Burgess 2014). The first incursion of Jesuit missionaries took place in 1607, with the arrival of Joan Fonte to the Valle de San Pablo, an area in the border between the land of the Rarámuri and the Odami (Tepehuan) nations in what is now known as the district of Balleza (Alegre 1767; Pintado Cortina 2012a).⁸

Ethnographic studies report that at the time of contact the Rarámuri lived in small settlements (villages of 5 to 20 households) relatively spread out across an area of approximately 45,000 square kilometers in the southwestern and central area of what is now the state of Chihuahua (Pennington 1963; Merrill & Burgess 2014). Figure 1.7 shows the location and extension of the Rarámuri territory in the seventeenth century.

European impact has been felt severely in the area for the past 400 years. The campaign of religious conversion and political control that began in the seventeenth century was met with strong resistance from the Rarámuri, who protested and fought back the invasion of their land. Four major rebellion movements are documented between 1648 and 1697, in which many missions were destroyed (Neumann 1991; González Rodríguez 1982; Levi 1999; González Rodríguez et al. 1991). For much of the seventeenth century, the conflict pushed many Rarámuri out of their communities, who took refuge in other areas, including the southwestern region of the Sierra. The Rarámuri population was significantly decimated by the violence inflicted by settlers and also epidemics that afflicted the population across the whole area (Pintado Cortina 2012a).

⁸Historical accounts report that this area was also inhabited by Guazápares, Chínipas, Témoris, Guarajíos, Jovas, Pimas, Conchos, Janos, Julimes, Chinarras, Tobosos, Acoclames, Chizos, Tubares, Tzoes and Cocoymes, and members of the N'dee/N'nee/Ndé (Apache) nation (Neumann 1991: 53, González Rodríguez 1987: 368; cited in Pintado Cortina 2012a).

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Figure 1.7: Territory of the Rarámuri nation in the seventeenth century
adapted from Merrill & Burgess (2014: 230)

The Rarámuri continued to resist occupation of their land during the following centuries. Population movements to isolated areas to avoid encroaching settler populations became the main form of resistance (Merrill 1983; Levi 1999). Some Rarámuri communities adopted some of the social and religious norms of life in the missions. This process began prior to the expulsion of Jesuits from the Americas in 1767, after which there was another period of relative isolation of Rarámuri communities from colonial institutions (Pintado Cortina 2012a). The Rarámuri from these communities self-describe as *Pagótame* ‘baptized ones’ (literally ‘washed ones’). It should be noted that adoption of foreign religious norms was only a partial process, as *Pagótame* practice a form of syncretic Christianity (Merrill 1983; 1988). Other Rarámuri communities, the *Simalóni* (*cimarrón*)⁹ or ‘gentile’ (unbaptized), resisted adopting any form of Christianity and retreated to the most remote areas of the Sierra.

A new stage in the interaction between the Rarámuri and Europeans began in the nineteenth century with the founding of the Mexican nation state in 1810

⁹The term *Cimarrón* was used during that time period to refer to people from African descent who escaped slavery and founded free Afro-Mexican towns; the missionaries used this term to refer to Rarámuri people who escaped forced labor and religious conversion imposed in the missions (Pintado Cortina 2012a: 53).

1.3 Choguita Rarámuri in social and historical context

and the state of Chihuahua in 1823. Shortly after the founding of the state of Chihuahua, a new Law of Colonization (in 1825) allowed Mexican *mestizo* settlers to buy land that had belonged to the missions, causing a new wave of displacement of the Rarámuri, who sought to keep their political autonomy (Pintado Cortina 2012a). Mining became a dominant economic activity in the late nineteenth century for several decades, and an intense and unregulated exploitation of the forests began in the middle of the twentieth century. In addition to this, the Mexican revolution brought about changes to government institutions in the early twentieth century, including reforms in the land ownership system and the creation of *ejidos*, as discussed in §1.2. Together, these factors led to major shifts in the economic and political life of the Sierra in the last century. The effects of these shifts in terms of the attempts to assimilate the Rarámuri through government-sponsored education programs is discussed in §1.3.3 below.

1.3.2 Linguistic ecology and sociopolitical context

At the beginning of the twenty-first century, Choguita Rarámuri was spoken by approximately one thousand speakers (Casaus 2008), a number that includes the inhabitants of all the villages within the *ejido*, of which the community of Choguita is the head village. There are several factors that suggest that the domains of usage of Choguita Rarámuri are contracting. In recent years, an increasing number of speakers are relocating to larger towns within the Sierra Tarahumara and in the capital city of Chihuahua.

As discussed in §1.3.1, the Rarámuri have faced great pressures to assimilate to settler society since the seventeenth century, and their land was reduced to half its original size (Paciotto 1996). Some of the main factors currently threatening the cultural and political autonomy of the Rarámuri nation are: (i) doubling of the *mestizo* population in the Sierra over the last century (Merrill 2013), (ii) increasing forest exploitation, (iii) depletion of water resources, (iv) expansion of road construction, and (v) recurrent violations of indigenous land property, to name only a few. The historic retreat of the Rarámuri to mountainous, isolated areas in order to avoid conflict with the *mestizo* population has had negative repercussions for their economic and political autonomy. Specifically, this displacement into areas highly adverse for maize agriculture is one of the main factors behind the severe marginalization of the Rarámuri (Merrill 1988: 77). Most recently, Choguita has had many young people migrating to urban centers, including *mestizo* towns in the sierras, the state's capital, Chihuahua (Morales Muñoz 2019), and border city Ciudad Juárez, as well as to agricultural fields in the region.

Language decline has been documented in varying degrees in the Sierras. Some communities display interrupted intergenerational transmission of the language, while some others remain completely monolingual. Most communities present an intermediate situation with varying levels of bilingualism (Paciotto 1996). In Choguita, Rarámuri is being learnt by children, who remain monolingual until they attend primary school. Some primary school teachers are native Rarámuri speakers (most of whom speak non-local varieties of the language), but none of the secondary school teachers even know Rarámuri as a second language. In school, Rarámuri is marginally used between first and fourth grade in order to gradually introduce children to Spanish, but children are exposed exclusively to Spanish in the classroom after fifth grade (Severiano González (Choguita primary school director), p.c.).

Choguita has also undergone increasing contact with the *mestizo* population for the past few decades due to the improvement of roads that connect Choguita with *mestizo* enclaves in the Sierra. In their interactions with health promoters, government officials, traders, and religious missionaries, native Rarámuri speakers must switch to Spanish. Rarámuri is used in local administration, traditional ritual contexts, and spoken communication in joint community agricultural activities and drinking parties. Recently, however, Rarámuri speakers have started to switch to Spanish to communicate with each other in these spaces as well, as speakers themselves note and as I have been able to assess during the time I have spent in the community. The advancement of Spanish, thus, can be felt in every sphere of Rarámuri life, and older members of the community express their concern about the proficiency of younger speakers in Rarámuri.

1.3.3 Mexican government sponsored “bilingual/bicultural” education and literacy

In 1989, a Chihuahua local-state office attempted to create a standarized orthographical system for Rarámuri, but the project was never completed (Pintado Cortina 2004), and the existing published materials display a great amount of variation. In Choguita, written materials in Rarámuri play a very limited role. The only written materials in Rarámuri are some sections of the official textbooks used in the local elementary school. The official schooling process is mainly devoted to promoting literacy in Spanish, as has been observed to occur in other indigenous communities in Mexico (Lastra 2001). The official “bilingual/bicultural program”, designed by the Mexican Government and argued to reflect a concern about reflecting local cultural characteristics, in actual practice has served only to increase Spanish proficiency among the indigenous population and as a tool of

linguistic assimilation in Rarámuri communities. The schooling process, alien to community interests and reality, reinforces stigmatization of native languages.

While there is currently no component of formal education that promotes literacy in Rarámuri in Choguita, speakers nevertheless use a Spanish-based orthography to communicate in Rarámuri in social media and via text messaging. Thus, access to new resources, such as smartphones, allows Choguita Rarámuri speakers to use their language in new contexts. Making the language documentation collection accessible and usable to all interested users therefore involves standing challenges, which also includes anticipating changing needs and possible future agendas, such as language reclamation efforts in diaspora communities.

1.4 This grammar

This grammar provides a comprehensive linguistic description of the phonology, morphology, and syntax of Choguita Rarámuri. This section discusses historical information of the project that gave rise to this grammar (§1.4.1). This is followed by discussion of theoretical assumptions made in this work (§1.4.2) and description of the data sources used and the methodologies employed to elicit this data (§1.4.3). This section also addresses contributions made by individual language experts to this grammar (§1.4.4), followed by an overview of how data examples are presented (§1.4.5).

1.4.1 Project development

This grammar is the product of work carried out together with Choguita Rarámuri language experts, as well as students and other collaborators who became part of the Choguita Rarámuri Language Project. I first became involved with the study of Choguita Rarámuri as a graduate student in 2002, through contacts with researchers and community members who were interested in the language and history of the community. Since my first visit to Choguita, I addressed community members in local assemblies presided over by Choguita's authorities to ask for permission to spend time in the community and learn the language. In these meetings I expressed my interest in writing about the language for my studies and my desire to engage in a long-term relationship with community members interested in language, culture and history documentation. I received approval to study in Choguita, and several people expressed enthusiasm about the idea of having the language documented and interest in working with me.

In every visit to Choguita, I addressed community members to inform them of the activities carried out with individual collaborators and overall progress

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with the project and to request their continued support. Initiatives by community members to set their own documentation agenda arose only after several visits. After learning of developments of this project, several community members expressed interest in creating a record of the speech of elders, as well as the community's historical past and receding ritual, cultural, and artistic practices. In particular, the initiative was that a team of local experts (Sebastián Fuentes Holguín, Giltro Fuentes Palma and Francisco Moreno Fuentes) would be in charge of planning and undertaking documentation activities, and requested that video documentation training be made available to community members. A community-developed repository of materials would be created and mobilized with the goal of having younger generations have access to these materials, incentivize their continued transmission and have documentation outcomes available for future generations. In response to this request, several video documentation workshops with adults and high school students were held with the help of a videographer (Jorge Esteban Moreno Romero). Project participants designed and carried out their own video documentation projects, which included interviews with elders, recording of pedagogical materials for children, and recording of different community events. Ritual and traditional events documented include healing ceremonies, races, rain and harvest ceremonies, ritual appointment of local authorities, and Easter celebrations.

The documentary materials produced through this initiative were digitized and copies given to individual creators of materials, as well as local authorities, the *siríame* (governors). Copies of these video recordings, along with recording equipment and a projector, were deposited at the local school, where Mr. Giltro Fuentes Palma would be in charge of using these materials in the school curricula. Mr. Fuentes Palma was appointed by local authorities to have custody of these materials and lead video documentation projects and mobilization of materials. Some of the participants who received the initial training were no longer able to continue carrying out documentation, as some left the community and others acquired time-consuming obligations, including Mr. Fuentes Palma. A standing challenge of this project has thus been to enable a sustainable infrastructure within Choguita for continued community-based language and culture documentation and safe-keeping and use of materials by main stakeholders in this project.

I completed a dissertation on the phonology and morphology of Choguita Rarámuri at the University of California, Berkeley in 2008 (Caballero 2008). Since then, I have continued to revise chapters of the dissertation given continued analysis of the phonology and morphology of the language. This work was also supplemented with data obtained in subsequent field trips which expanded descrip-

tion of morphosyntax and syntactic structures to develop the present grammar. I moved to UC San Diego in 2010, where then linguistics graduate student Lucien Carroll joined the project. Carroll primarily carried out annotation and analysis of field data, conducting his own in-situ fieldwork in 2014 and 2018. Other UCSD researchers, both students and faculty members, have collaborated in the analysis of morphological and phonological phenomena. Many Choguita Rarámuri language experts have collaborated as authors, consultants and creators of documentation and analysis. Choguita Rarámuri language experts who have had a deeper involvement with this project in multiple roles include Rosa Isela Chaparro Gardea, elder †José María “Chémale” Fuentes, elder †Morales Fuentes Hernández, Sebastián Fuentes Holguín, Bertha Fuentes Loya, Guillermmina Fuentes Moreno, Giltro Fuentes Palma, elder †Luz Elena León Ramírez, elder †Federico León Pacheco and Francisco Moreno Fuentes (details of their contributions are provided in §1.4.4).

1.4.2 Theoretical assumptions

This grammar aims to provide a comprehensive and careful description and analysis of Choguita Rarámuri without employing formalisms that are likely to date the grammar and make its content uninterpretable or inaccessible in the future (Ameka et al. 2006). Following a long tradition of grammatical description that seeks to characterize patterns and phenomena in individual languages on each language’s own terms, each section in this work outlines the language-internal criteria and evidence that motivate postulating the grammatical categories identified in Choguita Rarámuri (see Cristofaro 2006 for discussion).

Nevertheless, this grammar also seeks to identify the ways in which Choguita Rarámuri resembles other languages (related Uto-Aztecán languages, or languages of Northern Mexico and beyond), and thus links description of patterns and phenomena to relevant typological, theoretical and descriptive literature where pertinent. This includes the use of standard conventions of glossing and terminology that would facilitate use by those interested in the typological properties of Choguita Rarámuri and languages of the area. More broadly, this grammar draws from typological and theoretical assumptions about morphological organization, prosodic structure, and the relationship between morphology and phonological processes, areas which display particular complexity in this language.

With respect to the interaction between phonology and morphology, the analysis presented in this grammar is compatible with construction-based approaches

to morphology and phonology, and follows the assumption that morpho-phonological processes are intimately related to the word's layered structure, with phonology being able to apply to nested subconstituents in a word. This is a key assumption made in this work in light of the evidence in Choguita Rarámuri for an organization of the morphological structure of this language in domains, a structure which is exploited to understand the constraints on stress assignment, the domains of application of several phonological processes, and the limited appearance of multiple exponence and variable suffix order in morphologically complex words. I also make the assumption that languages may contain several phonological sub-grammars pertaining to lexical class, morphological categories, or particular morphological constructions. Both layering and construction-specific phonological processes are compatible with frameworks that posit 'cophonologies', phonological sub-grammars associated with individual morphological constructions (Orgun 1996; Anttila 2002; Inkelas & Zoll 2005; see overview and discussion in Inkelas 2014).

With respect to prosodic structure, I adopt the proposal in Selkirk (1980), Selkirk (1996), Nespor & Vogel (1986), and Hayes (1989) for the prosodic hierarchy, where the Prosodic Word is the smaller unit within the hierarchy (further discussed in Chapter 11). I also draw assumptions from property-driven approaches to word-prosodic typology laid out in Hyman (2006) and Hyman (2009), and describe the prosodic system of Choguita Rarámuri in terms of the canonical properties of stress and tone systems, dispensing with the notion of "pitch-accent" found elsewhere in the literature. Finally, in the analysis of stress, tone and intonation, the description and analysis presented here makes reference to principles and assumptions from the Autosegmental-Metrical (AM) framework (Pierrehumbert 1980, Beckman & Pierrehumbert 1986, Ladd 1986) and metrical stress theory (Hayes 1995). These frameworks provide useful tools, including phonological representations, that allow presenting key phenomena in this language. I sought a balance, whereby the notions from any specific theoretical, typological or descriptive approach employed here would not preclude the possibility of alternative analyses that may be more insightful than those presented here.

Given that the data analyzed here comes from a documentary corpus that is heterogeneous in terms of contributing language experts and genres of speech represented, this grammar attempts to describe a single language variety while at the same time addressing and exemplifying some patterns of variation present in the speech community. Reference grammars continue to provide the empirical backbone of developing linguistic theories, research in linguistic typology, and the creation of pedagogical materials for language maintenance, revitalization and reclamation. However, as noted by Evans & Dench (2006), using the

metaphor of grammar writing as “catching” language, reference grammars (such as this one) can only aspire to capture static pictures, a very small fraction of a complex linguistic system. Though still limited, documentary corpora provide a more representative window into language as a dynamic system with significant variation and change in progress.

In an effort to articulate the link between this grammar and the documentary corpus in which it is based, I provide details of the content and structure of the Choguita Rarámuri corpus in §1.4.3 below. This grammar is linked to the corpus from which it stems in two other ways. First, each example is provided with source information, which allows users to retrieve the documents from which examples come from in the documentary collections of the language (see more details in §1.4.5). Second, a subset of examples of this grammar are provided with links to sound files; these are intended not only to strengthen the link between grammar and corpus, but also to increase transparency of the analyses presented here, while providing interested users with a deeper level of access to the data on which generalizations are based upon (see Remijsen & Ayoker (2018) for an example of grammatical description that includes sound examples). This more direct representation of sound in the grammar responds to calls for a new paradigm in grammatical description where users are able to form their own conclusions without their being mediated by the analytical interpretation of grammar writers (Rice 2014), enhancing the “reproducibility” of grammatical description. “Reproducible” research is understood here as “research [that] aims to provide scientific accountability by facilitating access for other researchers to the data upon which research conclusions are based” in cases where true replicability (the ability to produce new data by recreating research conditions faithfully) is not possible (Berez-Kroeker et al. 2018: 4). Most importantly, sound in grammar is intended to enable and improve access to original language data by community members who are native speakers or language learners who are interested in language preservation, revitalization and reclamation (see also Rice (2014) for discussion).

While the present grammar aims to provide a glimpse of variation within the speech community, it should be noted that a full account of how lectal variation and bilingualism operate in the community of Choguita and how it may have an impact on Choguita Rarámuri grammar is a topic for future research.

1.4.3 Data sources and methodology

A documentary corpus of Choguita Rarámuri informs the analysis and is the source of the examples presented in this grammar. This corpus comprises data collected during several visits I made to Choguita between 2003 and 2018. The

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contexts in which data were elicited are outlined in the following subsections. The corpus consists of over 200 hours of audio and/or video recordings of elicited data, personal, historical, and procedural narratives, conversations, interviews, prayers, and oratory, as well as several hours of sessions where language experts chose the topics to be covered in language teaching sessions.

Recordings and associated annotation materials are available in two archival collections. The first collection (Caballero 2009) is housed at the Endangered Languages Archive,¹⁰ and contains approximately 130 hours of digital audio recordings, 10 hours of video recordings, and a substantial amount of digital transcription and annotations. These materials were obtained from 2003 to 2009. An overview of the background and contents of this collection is provided in Caballero (2017). The second documentary collection (Chaparro Gardea et al. 2019) is housed at the Survey of California and Other Indian Languages at UC Berkeley.¹¹ This second collection contains over 1,300 digital files, including 115 hours of sound recordings that were primarily obtained between 2011 and 2018.

All of the data examples cited in this work are part of materials where individual contributors consented to be included in this work and other linguistic publications. A subset of the materials of the documentary collections are, however, not cited in this work, as there is a community-wide consensus that certain materials are not to be accessed by outsiders. Specifically, and as decided in local government assemblies, special sensitivities are placed on video recordings of ritual celebrations and activities, as outsiders in the past have recorded them without consulting local authorities or the community at large.

The Choguita Rarámuri documentary corpus comprises a wide sample of different speech genres with different degrees of planning (including conversations, monologues, narratives, myths, ceremonial speeches (*nawésari*), interviews of elders by native speakers, and ritualistic chants and prayers (healing ceremonies). The corpus also includes recordings of elicitation sessions where speakers undertake the role of language teachers, which allows for a great deal of contextualization of the data elicited. Other kinds of elicitation conducted included contextualized- and text-based elicitation, translation, metalinguistic judgements, and elicitation prompted by culturally relevant visual props, as well as and participant observation. The following sections describe the different classes of data collected between the duration of the project, as well as the methodologies employed to this end.

¹⁰This collection is available on-line at <http://elar.soas.ac.uk/deposit/0056>.

¹¹This collection can be retrieved on-line at <http://dx.doi.org/doi:10.7297/X2HH6H70>.

1.4.3.1 Narratives

Many examples in this grammar come from narratives, a series of documents that mainly involve monologic speech, of a kind closer to the planned speech event end of a spontaneity continuum. These texts include genres such as general descriptions of events, historically contextualized descriptions, myth narratives, procedural texts, and narratives from visual prompts, recorded (in both audio and video) with single speakers. Audio recordings of texts were typically made in indoor, private spaces, while video-recorded texts generally involve procedural texts and historical descriptions made *in situ*. These narratives are crucial to linguistic analysis in this reference grammar and are part of the developing record of the history, culture and language of the community as envisaged by community members.

While contributing language experts were sometimes prompted very generally (with questions about how Choguita was during their childhood, questions about pictures of the community, or asking for a traditional story), the topics covered in the narratives were generally selected by each contributing language expert. In some cases, speakers had family members as an audience when recording their text, when this was contextually appropriate. In some cases, a narrative would evolve from a conversation about particular topics or through elicitation of lexical items, blurring the lines between narrative proper, conversation and elicitation. Example sentences that come from narratives are indicated as ‘tx’ in the source code (see §1.4.5 for more details).

1.4.3.2 Conversations

A subset of recordings in the corpus involve audio and/or video-recorded conversations. In these sessions, speaker participants engaged in conversations, either with other native speakers or with me (as a second language user of Choguita Rarámuri). Conversations recorded can be classified into three types: (i) unstructured conversations that arose in the context of elicitation; (ii) elicited conversations between native speakers; and (iii) semi-structured conversations between monolingual language experts and me for lexical or grammatical elicitation. In conversations arising in the context of elicitation, these mainly involve informal, unstructured exchanges between a language expert and me and focused on lexical items (such as kinship terms), contexts of use of particular structures or linguistically and/or culturally relevant aspects of topics covered in elicitation.¹² In these types of conversation, both Choguita Rarámuri and Spanish are

¹²In a few recordings, the exchanges were exclusively carried out between native speaker participants discussing the meaning of lexical items and constructions elicited using culturally relevant still pictures.

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used. The second type of conversations, less frequent, involved eliciting conversations between native speakers in arranged recording sessions, generally with prompted topics of conversation. These types of conversations generally ended up having the structure and tone of a monologic narrative by one speaker and back-channeling by other speakers. Finally, in the third type of conversation, semi-structured conversations, the sessions were designed to elicit particular lexical items or grammatical constructions with monolingual speakers (for example, to elicit tonal minimal pairs).

Since all these interactions took place in the context of elicitation sessions or typically involved topics and constructions that were recorded for the purpose of informing linguistic analysis, they are part of the set of materials from the deposited collections that have an exclusively linguistic focus. None of these conversations can be taken to be representative of Choguita Rarámuri conversational norms, either because the exchanges involved my limited fluency or because the presence of the recorder influenced the interaction (all of the conversational data in the corpus was obtained on-record, with explicit acknowledgement and permission from contributing speakers).

1.4.3.3 Interviews

Some of the examples cited in this grammar are drawn from interviews with elders, which were obtained by community member collaborators as part of the initiative to document the history of the community. These interviews had a special focus on endangered domains of knowledge still possessed by elders, but in attrition or non-existent for younger speakers, such as the complex kinship term system that at the time of recording was not known with its full complexity by speakers in their thirties and younger. Other topics included past agricultural practices, food preparation, ritual practices, as well as personal biographical information of interviewees. The interviews include accounts by interviewees of their experience growing up in Choguita and the differences brought about by recent changes in the community, such as the introduction of the government-run local school or the introduction of electricity. Interviews were video recorded with high quality audio, with additional, separate audio recordings made at the time of the recording with the solid-state recorder. These interactions were almost exclusively dyadic and carried out in Choguita Rarámuri, i.e., no code-switching was attested in these recordings.

1.4.3.4 Elicited data

Much of the data used in the grammar comes from lexical or grammatical elicitation designed to gather specific types of evidence for phonological, morphological, or syntactic analysis. While it is desirable to exemplify patterns and structures drawn from speech events with a lower degree of planning (such as narratives or conversations), some types of constructions are rarely found in other speech genres due to the highly specific semantic contexts they involve. Elicitation was thus critical in assessing the nature and properties of the grammatical constructions discussed in this grammar.

The distinction between conversation, elicitation and narrative was blurred in certain contexts of language work, but data examples are identified as elicited in this work if it meets one of the following criteria: (i) it was obtained by asking speakers to translate a word or phrase from Spanish into Choguita Rarámuri or viceversa (translation elicitation); or (ii) it was uttered by speakers when provided a context and being asked what they may say in such a context; or (iii) it was an answer provided by speakers when offered a Choguita Rarámuri word or clause (either overheard or from annotation of a text) and asked to elaborate about the context in which they would utter it (contextualized and text-based elicitation).¹³

In addition to these strategies, some sessions also involved eliciting metalinguistic judgments or eliciting responses using visual props, such as pictures of rituals or agricultural practices in other Rarámuri communities. Other sessions were video recorded and focused on in-situ descriptions of agricultural terms and the language of space, including deictic terms, topographic terms and landscape-based standardized place names. Finally, one other type of elicitation involved requesting grammaticality judgments of morphologically complex words or clauses in Choguita Rarámuri; the offered forms were either constructed forms with logically possible affix orderings or stress patterns or forms produced by other speakers. I would ask speakers to assess the grammaticality of the offered forms and, if judged grammatical, to discuss their meanings in detail. I have avoided exemplifying any given pattern with this kind of evidence, except for cases where negative evidence (i.e., the ungrammaticality of a particular suffix sequence) is relevant in the discussion. Any data examples that arose through this methodology are indicated as ‘[pr.]’ (for prompted) in the source code.

¹³This type of elicitation proved to be useful for elucidating properties of grammatical constructions or lexical items: particular constructions encountered during an off-record conversation or in the process of annotating individual texts would serve as starting points for exploring grammatical or lexical aspects of the constructions in question.

1.4.3.5 Language teaching sessions

A final type of data examples come from language teaching sessions, where native speaker participants explained lexical items, constructions and expressions, and their cultural contextualization to me. In some cases, I prompted the topics of discussion, which included overheard expressions and terms recorded during elicitation sessions. In most of these sessions, however, speakers were just asked to teach me anything they decided would be appropriate for me to learn as a second language learner and for the purpose of my description and analysis of the language. In these sessions it was frequent that language experts would correct my mistakes when using Choguita Rarámuri, clarifying the form and/or meaning of the expression in question, as well as the appropriate context for its utterance. Other topics covered in these sessions include politeness formulas, vocabulary associated with rituals and traditional agricultural practices, culturally relevant contextualization for the use of some terms and colloquial expressions, and discussions about dialect differences between Choguita Rarámuri and neighboring varieties.

1.4.4 Language experts and collaborators

To date, thirty-four community members have participated in the Choguita Rarámuri language project in different roles, including as authors, consultants, and creators of audio and video recordings, annotation and analysis. All native contributors wanted their utterances attributed to them and to be acknowledged for their expertise and role in this project. A full list of language experts who have contributed to this project is provided below in Table 1.3, with contributors' initials, names and roles in the project. Speakers who contributed their expertise in elicitation sessions are listed as consultants. Primary speakers in monologic texts and interviewees in interviews are listed as authors, while interviewers are listed as interviewers. The initials that precede each contributor's name corresponds to the language expert reference in the source file names listed immediately below example sentences (details of how data examples are represented are provided in §1.4.5).

From the project participants listed in Table 1.3, the main contributors to this grammar are the language experts listed below (in alphabetic order). Below, I briefly describe their role in the project.

Rosa Isela Chaparro Gardea (RIC) joined the project in 2011 and quickly became one of the main contributors to the project, authoring several narratives, helping me annotate and translate narratives authored by her and other language experts

Table 1.3: Names, initials and roles of contributing language experts

RCG	María Del Rosario Cervantes Guerrero	consultant
RIC	Rosa Isela Chaparro Gardea	consultant, author
MGD	María Guadalupe Diaz	consultant, author
ME	Mateo Espino	author
SF	Santos Fuentes	consultant
ROF	†Rosa Fuentes	author
JMF	†José María “Chémale” Fuentes	author
MAF	Miguel Angel Fuentes Diaz	consultant
VFD	Virginia Fuentes Diaz	participant
AFD	Angelina Fuentes Diaz	participant
RFG	Reyes Fuentes Guerrero	consultant, interviewer
CFH	†Cornelio Fuentes Hernández	author
MFH	†Morales Fuentes Hernández	consultant, author
SFH	Sebastián Fuentes Holguín	consultant, author, interviewer
BFL	Bertha Fuentes Loya	consultant, author
YFL	Yeni Fuentes Loya	consultant
CFM	Carlos Fuentes Moreno	consultant
GFM	Guillermmina Fuentes Moreno	consultant, author
VFM	Valentina Fuentes Moreno	consultant
ViFM	Vicente Fuentes Moreno	consultant
GFP	Giltro Fuentes Palma	consultant, author, creator, interviewer
RGF	Rocío Guerrero Fuentes	consultant
TGH	Teresa Guerrero Herrera	consultant
MDH	María Dolores Holguín	author
JHF	Javier Holguín Fuentes	author
AHF	†Alicia Holguín Fuentes	consultant
JLG	Jesusita Loya Guerra	consultant, author
RLH	Roberto León Holguín	consultant
FLP	†Federico León Pacheco	author
LEL	†Luz Elena León Ramírez	consultant, author
FMF	Francisco Moreno Fuentes	consultant
SMM	Sebastián Moreno Morales	consultant
ChR	Cherame Rosesio	author
MIV	Ma. Ignacia Valencia Nevárez	consultant

and participating in elicitation sessions, as well as offering insights about variation between Choguita Rarámuri and closely related Norogachi Rarámuri, where she was born and raised.

Elder †José María “Chémale” Fuentes [JMF] was a longstanding leader and authority in Choguita (having served as the head governor several times) who had

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a wealth of knowledge about the history of the community, was an accomplished violin player and an expert of the *nawésali* register, the oratory speech style that only a few (those recognized as the wisest in the community) master. He graciously contributed historical and mythical narratives, as well as descriptions of agricultural practices past and present.

Elder †**Morales Fuentes Hernández** [MFH] was a ritual singing shaman (*sikálame*), violin player who had a great interest in recording the music and rituals of the community. His recordings were always done by his enthusiastic initiative, and with a sense of urgency: ritual music and shamanic singing are some of the domains of local culture that is mainly mastered by elders, with few young people learning this form of art. His own personal style of performance is reflected in the recordings made. He also participated in grammatical elicitation sessions structured as conversations, as he was one of the elders in the community who had very limited knowledge of Spanish.

Sebastián Fuentes Holguín [SFH] was one of my key teachers and collaborators since the beginning of the project, and has contributed extensively to every aspect of the project, from authoring several monologic narratives and ceremonial speeches, to being a patient collaborator and teacher in elicitation sessions. During elicitation sessions I benefited from his insights and expertise, and he was always enthusiastic to discuss possible contexts of utterance for constructions elicited. He is a passionate advocate for the language and one of the main leaders of the community-based initiative to document the cultural, historical and linguistic heritage of Choguita.

Bertha Fuentes Loya [BFL] was also one of my main teachers and collaborators. She authored narratives and contributed as a consultant for many elicitation questions and was also an excellent language instructor. She also was a key contributor of annotation of texts recorded with other language experts and also shared her expertise in variation between Choguita Rarámuri and neighboring Rarámuri varieties. She contributed to in-situ elicitation focused in agricultural practices and landscape terms. She is also an expert seamstress and authored several narratives and procedural texts about her art.

Guillermina Fuentes Moreno [GFM] is a community leader who contributed her knowledge of the history of Choguita in several historical narratives and also shared her vision of the community into the future. She was also a consultant in elicitation sessions and unstructured conversations.

Giltro Fuentes Palma [GFP] contributed to the project as an author of narratives, as a consultant in elicitation sessions, with annotation and analysis as well as

creation of video documentation. As part of the team that lead the documentation and mobilization of the history, culture and language of Choguita, he focused on interviews with elders as well as the creation of materials to be used in the local school curriculum. Giltro was appointed by local authorities as the custodian of the documentation materials deposited in Choguita and to head the mobilization of documentation outcomes in the community.

Elder †**Luz Elena León Ramírez [LEL]** was a master storyteller and an invaluable source of linguistic, cultural and historical knowledge. She graciously contributed many narratives to the corpus, including procedural texts, historical narratives (including contact with members of the N'dee/N'nee/Ndé (Apache) nation and sightings of the armed forces of Pancho Villa in the early twentieth century), descriptions of culturally relevant events in the community (such as an epidemic suffered by the community), and personal history from her childhood. She also collaborated in lexical and grammatical elicitation sessions, and helped translate and annotate her own and others' speakers texts. She was a trained midwife and medical assistant and beloved in Choguita and beyond for her generosity and loving service to her community.

Elder †**Federico León Pacheco [FLP]** contributed a wealth of historical and cultural knowledge about Choguita and the Rarámuri nation. One of the few remaining *owirúame* (shaman) in the community, he was one of the bearers of specialized knowledge, including the complex kinship system, which he shared in interviews led by community members. He also contributed his knowledge in interviews focusing on the early history of Choguita, his escape from a boarding school in nearby Norogachi in his childhood, and his path of becoming a healing shaman.

Francisco Moreno Fuentes [FMF] was involved in video documentation training and led community-based teams that created records of traditional celebrations and rituals. He also contributed to the project as a consultant in elicitation sessions.

Many other people contributed to this grammar indirectly through informal interactions and other forms of support during my time in Choguita. Though they are not acknowledged by name here, their contribution is deeply appreciated.

1.4.5 Representation of examples

Each glossed example minimally provides, from top to bottom: (i) a broad phonetic transcription in IPA; (ii) a phonemicized transcription (also in IPA) with

morpheme breaks; (iii) glosses; (iv) an English translation; (v) a Spanish translation; and (vi) a source code. Examples may also include underlying phonological representations where relevant. Examples are glossed following the conventions established in the Leipzig Glossing Rules (Comrie et al. 2008). Any departures from this standard are justified where introduced.

A number of examples in the grammar have accompanying audio recordings; these examples are provided with a hyperlink in the source code that directs readers to an open access repository where individual audio files are available for download (Caballero 2022). The goal is to allow readers to access the larger contexts from which the grammatical description is based upon, which enables wider dissemination of the results and the ability of interested community members and academics interested in the language to carefully examine the analyses and description set forth in this grammatical description.

All examples include a Spanish translation (reflecting the local Northern Mexican variety spoken in the Sierra), the language used for translation elicitation and annotation of texts. Spanish translations were given by bilingual language experts of their own utterances or of the words of a different speaker when contributing annotation of texts. When the Spanish translation offered by language experts departs from standard Northern Mexican Spanish, a more standard Spanish translation is supplied and is accompanied by the language expert's verbatim translation, enclosed in double quotation marks. Information included in the translation that is inferred from the context and noted as such by contributing language experts is provided in parentheses. Example sentences are translated by me or by native English speaker student research assistants.

The source code is provided in angled brackets in the last line and provides the contributor's initials and a unique identifier that links the particular example to the documentary corpus. If the source example is taken from handwritten field notes, this unique identifier will reference the year the example was recorded, book and page number (e.g., '05 1:125'). Examples from written field notes also identify the type of document where the data comes from as follows: elicitation ('el'), text ('tx'), interview ('in'), or conversations ('co'). If the source example has been annotated in a digital format, the unique identifier will reference the label of the source document.¹⁴ When available, a hyperlink in the source code enables retrieval of an audio file from an open access repository (Caballero 2022).

¹⁴This is an automatically generated identifier generated in *Kwaras*, an ELAN corpus management tool created by Russell Horton (Linguistics MA 2012, UCSD) and further developed by Lucien Carroll (Linguistics PhD 2015, UCSD) (Caballero et al. 2019). This unique identifier is derived from the source file name (e.g., 'co12-37') plus the time stamp of the annotation referenced (e.g., '0:49.6').

For examples where a corresponding audio file is available, the source code is provided in curly brackets and gray font. An example of how data is cited is illustrated in (2):

- (2) a. *mu'hê ta'mí sa'pâto ra'rèma*
mu'hê ta'mí sa'pâto ra'r-è-ma
 2SG.NOM 1SG.ACC shoes buy-APPL-FUT.SG
 'You'll buy shoes from me.'
 'Me vas a comprar zapatos (que vendo yo).' < SFH 05 1:74/el >
 b. *ne'hê 'pé o'kwâ ra?i'tfâma kori'má 'hítara*
ne'hê 'pé o'kwâ ra?i'tfâ-ma kori'má 'hítara
 1SG.NOM just couple speak-FUT.SG fire.bird about
 'I'll speak a little about the *korima* (the fire bird).'
 'Yo voy a hablar poquito del pájaro *korimá* (el pájaro de fuego).' {LEL
 tx5:00:22.9}

In (2a), the example sentence was uttered by SFH in 2005 in an elicitation context ('el'), and the handwritten notes of that session are located in book 1, page 74. In (2b), the example sentence was uttered by LEL; the code next to the contributing speaker's initials is the unique identifier of that example, derived from the source file name (a text labelled 'tx5') followed by the time stamp of the annotation referenced ('0:22.9').¹⁵ In this example, the source code is represented in curly brackets and grey font since it contains a hyperlink that directs users to an audio file corresponding to this data example available for download.

Where an example presents an excerpt from a dialogue, each speaker is identified by their initials at the start of the transcription line, as shown in (3).

- (3) a. [ME] *boni'lâ* ...
boni-łâ
 be.younger.brother-POSS
 'Younger brother...'
 'Hermano menor...'
 b. [SFH] *bo'nêsa ba?*
bo'n-ê-sa *ba?*
 younger.brother--HAVE-COND CL
 'As if he were a younger brother?'
 '¿Como si fuera hermano menor?'

¹⁵In many cases, authors themselves contributed to annotation and transcription of their own speech. In cases where a different language expert collaborated with me in transcribing and translating the texts, only the author of the text referenced is credited in the source code.

- c. [ME] *u'rí, boni'lâ 'nísa 'lá ba 'ni*
u'rí, boni'-lâ *'ní-sa* *o'lá ba 'ni*
yes be.younger.brother-POSS COP-COND CER CL EMPH
'Yes, as if he were a younger brother indeed.'
'Si, si fuera hermano menor, así es.' {ME in485:02:22.9}

Highly common phrases or expressions are given without a source. These are phrases or expressions that are too common to be ascribed a single source.

All examples provided in this grammar reflect idiolectal variation, which is particularly abundant in terms of pronunciation and various phonological reduction processes. Thus, there is no normalization of transcriptions to reflect any single pronunciation as “standard”. Where a particular form illustrates a particular process only attested in the speech of one or few language experts, the divergence is usually illustrated with an underlying phonological representation and a footnote that includes a cross-reference to the chapters/sections addressing those specific processes.

Finally, the reader should not assume that the example sentences in this work accurately reflect the culture, interests, priorities or personalities of the speakers that uttered them: a large amount of examples used to illustrate patterns and phenomena here have been obtained in contexts where the goal was to illustrate structural aspects of the language, and are not necessarily sociologically or ecologically representative.

1.5 Overview of the grammar

Description in this grammar has been organized in a way that aims to facilitate discovery of particular topics in the grammar of Choguita Rarámuri by typologists and linguists interested in Choguita Rarámuri or languages of this region. This book has features of the predominant ascending macrostructure organization of grammars (phonology > morphology > syntax), where description begins with chapters devoted to the sound system to then move to increasingly complex units of analysis (words, phrases, clauses and sentences).

This structure or any organization where domains of linguistic structure are compartmentalized into discrete chapters, however, presents challenges in the organization of the description of linguistics systems, especially with respect to aspects of structure that cross-cut all levels of grammar, such as prosody (Mosel 2006). As shown in this grammar, the prosodic system of Choguita Rarámuri involves complex interactions between lexical, post-lexical and grammatical information that require discussion in its own right. Confronted with this challenge,

this grammar includes a chapter where interactions of prosodic patterns and processes across grammatical domains are addressed in detail with the goal of providing a clear picture of how these complex interactions yield surface forms in this language. This supplements the description that pertains to each individual domain of description, such as description to the lexical role of tone in the chapter devoted to tone and intonation and description of the grammatical role of tone in chapters devoted to morphology. Thus, there is some degree of redundancy built into the description, which seeks to enable different contextualization of the data and the analyses provided.

Like most reference grammars, this volume also adopts a semasiological, form-to-function organization, which means that related semantic or conceptual domains may be addressed in different chapters depending on how they are morphosyntactically encoded. There are abundant cross-references provided in the grammar that are intended to help readers identify topics that may be semantically or conceptually related.

This chapter concludes with a summary of each of the following chapters of this grammar.

Chapter 2 lays out the core structures of the language, spanning phonological patterns and processes, morphological contrasts encoded by pronouns and demonstratives and their function, morphosyntactic and morpho-phonological properties of nouns and verbs, word order patterns, appositive possessive constructions, relative clauses, complement clauses, clause chaining, and complex predicates.

Chapter 3 addresses the segmental phonology of Choguita Rarámuri. First, it provides the phonological inventory and complex patterns of allophonic variation. This is followed by a description of the various phonological processes, including processes that target labio-velar semi-vowel and voiced bilabial stops, alveopalatal affricates, alveolar fricatives, nasals and rhotics. This chapter includes description of post-consonantal devoicing and voiceless plosive lenition processes.

Chapter 4 describes the syllabification patterns of Choguita Rarámuri, as several suprasegmental processes make crucial reference to the syllabic structure of words. This chapter includes discussion of underlying syllable structure patterns, as well as surface consonant and vowel sequences.

Chapter 5 addresses the word-level stress system of Choguita Rarámuri, including acoustic and distributional properties of stress and stress-dependent phenomena. There is also detailed consideration of the lexical stress properties of both

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roots and suffixes and description of the typologically unusual initial three syllable stress window that restricts the location of stress in the language.

Chapter 6 is devoted to tone and intonation. This includes a detailed description of the tonal inventory and its acoustic encoding, tone melodies by root types and interaction with word-level stress, as well as stress-based tonal neutralization. This is followed by description of the intonational characteristics of declarative sentences, tone-specific intonation patterns and non-tonal encoding of intonation.

Chapter 7 outlines other word-level suprasegmental processes of Choguita Rarámuri that contribute to its prosodic complexity. These include restrictions on the distribution of glottal stops in an initial disyllabic window, minimal word size restrictions and loanword prosodic adaptation patterns.

Chapter 8 describes the morphology of nouns. First, it addresses the morphotactic generalizations of morphologically complex nouns. This is followed by description of each of the nominal morphological categories, including plural/pluractionals, case, possessive marking, and derivational morphological processes, including agentive, patientive and experiencer nominalizations and abstract noun nominalizations. This chapter concludes with discussion of adaptation of Spanish loan nouns and tone patterns in morphologically complex nouns.

Chapter 9 provides a detailed overview of the verbal morphology and morphologically-conditioned phonological processes of Choguita Rarámuri. First, this chapter details the distinctions between verbal root classes in terms of their stress properties in different morphological environments, as well as their transitivity properties. This is followed by a comprehensive description of grammatical tone patterns in morphologically complex words. This chapter also addresses evidence for positing morphological domains in a layered, hierarchical structure of the verb; the evidence reviewed includes phonological processes that apply in specific verbal domains and morphotactic evidence for suffix ordering generalizations and patterns of variable affix order. This chapter concludes with discussion of the verbal complex, which includes clitics and modal particles.

Chapter 10 describes the morphological properties of minor word classes, including pronouns, demonstratives, adjectives, numerals, quantifiers, definite articles, adverbs and discourse particles and enclitics. The discussion is organized on a classification of these word classes into two groups, depending on whether they may head noun phrases or combine with head nouns in noun phrases and those that cannot.

Chapter 11 is devoted to prosodic structures and processes that cross-cut the grammar of Choguita Rarámuri, including lexical phonological processes, morphological processes and post-lexical phonological phenomena. First, this chapter outlines the criteria for determining the Prosodic Word in Choguita Rarámuri, and discusses the domains for phonological and morpho-phonological processes below the level of the Prosodic Word. This is followed by discussion of phonological phenomena that are quantity-sensitive in the language vis-à-vis the lack of contrastive vowel length in the language. This chapter also addresses complex prosodic interactions: (i) between stress and tone and between lexical tone and grammatical tone in morphologically complex words, and (ii) between lexical tone and intonation, which includes non-tonal encoding. This chapter concludes with a discussion of prosodic constraints associated with different morphological constructions.

Chapter 12 examines how nouns and various forms addressed in Chapter 10 combine in forming noun phrases in Choguita Rarámuri. This chapter organizes the description in terms of each of the possible modifiers of nouns, detailing restrictions on co-occurrence, agreement patterns and word order properties. This chapter includes discussion of simple noun phrases, which contain a nominal head and a single modifier, and noun phrases that involve possessive constructions.

Chapter 13 characterizes basic clause types in terms of their transitivity properties (intransitive, transitive and ditransitive), as well as locative clauses, copular clauses and existential clauses. This chapter includes detailed discussion of the characteristics of clauses headed by postural verbs, and considers the semantics of postural verb themselves and the postural constructions they head.

Chapter 14 moves on to consider the morphosyntactic properties of different types of sentence types, namely interrogative, negative, imperative and comparative constructions. The prosodic properties of interrogatives are assessed in relation to declarative sentences.

Chapter 15 details the complex clause structures found in Choguita Rarámuri. This includes discussion of complement clauses, adverbial clauses, relative clauses as well as clausal conjunction, disjunction and adversative coordination. This chapter also provides a description of complex predicate constructions, which includes light verb, auxiliary, serial and V-V incorporation constructions. The properties of constructions with depictive and resultative semantics are also addressed.

2 Grammatical overview

2.1 Phonology

2.1.1 Segmental inventory and processes

The Choguita Rarámuri phonemic consonant and vocalic monophthong inventories are provided in Table 2.1 and Table 2.2, respectively.¹

Table 2.1: Phonemic inventory of Choguita Raramuri consonants

	Bilabial	Alveolar	Alveo-palatal	Retroflex	Palatal	Velar	Glottal
Plosive	p ^h p b	t ^h t				k ^h k	?
Affricate			tʃ ^h tʃ				
Nasal	m	n					
Flap		[r] <r>		[l] <l>			
Fricative		s					h
Approx.	w				j	w	

Table 2.2: Choguita Rarámuri monophthong vowel system

	Front	Central	Back
High	i		u
Mid	e [ɛ]		o [ɔ]
Low		a	

Choguita Rarámuri displays complex patterns of allophonic variation, most of which involve lenition processes. Voiced bilabial plosives in inter-vocalic position may be optionally realized as voiced bilabial fricatives ([β]) (1a) or voiced

¹The labio-velar approximant is doubly assigned in the bilabial place of articulation column and in the velar place of articulation column in Table 2.1.

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approximants ([β]) (1b). Lenition of /b/ in unstressed word-initial syllables (exemplified in (1c)) leads to neutralization of the contrast between /w/ and /b/.

(1) Spirantization of /b/

- a. [zi'βóò]
/si-'bô/
go.PL-FUT.PL
'we will go'
'vamos a ir' {MFH tx1133:01:17.2}
- b. [èβəma]
/'èbi-ma/
bring-FUT.SG
's/he will take it'
'va a llevarlo.' < BFL 06 6:73/el >
- c. [wa?wí]
/ba?wí/
'water'
'agua' < SFH 04 1:17/el >

For some speakers, the voiced bilabial stop is realized as a labio-velar semi-vowel ([w]) pre-consonantly after post-tonic vowel deletion (2).

(2) ['èwtiki]

/èbi-ti-ki/
bring-CAUS-PST.EGO
'I made him/her bring it'
'Lo/a hice traerlo.' < BFL 06 6:73/el >

Alveopalatal affricates may be produced as alveolar affricates, optionally de-palatalizing before low, central vowels. Alveolar affricates may also further reduce, becoming deaffricated in fast speech, a process that frequently targets function words like demonstrative *étfi*. These processes are exemplified in (3a–b) and (3c–d), respectively.

(3) Optional depalatalization and deaffrication of alveopalatal affricate

- a. [a'kâtf̪a-la] ~ [a'kâtsa-la]
/a'kâtf̪a-la/
 paternal.grandmother-POSS
 'her/his paternal grandmother'
 'su abuela paterna' {SFH in243:08:09.4}
- b. [a'tʃâ-sa] ~ [a'tsâ-sa]
/a'tʃâ-sa/
 to.sit.SG.TR-COND
 'if s/he sits him/her down'
 'si lo sienta' < SFH 04 1:38/el >
- c. [es'tá]
/étf̪i 'tá/
 DEM DET
 'that one'
 'ese' < LEL 06 6:141-162/tx >
- d. ['és 'kútʃi]
/étf̪i 'kútʃi/
 DEM small
 'those small ones'
 'esos pequeños' < BFL 07 frog story_2/tx >

A striking pattern of segmental reduction involves lenition of voiceless plosives, which are gradually realized within a continuum ranging from voiceless aspirated stops to complete deletion: [p^h > p > b > β > β̪ > w > Ø]. I analyze this reduction process, exemplified in (4), as a phonetic process that is dependent on rate of speech and position of segments within the Intonational Phrase: productions on the lenis end of the continuum (fricatives and approximants) tend to be produced in utterance-final position, while productions on the fortis end (voiceless and voiced stops) tend to be produced utterance-medially, a factor that may suggest that these alternations are sensitive to phrasal phonological effects.

(4) Phonetic reduction of voiceless plosives

- a. *tʃû ri'ká ti'búsa 'lé pa 'nà ka'wì βa*
tʃû ri'ká ti'bú-sa a'lé pa] 'nà ka'wì βa]
 how that take.care-COND DUB CL PROX land CL
 '(we learnt) how to take care of it, this earth'
 '(aprendimos) cómo cuidarla, la tierra' {SFH tx977:00:60.0}

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- b. *'nà ka'wì þa*
'nà ka'wì þa
DEM earth CL
'this earth'
'este mundo' {SFH tx43:11:11.2}

In addition to these processes, Choguita Rarámuri exhibits cross-linguistically common phonological processes, including palatalization of alveolar fricatives before high vowels. This process may be rendered opaque by post-tonic vowel deletion. This is exemplified in (5).

- (5) Surface opaque fricative palatalization
[a'tíʃ-li]
/a'tísi-li/
to.sneeze-PST
'S/he sneezed.'
'Estornudó.' < BFL 05 1:111/el >

In addition to consonantal allophonic patterns, vocalic segments undergo various stress-based reduction processes. Specifically, there are three distinct, optional patterns or degrees of vowel reduction: (i) /e/ raises to [i] both pre-tonically and posttonically (6a–b) (a robust process that exhibits optionality only for some speakers); (ii) non-final post-tonic /a/ and /o/ raise to [i] (6c–d); and (iii) high vowels reduce to schwa post-tonically (6e–f).

- (6) Stress-based vowel reduction

- a. [ni'hê] ~ [ne'hê]
/ne'hê/
'I'
'yo' < SFH 07 2:63/el >
- b. [bi'nè] ~ [be'nè]
/be'nè/
'learn'
'aprender' < ROF 04 1:9/el >
- c. [tʃòti-li] ~ [tʃòta-li]
/tʃòta-li/
begin-PST
'It began.'
'Comenzó.' < SFH 07 in243/in >

- d. [rono+^bâki-ma] ~ [rono+^bâko-ma]
 /ro'no+pa'ko-ma/
 feet+wash-FUT.SG
 'S/he will wash their feet.'
 'Lavará sus pies.'
- e. [pòlə-ki] ~ ['pòli-ki]
 /pòli-ki/
 cover-PST.EGO
 'I covered myself.'
 'Me tapé.' < AHF 05 1:125/el >
- f. [na'wí-nəla] ~ [na'wí-nila]
 /na'wí-nula/
 sing-ORDER
 'They ordered them to sing.'
 'Los mandaron a que cantaran.' < BFL 07 VDB/el >

The underlying syllable structure in Choguita Rarámuri is (C)V(?), with optional onsets and optional glottal stop codas. Stress-based vowel deletion yields consonant clusters in surface forms, which include geminates for some speakers, most frequently oral and nasal bilabial ones (e.g., *mo'tépi-po* → *mo'tép-po* 'we will braid her hair').

There is no contrastive vowel length, but long vowel sequences arise at morpheme junctures (e.g., *bi?w-à-a* 'they are cleaning') or as a morphologically-conditioned effect (e.g., the past passive *-ru* suffix conditions lengthening of the stressed stem vowel). There are also diphthongs with falling sonority, which occur morpheme internally and at morpheme boundaries (e.g., *kai'nâ-ma* 'they will harvest', *se'mè-i* 'he used to play the violin').

2.1.2 Stress, tone and prosodic structure

Stress in Choguita Rarámuri is lexically contrastive and assigned to the first, second or third syllable within an initial three-syllable window. Stress in inflected words is determined by the stress properties of both roots and suffixes: roots are stressed or unstressed (with fixed or shifting stress across paradigms, respectively), while suffixes are stress-shifting or stress-neutral. Stress distribution by root and suffix type according to their stress properties is exemplified in Table 2.3:

Table 2.3: Stress patterns of morphologically complex verbs

Stem	Stress-neutral	Stress-shifting	Stressed roots
	Past <i>-li</i>	Conditional <i>-sa</i>	
be'nè 'learn'	be'nè-li	be'nè-sa	
ba'hî 'drink'	ba'hî-li	ba'hî-sa	
tʃa'pí 'grab'	tʃa'pí-li	tʃapi-'sâ	Unstressed roots
sa'kí 'toast corn'	sa'kí-li	saki-'sâ	

A three-way lexical tonal contrast between HL (â), L (à) and H (á) tones is exclusively realized on surface stressed syllables: there is only one lexical tone per Prosodic Word and stressless syllables lack lexical tone. The tone-bearing unit is the mora: falling tones have their high target on the stressed syllable, with the fall starting in the tonic and continuing through a post-tonic syllable, if there is one; H tones may spread their high f0 to the post-tonic syllable.

Morphologically governed stress shifts result in lexical tonal alternations: if a stress-shifting suffix is stressed after a stress shift, the stressed suffix syllable will bear the lexical tone of that suffix, either a L tone (7b), a HL tone (7d) or a H tone (7e).

(7) Root and suffix tones

- a. [ki'máli] H
 /kimá-li/
 put.on.blanket-PST
 'S/he covered with a blanket.'
 'Se encobijó.' < BFL el1909 >
- b. [kimi'sí] L
 /kimá-sí/
 put.on.blanket-IMP.PL
 'You all cover yourselves with a blanket!'
 '¡Encobíjense!' < BFL el1909 >
- c. [tòli] L
 /tò-li/
 take-PST
 'S/he took it.'
 'Se lo llevó.' < RIC el921 >

- d. [to'kâ] HL
 /tò-kâ/
 take-IMP.SG
 'Take it!'
 '¡Llévalo!' < BFL el1882 >
- e. [to'nále] H
 /tò-nále/
 take-DESID
 'S/he wants to take it.'
 'Quiere llevarlo.' < BFL el1882 >

Trisyllabic unstressed roots have second syllable stress and the root's lexical tone is realized on the stressed syllable, e.g., H tone in (8a) or L tone in (8d). When attaching a stress-shifting suffix, these stems have third syllable stress in a root syllable which bears a HL tone regardless of what the lexical tones of the root and suffix(es) are, as shown in (8b–c, e–f).

(8) Tonal neutralization

- a. [ro? 'sówali] H
 /ro? sówá-li/
 cough-PST
 'S/he coughed.'
 'Tosió.' < LEL el2060 >
- b. [ro? so' wâma] HL
 /ro? sówá-mâ/
 cough-FUT.SG
 'S/he will cough.'
 'Va a toser.' < LEL el2060 >
- c. [ro? so' wâsi] HL
 /ro? sówá-sì/
 cough-IMP.PL
 'You all cough!'
 '¡Tosan!' < LEL el2060 >

- d. [naʔ'sòwali] L
 /naʔsòwa-li/
 stir-PST
 'S/he stirred it.'
 'Lo revolvió.' < BFL el1957 >
- e. [naʔso'wâma] HL
 /naʔsòwa-mâ/
 stir-FUT.SG
 'S/he will stir.'
 'Va a revolver.' < BFL el1957 >
- f. [naʔso'wâsi] HL
 /naʔsòwa-sì/
 stir-IMP.PL
 'You all stir!'
 '¡Revuelvan!' < BFL e1957 >

Tone alone may be the sole exponent of inflectional categories (e.g., L tone is an allomorph of the imperative singular construction, e.g., HL *ni'kâ* 'it barks' vs. L *ni'kà* 'bark!'). In other grammatical tone patterns, stem tones are conditioned by suffixes in certain verb classes.

Phonological and morphological processes and phenomena make reference to the Prosodic Word, which in Choguita Rarámuri can be identified by the following criteria:

- (9) The prosodic word in Choguita Rarámuri
 - a. Each prosodic word is assigned a single, main stress within the first three syllables, which bears a lexical tone (§5.1).
 - b. Inflected verbs are minimally bimoraic (§7.2).
 - c. Prosodic words are vowel final (§5.2.2).
 - d. Body part incorporation combines two morphological roots into a single prosodic word, where the new lexical item is assigned a single, main stress in the first syllable of the head of the compound (§9.3.3).
 - e. The glottal stop only emerges within the first two syllables of the prosodic word (§7.1).

2.2 Pronouns and demonstratives

Choguita Rarámuri personal pronouns distinguish two person values (first and second), two numbers (singular and plural) and encode a binary nominative-accusative case distinction (second person object pronouns do not encode a number distinction). Subject pronouns have full and reduced forms. Table 2.4 summarizes the subject/object distinctions of free pronominal forms.

Table 2.4: Free personal pronouns

	Subject	Object
1SG	ne'hê, 'nè	ta'mí
2SG	mu'hê, 'mò	'mí
1PL	tamu'hê, ta'mò	ta'mò
2PL	'émi	'mí

Subject pronominal forms may also be encoded through second (Wackernagel) position enclitics, attaching immediately after the first accented phrase or sub-constituent of a phrase. Table 2.5 presents the paradigm of enclitic pronominal forms.

Table 2.5: Pronominal enclitic forms

	Subject	Object
1SG	=ni (ne'hê, 'nè)	(ta'mí)
2SG	=mi (mu'hê, 'mò)	('mí)
1PL	=ti (tamu'hê, ta'mò)	(ta'mò)
2PL	=timi ('émi)	('mí)

Some representative examples of pronominal forms are provided in (10).

- (10) a. *ni'hê 'mí saʔ'pá a'wêníma*
ne'hê 'mí saʔ'pá a'wê-ni-ma
 1SG.NOM 2SG.ACC meat grill-APPL-FUT.SG
 'I will grill meat for you.'
 'Te voy a asar una carne.' {SFH el685:02:20.5}

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- b. *ta'mò ma 'meli*
ta'mò ma 'mê-li
 1PL.NOM already win-PST
 'We won.'
 'Ganamos.' {JLG el1278:00:14.4}
- c. *ka t̪emi si'rîruami hu*
ka t̪e̪=mi si'rî-ru-ame hu
 because not=2SG.NOM cut-PST.PASS-PTCP COP
 'because you had not been cut'
 'porque no habías sido cortado' {SFH tx475:07:07.9}
- d. *ke ta'mí ?àki*
ke ***ta'mí*** 'à-ki
 NEG 1SG.ACC give-PST
 'S/he didn't give me any.'
 'No me dió.' {JLG co1237:05:48.1}

Third person arguments may be left unmarked (11a), or they may be encoded through demonstratives (e.g., *'étfi* in (11b)) or through an emphatic pronoun (e.g., *bi'nôi* 'himself' in (11c)).

- (11) a. *aʔlì ke mu'ríwia ru'wá*
aʔlì [ke mu'ríwi-a] ru-'wá
 and NEG get.close-PROG say-MPASS
 'and they say they didn't get close'
 'y dicen que ellos no se arrimaban' {LEL tx109:02:14.2}
- b. *aʔlì 'étfi ta'mí "ku'mûtfi" a'nèma ba?*
aʔlì 'étfi ta'mí ku'mûtfi a'n-è-ma ba?
 and DEM 1SG.ACC kumuchi say-APPL-FUT.SG CL
 'and will they call me "kumuchi"?'
 '¿y ellos me van a decir "kumuchi"?' {SFH in484:13:59.4}
- c. *'ápi aʔlì bi'nôi wika'râ ko 'hê a'ní 'rú*
[ápi aʔlì bi'nôi wika'râ=ko] 'hê a'ní 'rú
 SUB then himself sing.PRS=EMPH DEM say.PRS say.PRS
 'when he sings he says this'
 'cuando canta él así dice' {LEL tx71:03:15.7}

Demonstratives in Choguita Rarámuri may function anaphorically as pronouns or as nominal modifiers and encode two degrees of distance and orientation with

respect to the speaker/addressee: (i) *'nà* ('this one') is proximal and encodes closeness to the speaker; and (ii) *'étfi* 'that one' is proximal and encodes closeness to either the addressee or the speaker. A third demonstrative (*'hē*) is exclusively found in complement clauses of utterance predicates and other complement-taking predicates introducing quoted speech.

2.3 Discourse particles

Choguita Rarámuri possesses a large amount of discourse particles that constitute a set of heterogeneous word classes. These classes are closed and morphologically simple, bearing no inflection or derivation. Each class of particles is composed of fewer than a dozen members per class. A subset of these forms are presented in Table 2.6, with their form, meaning, gloss and cross-reference to the section of the grammar where they are discussed in detail (if available).

Table 2.6: Discourse particles

Form	Meaning	Gloss	
<i>(o)'lá</i>	'certainty'	CER	§10.8.4
<i>(a)'lé</i>	'dubitative'	DUB	§10.8.4
<i>'a</i>	'affirmative', epistemic	AFF	§10.8.4
<i>bi'lá</i>	epistemic	indeed	§10.8.4
<i>ko</i>	'emphatic'	EMPH	§10.8.5
<i>ba</i>	final particle	CL	§10.8.6
<i>we</i>	'intensifier'	INT	

Discourse particles in Choguita Rarámuri have a wide range of functions and meanings. These include modality particles that encode epistemic stance, such as the particles *(o)'la* and *(a)'lé*, which encode certainty or doubt, respectively, that speakers may have about the actuality or likelihood that an event takes place. Epistemic particles are highly frequent, found post-verbally with future-marked verbs. Examples of the contrast between these epistemic markers are provided in (12).

- (12) a. *'nárma 'lé*
'nári-ma a'lé
 ask-FUT.SG DUB
 '(He) will probably ask.'
 'Probablemente va a preguntar.' < BFL 05 1:152/el >

- b. *'nârmo lá*
'nâri-ma o'lá
 ask-FUT.SG CER
 'S/he will definitely ask.'
 'Seguramente que va a preguntar.' < BFL 05 1:152/el >

Another highly frequent discourse marker is *=ko*, a pragmatic enclitic that confers prominence to a word or phrase within discourse. In some contexts it functions as a topic marker, attaching to nouns whose referents have been introduced previously in discourse (13a). In other contexts, *=ko* functions as a pragmatic focus marker (13b).

- (13) a. *aʔlì tʃā'bōtʃī ko 'wé bi'lá ra'ʔila ba'hīla 'rá 'étʃī tʃōʔ'má ba*
aʔlì tʃā'bōtʃī=ko 'wé bi'lá ra'ʔila ba'hīla ru'-wá 'étʃī
 and mestizo=EMPH INT truly like-REP drink-REP say-MPASS DEM
tʃōʔ'má ba
 snot CL
 'And the Mexican man they say he really enjoyed drinking it.'
 'Y el mestizo dicen que se lo tomó muy a gusto.' {SFH tx128:01:47.8}
- b. *'étʃī o'tʃērāmi ke 'lé pa, 'pīri ko 'hú a'lé?*
'étʃī o'tʃērāmi ke a'lé pa 'pīri=ko 'hú a'lé
 DEM old.people NEG DUB CL WHAT=EMPH COP.PRS DUB
 'Well, I think its the old people, or what might it be? Because I don't
 know what it might be'
 'Pues pienso que son los viejitos, o qué pueda ser? Yo no se que sea'
 {LEL tx223:04:09.2}

Finally, the particle *pa* marks syntactic and/or discourse boundaries and is also frequently found in natural discourse (see also (4) above and (13b)).

In addition to these discourse markers, Choguita Rarámuri possesses a large set of negative markers. Two of these forms are basic negative particles, *ke*, a clausal negator (which can be used as interjection), and *'kítí*, a prohibitive (negative imperative) particle. Negative particles may combine with other morphemes, yielding morphologically complex negative markers. The set of negative particles and complex negative markers available in the language are provided in Table 2.7, with their gloss, function and approximate translation.

Table 2.7: Negative markers

Form	Gloss	Function	Translation
<i>ke</i>	NEG	interjection, clausal negation	‘no’
<i>'kítí</i>	PROH	prohibitive (negative imperative)	‘don’t!’
<i>ke 'tâsi</i>	NEG NEG	interjection, clausal negation	‘no’
<i>'pé ke bi'lé</i>	just NEG one	emphatic interjection	‘not at all!’
<i>ka t̪é</i>	NEG.IRR again	clausal negation	‘not again/anymore’
<i>ke/tâsi t̪o</i>	NEG yet	clausal negation	‘neither’
<i>ke/tâsi bi'lé</i>	NEG one	clausal negation, constituent neg.	‘nothing at all’, ‘no single’
<i>ni bi'lé</i>	nor one	constituent neg.	‘nor any’

2.4 Nouns and noun phrases

Nouns in Choguita Rarámuri may be inflected for instrumental and locative case and may exhibit complex patterns of possessive marking. A subset of nouns (those referring to animate referents) may also be marked as plural.

Instrumental and locative case markers are productive. Locative case is encoded with two suffixes: *-t̪í* ‘on, at’, with an adessive reading, and *-rare* ‘at, among, between’, with an inessive reading, e.g., *saʔpa't̪í* ‘in the (live, human) flesh’ vs. *saʔpári* ‘in the (severed, animal’s) meat’, reflecting an alienable/inalienable distinction. The choice between locative suffixes for some nouns is however a matter of lexical choice, and some nouns may be optionally marked with either locative suffix (e.g., *ma'tá-riri ~mata-t̪í* ‘in the metate’).

Possessive constructions in Choguita Rarámuri encodes possessors and meronymic (part-whole) relationships. Inalienable (kinship and body-part terms) and alienable nouns may register a possessor with the stress-shifting possessive *-lâ* suffix. Alienable nouns are characterized by being able to appear in non-possessive constructions, while inalienable nouns are exclusively found with possessive marking. The possessive *-lâ* suffix attaches to the head noun in a possessive nominal phrase, following the head-marking profile of the language. Examples of the possessive constructions are shown in (14).

2 Grammatical overview

(14) Possessive marking

- a. *ali'wâla*
ali'wâ-la
soul-POSS
'his soul'
'su alma' {LEL tx5:00:30.7}
- b. *mai'râla*
mai'râ-la
father.female.ego-POSS
'her father'
'su papá (de ella)' < FLP in61(260)/in >
- c. *aʔka'lâ*
aʔka-lâ
sandals-POSS
'X's sandals'
'sus huaraches' < BFL 09 1:60/el >
- d. *boʔe'lâ*
boʔe-lâ
road-POSS
'X's road'
'su camino' < BFL 06 5:128/el >

In addition to this construction, possessives may be marked in a 'double possessive' marking pattern with a *-wa-la* suffix sequence, e.g., *wa'sá-wa-la* 'X's sowing field' ('su campo de cultivo'). For some speakers, the single vs. double marking of possession encodes a singular/plural distinction, e.g., *ne wa'ri-la* 'my palm basket' ('mi canasta de palma') vs. *ne wa'ri-wa-la* 'my palm baskets' ('mis canastas de palma').

Nouns may be modified by demonstratives, adjectives, numerals, definite articles and quantifiers in noun phrases. One common modifier found in noun phrases are definite articles, which encode number and affective stance, either positive or neutral, on the one hand, or negative. The paradigm of definite articles is shown in (15).

(15) Choguita Rarámuri definite articles

- a. *'tá* Singular article, positive or neutral evaluation (lit. 'small, SG')
- b. *'tí* Singular article, negative evaluation
- c. *kútʃí* Plural article, positive or neutral evaluation (lit. 'small, PL')
- d. *tʃéti* Plural, negative evaluation

2.5 Verbs

Verbal morphology in Choguita Rarámuri is largely concatenative, though exponence is also achieved through stress shifts, grammatical tone and other non-concatenative processes. Furthermore, a large number of morphologically-conditioned phonological process affect the surface form of inflected verbs.

Verbal roots can be divided in three classes depending on their underlying stress and vowel specifications: (i) **Class 1** verbs are stressed (with fixed stress across paradigms) and do not exhibit any vocalic alternations (e.g., *be'nè* 'to learn'); (ii) **Class 2** verbs are unstressed (exhibiting stress shifts when attaching stress-shifting suffixes) and do not exhibit vocalic alternations (e.g., *su'kú* 'to scratch'); and (iii) **Class 3** verbs are unstressed and undergo final root vowel raising in addition to stress shifts when attaching shifting suffixes (e.g., *ra?lá* 'buy'). These verbal classes are illustrated in Table 2.8.

Table 2.8: Choguita Rarámuri verbal root classes

	Class 1 <i>Stressed</i>	Class 2 <i>Unstressed</i>	Class 3 <i>Unstressed</i> <i>V raising</i>	
PST	<i>be'nè-li</i>	<i>su'kú-li</i>	<i>ra?lá-li</i>	Neutral
PROG	<i>be'nè-a</i>	<i>su'kú-a</i>	<i>ra?lá-a</i>	Constructions
IMPF	<i>be'nè-i</i>	<i>su'kú-i</i>	<i>ra?lá-i</i>	
FUT.SG	<i>be'nè-ma</i>	<i>suku-'mêa</i>	<i>rari-'mêa</i>	Shifting
COND	<i>be'nè-sa</i>	<i>suku-'sâ</i>	<i>rari-'sâ</i>	Constructions
DESID	<i>be'nè-nale</i>	<i>suku-'nále</i>	<i>rari-'nále</i>	

Class 2 and Class 3 roots may undergo valence related alternations through the affixation of transitive and applicative vocalic suffixes that replace the final vowel of the stem. Table 2.9 schematizes the three-way contrast of these stems (syntactic/semantic gaps are symbolized by dashes).

Finite Choguita Rarámuri verbs are marked for tense and/or aspect, mood distinctions (including imperative and reportative) and voice, as well as number and, in the case of the past egophoric suffix, person, conflated in portmanteaux suffixes. Table 2.10 illustrates a subset of inflectional exponents in verbs of different prosodic characteristics.²

²Note this table does not provide an exhaustive list of possible TAM inflection in Choguita Rarámuri nor the verbs represented constitute a complete sample of prosodic types of verbs.

Table 2.9: Valence stem allomorphy

	Intransitive	Transitive	Applicative	Gloss
a.	su'wí	su'wá	su'w-è	'run out/finish up'
b.	sa'wí	-	sa'w-è	'cure, heal'
c.	-	ra?lá	ra?l-è	'buy'
d.	noko	-	no'k-è	'move'
e.	-	i'tfá	i'tf-i	'plant'
f.	uku	-	u'k-è	'rain'
g.	wili-	wilá	wi'l-è	'stand'
h.	tʃo?i	tʃo?á	tʃo?i	'extinguish'
i.	-	o'sá	o's-è	'write'
j.	-	ki'má	ki'm-è	'cover with blanket'

Table 2.10: Choguita Rarámuri verbal root classes

TAM	<i>tò</i> 'take'	<i>i'si</i> 'urinate'	<i>ra'?</i> itʃa 'speak'
PST	'tò-li	i'si-li	ra'?itʃa-li
PST.EGO	'tò-ki	i'si-ki	ra'?itʃa-ki
PROG	'tò-a	i'si-a	ra'?itʃ-a
IMPF	'tò-i	i'si-i	ra'?itʃa-i
PST.PASS	'tòo-ru	i'sii-ru	ra?i'tʃaa-ru
FUT.SG	to-'mêa	i'si-ma	ra?i'tʃa-ma
FUT.PL	to-'bô	i'si-bo	ra?i'tʃa-bo
COND	to-'sâ	i'si-sa	ra?i'tʃa-sa
IMP.SG	to-'kâ	i'si	ra?i'tʃa
IMP.PL	to-'sì	i'si-si	ra?i'tʃa-si

While most inflectional categories involve non-flexive formatives, some constructions exhibit lexically conditioned allomorphy. This is illustrated by the imperative singular construction, which may be encoded by suffixes (e.g., *to'kâ!* 'take it!'), a L tone (*i'si!* 'urinate!'), or a stress shift (e.g., *raʔi'tʃâ!* 'speak!'). Other TAM exponents exhibit phonologically-conditioned allomorphy: the future singular has an allomorph *-'mêa* when attaching to unstressed roots (e.g., *to-'mêa* 's/he will take it'), and an allomorph *-ma* when attaching to stressed roots (e.g., *i'sî-ma*).

This table also illustrates the morphologically-conditioned shifts undergone by unstressed roots (e.g., *tò* 'take' and *raʔitʃâ* 'speak'), tonal alternations in verb stems after stress shifts (e.g., *raʔitʃâ-li* 's/he spoke' vs. *raʔi'tʃâ-bo* 'they will speak'), and morphologically-conditioned phonological effects, such as final stem vowel lengthening triggered by the past passive suffix *-ru* (e.g., *tòo-ru* 'it was taken').

Clauses with verbs inflected for past egophoric, encoding an event carried out in the past by a first-person subject in statements and by a second-person subjects in question, have optional nominative-marked pronominal marking. This is exemplified in (16).

- (16) ['pòləki]
 /'pòli-ki/
 cover-PST.EGO
 'I covered it.'
 'Lo tapé.' < AHF 05 1:125/el >

In addition to stress changes, grammatical tone patterns, and other morphologically-conditioned phonological effects, Choguita Rarámuri inflected verbs exhibit templatic effects in some morphological constructions. Specifically, syllable truncation is attested in denominal verb forms, body part incorporation and V-V compounding to satisfy requirements on output surface forms. An example is provided below, where disyllabic mood/aspect markers undergo syllable truncation in V-V compounding when attaching an outer inflectional suffix (17a–b), but remain disyllabic otherwise (17c).

- (17) Templatic truncation in V-V compounding
- a. [a'tʃénisa]
 /a'tʃé-nale-sa/
 pour-DESID-COND
 'if s/he wants to pour it'
 'si lo quiere echar, verter' < SFH 07 romara/tx >

- b. [ti'tʃíksima]
 /ti'tʃii-ki-simi-ma/
 comb-APPL-MOT-FUT.SG
 's/he will go along making them comb her/him'
 'va a ir haciéndola que la peine' < SFH 07 2:67/el >
- c. ['nârisimi]
 /nâre-simi/
 ask-MOT
 's/he is going along asking'
 'va a ir preguntando' < SFH 08 1:148/el >

2.6 Word order

Choguita Rarámuri is a head-final language with canonical SOV word order. In ditransitive clauses with non-pronominal noun phrases, the order of arguments is S-T(heme)-R(ipient), with variable placement of object noun phrases with respect to the verbal predicate. Word order in ditransitive clauses is exemplified in (18) (other ordering possibilities are exemplified and discussed in §13.1.4).

(18) Ditransitive clauses

- a. **S-T-V-R**
mi mu'kî 'dûlse 'àli 'kûruwi
 [mi mu'kî]S ['dûlse]T 'à-li ['kûruwi]R
 DIST woman candy give-PST children
 'That woman gave the children candy.'
 'Esa mujer les dió dulces a los niños.' < SFH 09 3:51/el >
- b. **S-T-V-R**
kumu'tê 'lâmina 'èbili ra'lâmuli
 /[kumu'tê]S ['lâmina]T 'èbi-li [ra'lâmuli]R/
 sheriff tin.roof bring.APPL-PST people
 'The sheriff brought tin roof for the people.'
 'El comisariado les trajo lámina a la gente.' < SFH 09 3:51/el >

Nominal modifiers precede head nouns in noun phrases, as exemplified in (19) (noun phrases are marked in square brackets).

- (19) a. *'t̪eràm 'sûs ba, ti 't̪eràm bau't̪i ma ba*
[t̪eràrame 'sûs] ba, [ti t̪eràame bau't̪isi] ma ba
 elder Jesús CL DEF.SG elder Bautista also CL
 'elder Jesús, also elder Bautista'
 'Don Jesús, también Don Bautista' {ME in484:07:18.5}
- b. *bi'lé ari'múli, o'kwâ ari'múli ma, bi'kiá ari'múli ma*
[bi'lé ari'múli] [o'kwâ ari'múli] ma [bi'kiá ari'múli] ma
 one decaliter two decaliter or three decaliter or
 'one decaliter or two decaliters or three decaliters'
 'un decalitro o dos decalitros o tres decalitros' {LEL tx68:00:25.8}
- c. *wa'lû kapa'nî a'nít̪ini ba*
[wa'lû kapa'nî] a'ní-t̪ini ba
 big bell make.sound-EV CL
 'the big bell rang (was heard)'
 'se oyó sonar la campana grande' {LEL tx223:03:29.1}

2.7 Appositive possessive constructions and relative clauses

As discussed in §2.4 above, Choguita Rarámuri has possessive constructions that are head-marking. In addition, there is an alternative way of encoding possession in the language through an appositional construction with *'níwa*, a grammatically specialized possessive noun used in possessive constructions derived from a verb ('to have'). The root *'níwa* as a possessive noun is marked with the possessive *-lâ* suffix and is part of a possessive phrase, exemplified in (20).

- (20) *'nà ko 'nè 'níala 'libro ko*
'nà=ko 'nè 'níwa-lâ 'libro=ko
 PROX=EMPH 1SG.NOM OWN-POSS book=EMPH
 'This here is my book.'
 'Este es mi libro.' < BFL 06 4:187-189/el >

Another type of complex noun phrase involves relative clause formation. Choguita Rarámuri exhibits two types of headed relative clauses: (i) those formed via nominalization (21a) and (ii) those that involve finite predicates and subordinators such as *'(n)api* (21c-d).

- (21) a. *'étfi 't̪iba mu'kúami ko ba'sûa ko'yalí*
'étfi 't̪iba mu'kú-ami=ko ma ba'sû-a ko'yal-li
DEM goat die.SG-PTCP=EMPH already cook-PROG eat-PST
'that dead goat (goat that is dead) was already eaten cooked by the
dwellers of (the ones that inhabit) that house'
'esa chiva (que está) muerta ya se la comieron cociéndola los (que
habitán) de esa casa' {LEL tx_mawiya:02:43.9}
- b. *aʔlì 'étfi 'nápu ro'wéma 'lé ko bi'nôi bi'lá a'ní*
aʔlì 'étfi ['nápi ro'wé-ma a'lé]=ko bi'nôi bi'lá
and DEM SUB run.womens.race-FUT.SG DUB=EMPH herself indeed
a'ní
say.PRS
'and then the one who will run, herself, says'
'y entonces la que va a correr, ella misma, dice' {LEL tx19:00:39.8}
- c. *ripu'rá... 'nápu ri'ká mi't̪ípu ku'sí ba?*
ripu'rá ['nápi ri'ká mi't̪ípu ku'sí] ba
ax SUB that carve sticks CL
'an ax with which to carve the sticks'
'hacha con que labrar los palos' {SFH in61:03:30.6}

2.8 Complement clauses and clause chaining

Choguita Rarámuri has four major types of complement clauses: (i) finite complement clauses with complementizer (§15.1.1); (ii) interrogative complement clauses (§15.1.2); (iii) asyndetic finite verb complement clauses (§15.1.3); and (iv) reduced complement clauses (§15.1.4). The first type is exemplified in (22), where the complement clause is introduced by the subordinator *'(n)api* (also used to introduce other subordinate clauses, such as relative clauses and adverbial clauses).

- (22) *ka ni ma't̪íki 'nápu 'tòoru ba*
ka=ní ma't̪í-ki ['nápi 'tò-ru ba]
NEG=1SG.NOM know-PST.EGO SUB take-PST.PASS CL
'I didn't know he had been taken'
'no sabía que se lo habían llevado' < BFL 09 1:39/el >

Choguita Rarámuri also has specialized constructions that involve complementation, including a periphrastic construction encoding indirect causation. In this

construction, exemplified in (23), a main jussive predicate takes the caused event as a complement and is characterized by the following properties: (i) the lower verb is additionally marked with the jussive verbal affix *nula* 'order, command' deriving a co-lexicalized structure within the complement; and (ii) although there are two causative verbs, the causer is expressed only once.

- (23) a. *bo'rêko ma ni'sènula nulu'rîa*
 [bo'rêko ma ni'sè-**nula**] nulu-'rîa
 sheep also shepherd-ORDER order-HAB.PASS
 'they are sent to shepherd sheep, too'
 'los mandan a cuidar borregos también' {BFL tx48:00:54.8}
- b. *'émi ta'mí a'nèki ni'hê 'tònula*
 'émi ta'mí a'n-è-ki [ni'hê 'tò-**nula**]
 2PL.NOM 1SG.ACC tell-APPL-PST.EGO 1SG.NOM take-ORDER
 'You all told me to take it.'
 'Ustedes me hicieron que me lo llevara.' < BFL 06 4:94/el >
- c. *?wínula t̪e 'tâsa ri'ké la 'ró*
 [?wí-**nula** t̪e] 'tâ-sa ri'ké la 'ró
 harvest-ORDER again ask.for-COND DUB perhaps DUB
 'Maybe we can ask (him/her) to harvest again.'
 'A lo mejor le pedimos que vuelva a pizcar.' < BFL 06 4:94/el >

As shown in these examples, only *nula* may appear co-lexicalized with the lower predicate regardless of the specific jussive predicate in the matrix clause (*nula* 'order' (23a), *a'nè* 'tell' (23b) or *'tâ* 'ask' (23c)).

A second type of specialized complementation strategy involves a reportative clause construction that features switch reference marking. These constructions involve a matrix clause with a speech predicate and a complement clause, the content of the reported event. When the notional subjects are coreferential, the dependent verb is marked for tense/aspect and with the epistemic *-o* suffix (24a). When the notional subjects are not coreferential, the dependent verb suffixes the different referent reportative *-la* suffix (24b).

- (24) a. *ma'rîa ko ke sî'míko 'rú*
 ma'rîa=ko [ke sî'mí-**ki-o**] 'rú
 Maria=EMPH NEG go.SG-PST.EGO-EP say.PRS
 'Maria says she didn't go.'
 'Dice María que no fue.' < BFL 09 3:115/el >

- b. *ma'riá ko 'hê a'ní ho'sê ke si'míla 'ruá*
ma'riá=ko 'hê a'ní [ho'sê ke si'mí-la] ru-'wá
 Maria=EMPH it say.PRS José NEG go.SG-REP.DR say-MPASS
 'Maria says that José didn't go.'
 'Dice María que José no fue.' < BFL 09 3:115/el >

In Choguita Rarámuri clause chaining structures, one of the clauses may be marked with canonical inflection, while other clauses in the chaining structure can only be marked with special inflection (the gerundive suffix *-ká*) and overall involve more restricted structures. This inflection mainly conveys a temporal relation of chronological overlap or chronological sequence (temporal notions that may have extended semantic meanings in some contexts): the marked clause may conveys that two events (drinking and resting) take place simultaneously (25a) or that the events conveyed occur in a temporal sequence (25b).

- (25) a. *'wé pi ko ne ku i'sâbika ba'hîba 'lé*
'wé pi=ko ne ku [i'sâbi-ka] ba'hî-ba a'lé
 INT just=EMPH INT REV rest-GER drink-IRR.PL DUB
 'they need to drink while they rest'
 'necesitan tomar descansando' {FLP in243:17:22.2}
- b. *ku a'wilitfi simi'ká, wi'rómpo kútfi pa'tfi ba*
[ku a'wilitfi simi-ka], wi'róm-po kútfi pa'tfi ba
 REV ritual.patio go.SG-GER make.blessing-FUT.PL DEF corn CL
 'having gone back to the ritual patio, we make the blessing (lit.
 "throw the water") with corn'
 'yendo al patio ritual, hacemos la bendición ("echamos el agua") con
 el maíz' {ME in485:07:11.4}

2.9 Complex predicates

There are four types of constructions in Choguita Rarámuri that may be broadly characterized as involving complex predicates: light verb constructions (§15.6.1), auxiliary verb constructions (§15.6.2), serial verb constructions (§15.6.3) and multi-predicate verb constructions involving V-V incorporation (exemplified in (17) above and addressed in §15.6.4).

An example of a light verb construction is provided in (26b). The verb *no'ká* may be used as a main verb form as a change of posture predicate (glossed as 'move') as in (26a) or it may be a semantically bleached verb bearing inflection

in multi-predicate constructions with activity verbs bearing descriptive content, as in (26b)

- (26) a. *ma no'káli*
ma no'ká-li
 already move-PST
 'S/he already moved.'
 'Ya se movió.' <BFL 05 1:114/el>
- b. *napa'wía no'káli lé 'étfi 'nà bi'lé ri'hò a?li bi'lé tʃa'bôtfi jí?i*
[napa'wí-a no'ká-li a'lé] 'étfi 'nà bi'lé ri'hò a?li bi'lé
 get.together-PROG do-PST DUB DEM DEM one man and one
tʃa'bôtfi jí
 mestizo also
 'A (Rarámuri) man and a *mestizo* (mixed mexican) man got together.'
 'Se juntaron un hombre (Rarámuri) y un mestizo.' <SFH 06
 choma(2)/tx>

In contrast, in Choguita Rarámuri auxiliary verb constructions, stative and inchoative posture predicates are deployed in auxiliary verb constructions encoding progressive aspect. The auxiliary verb bears tense marking (present, past or future), while the main lexical verb is inflected for present tense regardless of the tense marking on the auxiliary. This is exemplified in (27).

- (27) a. *ma nata'kéa bu'ñili 'nà bi'ñà ro'kò*
ma [nata'ké-a bu'ñi-li] 'nà bi'ñà ro'kò
 already faint-PROG lie.down.SG-PST then early night
 'He had already fainted before dawn.'
 'Ya estaba desmayado en la madrugada.' {LEL tx5:04:03.7}
- b. *"tfin o'lá ko 'étfi", 'hê bi'lá ko 'lää a'sáli 'lé ru'tükuri ko ba*
tfin=ni o'lá=ko 'étfi 'hê bi'lá=ko ['lää-a
 how=1SG.NOM do.PRS=EMPH DEM that indeed=EMPH think-PROG
a'sá-li] a'lé ru'tükuri=ko ba
 sit.SG-PST DUB owl=EMPH CL
 "That's how I did it to them" that's what he was thinking, the owl."
 "Así les hice a esos" eso estaba pensando, el tecolote' {SFH
 tx152:07:01.9}

As shown in these examples, auxiliary verbs impose no selectional restrictions on the verbs they combine with (e.g., the descriptive verb may be a telic (bounded) predicate like *nata'ké* 'faint' in (27a) or a stative predicate like *'lää* 'think' in (27b)).

3 Segmental phonology

This chapter is devoted to the segmental phonological inventory and phonological processes of Choguita Rarámuri. While many phonological alternations in the language are morphologically conditioned (addressed in Chapter 8, Chapter 9 and Chapter 11), this chapter addresses those segmental processes that are analyzed as being fully phonologically general. This chapter also addresses patterns of phonetic variability of consonant phonemes.

The chapter is laid out as follows. §3.1 provides an overview of the Choguita Rarámuri sound system assumed in this and following chapters. §3.2 introduces the phonemic segmental inventory of the language. §3.3 illustrates the phonemic status of segments with minimal pairs. §3.4 describes the general phonological processes that yield the allophonic variation displayed by obstruents, nasals, rhotics, stops and vowels. The chapter concludes in §3.5 with a description of patterns of phonetic reduction of consonants.

3.1 Overview of the Choguita Rarámuri phonological system

The phonological system of Choguita Rarámuri is characterized by a relatively small phoneme inventory, with eighteen consonants, five contrastive vowels and no contrastive vowel length, and a three-way laryngeal contrast for stops between pre-laryngealized stops (canonically realized as pre-aspirated voiceless stops), plain voiceless stops and voiced stops. This language is also characterized by a simple syllable structure in underlying representations, with no elaborate onsets and only glottal stop as a possible coda. While displaying low elaboration of the consonant inventory and a low level of complexity of syllabic structure (a correlation expected according to Maddieson 2005), Choguita Rarámuri displays a high degree of allophonic variation, as well as a complex word-prosodic system. Choguita Rarámuri syllable structure and syllabic processes are addressed in Chapter 4, while various aspects of its word prosody are addressed in Chapter 5 (stress), Chapter 6 (tone and intonation), and Chapter 7 (other word-level

3 Segmental phonology

suprasegmental phonological processes). Interactions between lexical, morphological and phrase-level phonological phenomena are addressed in Chapter 11, dedicated to prosodic interactions.

General phonological processes target almost all segments and involve different reduction processes. Alternations between plain (non-laryngealized) stops and voiced stops involve historically related pairs of segments ($p \sim b$, $k \sim g$, $t \sim r$), some of which have a phonemic status synchronically, but which may also display phonologically, morphologically or lexically conditioned allophonic variation. Many patterns of variation in surface forms are phonetic in nature and display different degrees of inter- and intra-speaker variation, are affected by speech rate and style, are always surface-transparanet and do not interact with phonological rules. Some widespread patterns of variation and optionality are addressed in the analyses presented in this and subsequent chapters.

In terms of its word prosody, Choguita Rarámuri has both stress and a three-way lexical tonal contrast. The complexity of the stress system in this language stems from several factors. First, stress conditions optional vowel reduction and deletion processes. While these processes are complex and, to some extent, gradient, there are at least three different identifiable patterns of vowel reduction targeting different vowel qualities, with more reduction occurring post-tonically than pre-tonically. Syncope yields derived heterosyllabic consonant clusters in coda position word-medially. Thus, surface forms display a moderate level of complexity of syllabic structure. Second, stress is restricted to an initial three-syllable window, a highly marked typological pattern (Kager 2012). Finally, the stress system of this language also features morphological factors that govern stress placement involving stress shift patterns depending on the lexical stress properties of roots and suffixes. The phonological and morphological properties of stress and associated morpho-phonological properties are addressed in Chapter 5.

Tone is exclusively realized in stressed syllables. While tone distribution is dependent on stress, both stress and tone are independent phonologically and encoded through different acoustic means (Caballero & Carroll 2015). Proto-Uto-Aztecan is reconstructed as having a stress-accent system (Munro 1977), with different languages belonging to different branches developing tonal contrasts in addition to stress (e.g., Hopi (Manaster-Ramer 1986), Northern Tepehuan (Tepiman; Woo 1970), Balsas Nahuatl (Aztec; Guion et al. 2010), Cora (Corachol; McMahon 1967), Huichol (Corachol; Grimes 1959), Yaqui (Cahitan; Demers et al. 1999) and Mayo (Cahitan; Hagberg 1989)). Since the first reports of lexical tone in Choguita Rarámuri (in Caballero 2008 and Caballero & Carroll 2015), Morales Moreno (2016) also reports the existence of lexical tone in Rochéachi Rarámuri,

another Central Rarámuri variety, and it is possible that other Rarámuri varieties are also tonal, though no other variety of Rarámuri has been described as being tonal. Choguita Rarámuri also deploys f0 intonationally, resulting in different accommodation strategies when the lexical phonology, the morphology and the intonational phonology assign conflicting tones to the same target tone bearing units. In addition to f0, duration and non-modal phonation encode intonational meaning in the language. Tone and intonation are described in Chapter 6.

In addition to featuring a three-syllable stress window, the word-level prosody of Choguita Rarámuri features a disyllabic window for the distribution of the glottal stop. Distributional restrictions on the glottal stop and a three-syllable stress window have also been documented in the closely related Tara-Guarijío language Guarijío (Miller 1996, Haugen 2014, Haugen 2014), and window-like restrictions on stress placement are described across Rarámuri varieties (including Brambila's (1953) description of Norogachi Rarámuri and Morales Moreno's (2016) description of Rochéachi Rarámuri). In addition to the prosodically restricted distribution of glottal stop, other word-level suprasegmental phonological phenomena in this language include minimal word size restrictions and prosodic loanword adaptation processes. All of these are discussed in Chapter 7.

3.2 Phonological inventory

3.2.1 Consonants

Choguita Rarámuri has a relatively small consonant inventory and a high degree of allophonic variation. The phonemic consonant inventory, presented in Table 3.1, is significantly similar to proposed reconstructions for the Proto-Uto-Aztecan (PUA) consonant system (Voegelin et al. 1962, Miller 1967, Langacker 1977). In contrast to the reconstructed PUA consonant system, Choguita Rarámuri features a three-way laryngeal contrast in stops, with pre-laryngealized, unaspirated and voiced stops. Voicing is only contrastive at the bilabial and alveolar place of articulation (where, as discussed below, the voiceless alveolar plosive alternates with a voiced alveolar flap). Miller (1996) also documents a contrast between pre-laryngealized and plain voiceless stops in closely related Mountain Guarijío, though Mountain Guarijío differs from Choguita Rarámuri in lacking contrastive voicing of stops. In this chart, the voiced labiovelar approximant is represented in the bilabial column; the alveolar and retroflex flaps are represented orthographically as <r> and <l>, respectively. Pre-laryngealized obstruents are represented with pre-aspiration in this chart.

A broad phonemic transcription is used, and the symbols used in this table will be used throughout this grammar to represent these segments. The labiove-

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Table 3.1: Phonemic inventory of Choguita Raramuri consonants

	Bilabial	Alveolar	Alveo-palatal	Retroflex	Palatal	Velar	Glottal
Plosive	p ^h p b	t ^h t				k ^h k	?
Affricate			tʃ ^h tʃ				
Nasal	m	n					
Flap		<r> [r]			<l> [l]		
Fricative		s					h
Approx.	w				j	w	

lar approximant is doubly assigned in the bilabial place of articulation column and in the velar place of articulation column. This notation indicates that the approximant is both velar and bilabial.

The consonant inventory presented in Table 3.1 includes a retroflex flap that can be characterized as a ‘lateral flap’, as defined by (Ladefoged & Maddieson 1996: 234). This segment is articulated by making a ballistic contact with the tongue tip in the post-alveolar region, but the sides of the tongue allow air to flow laterally, resulting in a sound that auditorily resembles both a lateral approximant and an alveolar (or, in the case of Choguita Raramuri, slightly retroflexed) flap. The environments that favor the production/perception of the lateral variant are discussed in §3.4.3. This has led to orthographic representations of this sound as either <r> or <l>, including the name of the language, which is alternatively spelled ‘Raramuri’, with word-medial <r>, or ‘Ralámuli’, with word-medial <l>. The contrast between the two rhotic sounds is illustrated in (7) in §3.3 below.

As mentioned above, Choguita Raramuri features a three-way laryngeal contrast of consonants, with pre-laryngealized, unaspirated and voiced consonants. Pre-laryngealized consonants are only attested as onsets of stressed syllables. ‘Plain’ obstruents are realized with no pre-laryngealization, are not restricted in terms of their distribution and may be realized with post-aspiration as onsets of stressed syllables as part of a process of onset augmentation (see discussion of acoustic correlates of stress in §5.1 and Caballero & Carroll 2015). Pre-laryngealized consonants (canonically realized as pre-aspirated stops [^hp, ^ht, ^hk, ^htʃ]) are analyzed here as specified with a [+spread glottis] feature and ‘plain’ obstruents as laryngeally unspecified ([p, t, k, tʃ]).¹ Given that for some speakers

¹This analysis is similar to the one provided in DiCanio (2012) for the lenis-fortis contrasts in San Martín Ituñoso Trique, where ‘fortis’ obstruents are realized with an early adduction (spreading) glottal gesture, which results in a short period of pre-aspiration before the consonant (2012: 257). See also Arellanes Arellanes (2009) for a similar analysis of the lenis-fortis contrast in San Pablo Güilá Zapotec.

pre-aspirated stops are variably realized as pre-aspirated or pre-glottalized, the term pre-laryngealized is used throughout this grammar when referring to these segments.

For some speakers pre-laryngealized consonants can be realized without any laryngeal features in stressed position, neutralizing in the surface with ‘plain’ consonants, an instance of inter-speaker variation in the realization of these segments. Some examples are shown in (1).²

(1) Variable neutralization between pre-laryngealized and ‘plain’ stops

- a. [re^htê] ~ [re'tê]
/re^htê/
‘stone’
‘piedra’ < GFM 14 1:111 >
- b. [ri^htſí] ~ [ri'tſí]
/ri^htſí/
‘landslide’
‘reliz’ < BFL CR2014-LSC:13 >, < GFM 14 1:111 >, < SFH CR2014-LSC:86 >
- c. [a^hká] ~ [a'kâ]
/a^hkâ/
‘to be sweet or salty’
‘ser dulce o salado’ < SFH CR2014-LSC:85 >

These patterns of variation in the articulation of pre-laryngealized stops may suggest that the pre-laryngealized contrast may be marginal for some speakers, though most speakers realize the contrast consistently.³

There are no voiced coronal or velar stops in the phonological inventory of Choguita Rarámuri. Allophonic alternations show that the voiced counterpart of /t/ is a coronal flap (/ɾ/) (there is no voiced coronal stop /d/ in the Choguita Rarámuri phonological inventory).

3.2.2 Vowels

Choguita Rarámuri makes a phonemic distinction among five cardinal vowels in stressed position. There is no contrastive vowel length. Mid vowels are phoneti-

²In (1c), there is post-aspiration as onset augmentation when pre-laryngealization is neutralized in a stressed syllable.

³A caveat is that even if pre-aspiration seems to disappear in the speech of some speakers it may leave residual breathy voice on preceding vowels (Marc Garellek p.c.). Whether this is the case in Choguita Rarámuri is a question that remains for future research.

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cally open-mid and the only back vowels are rounded. The vocalic inventory is given in Table 3.2.

Table 3.2: Choguita Rarámuri Monophthong Vowel System

	Front	Central	Back
High	i		u
Mid	e [ɛ]		o [ɔ]
Low		a	

Most other Rarámuri varieties are reported as having five cardinal vowels, the qualities of which mostly match the inventory given for Choguita Rarámuri (Brambila 1953, Lionnet 1972, Morales Moreno 2016, *inter alia*), except for Ojachi-chi Rarámuri, which is described as having a high, back, *unrounded* [u] vowel (Servín 2002).

3.3 Minimal pairs

3.3.1 Consonant minimal pairs

This section presents minimal pairs that demonstrate the phonemic status of Choguita Rarámuri consonants. Allophonic variation and patterns of neutralization are addressed in §3.4.

The examples in (2) include (near-)minimal pairs that illustrate the contrast between pre-laryngealized and plain (unaspirated) voiceless stops.

- (2) Choguita Rarámuri pre-laryngealized obstruent vs. plain obstruent contrast
- a. [wi^hkâ] /wi^hkâ/ ‘many’ ‘muchos’ {BFL tx191:04:21.5}
 - b. [wi'ká] /wiká/ ‘constellation, plow’ ‘constelación, barbecho’ {ME in484:12:17.5}

- c. [ri^htûli]
/ri^htû-li/
freeze-PST
'It froze.'
'Se congeló.' {SFH el1028:00:43.8}
- d. [ri'tù]
/ri'tù/
'encourage'
'animar' {LEL tx19:01:44.2}
- e. [na^hpô]
/na^hpô/
'prickly pear'
'tuna' {BFL el728:07:09.4}
- f. [na'pò]
/na'pò/
'to break, intr.'
'romperse' {MAF el1242:10:13.7}
- g. [ri^htfí]
/ri^htfí/
'landslide'
'reliz' < LEL 14 1:9 >
- h. [ri?tfí]
/ri?tfí/
'paternal uncle younger than father'
'tío paterno menor que el padre' < LEL 14 1:9 >
- i. [o^hkó]
/o^hkó/
'pine tree'
'pino' {LEL tx84:05:00.2}
- j. [ro'kò]
/ro'kò/
'night'
'noche' {LEL tx68:00:31.3}

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- k. [ra^htári]
/ra^htá-ri/
be.hot-NMLZ
'heat, fever'⁴
'calor, calentura' {GFM tx785:02:56.4}
- l. [raʔtá]
/raʔtá/
'to pop, blow'
'explotar' {MDH co1137:05:34.5}
- m. [ba^htʃí]
/ba^htʃí/
'zucchini'
'calabacita' < tx130[00_525-01_011] >
- n. [baʔtʃílâ]
/baʔtʃí-lâ/
older.brother-POSS
'his older brother'
'su hermano mayor' {MDH co1136:18:36.1}

The minimal pairs in (2a–f) show that pre-aspirated obstruents contrast with plain stops. This contrast is illustrated in Figure 3.1 (with pre-aspirated [h^k]) and Figure 3.2 (with the plain (unaspirated) voiceless counterpart [k]).

As shown in (2h, l, n), plain stops may be preceded by a glottal stop. These glottal stop-consonant sequences are analyzed here as (heterosyllabic) consonant clusters ([?C]). An alternative (suggested by an anonymous reviewer) is to treat these sequences as pre-glottalized consonants ([²C]) that are only licensed in stressed onsets, which would parallel the distribution of pre-aspirated stops in the language (a restriction widely documented in languages with pre-laryngelized consonants (Clayton 2010)). An argument against this analysis is that there is evidence that glottal gestures before consonants are not restricted to a stressed onset, e.g. *baʔtʃí-lâ* 'his older brother' (in (2n)) and *aʔwi:jó* 'germinated' {LEL tx68:00:51.2}. While the glottal stop may be reduced in unstressed position (e.g., in the context of stress shift, where the glottal may be produced as glottalization of an adjacent vowel or sonorant), the glottal gesture is consistently realized regardless of stress conditioning, which contrasts with the realization of pre-aspirated consonants. Thus, [?C] consonant sequences largely pattern like other (heterosyllabic) consonant clusters in the language (for discussion of (derived) consonant clusters in the language, see §4.2). The only mismatch between

⁴This root has a L tone for some speakers. The extent to which inter-speaker tonal variation is attested in the Choguita Rarámuri corpus and factors that may govern this variability are questions left for future research.

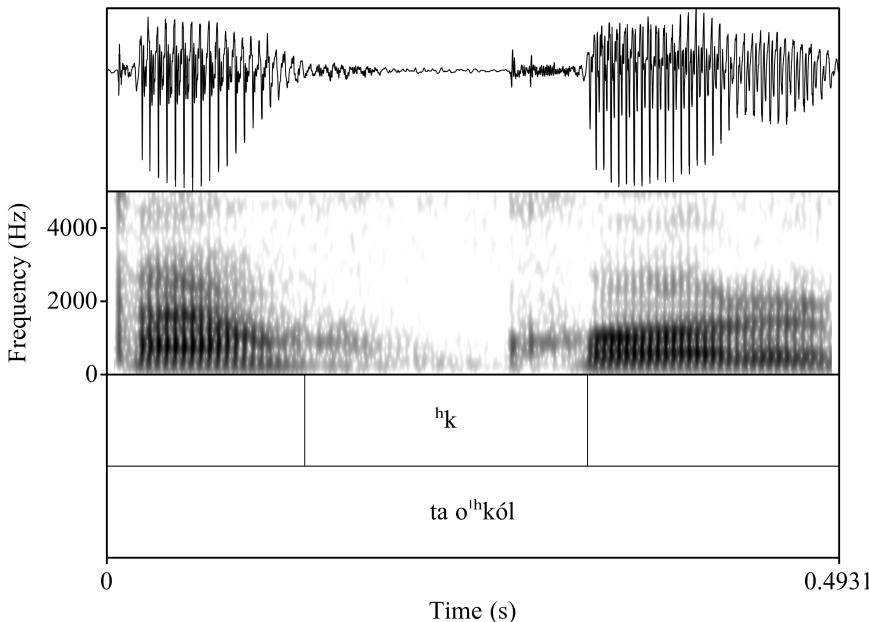


Figure 3.1: Spectrogram showing realization of pre-aspirated [h̥k] in the word [o'h̥kól] /o'h̥kó-li/ ‘(in the) pine tree’ {LEL tx84:05:00.2}.

[?C] consonant sequences and other consonant clusters result from the restriction that applies to the glottal stop, regardless of whether the glottal stop occurs inter-vocally or pre-consonantly (see §7.1).

Finally, while these examples show that pre-aspirated stops contrast with plain stops that may be preceded by a glottal stop, for some speakers pre-aspirated stops are variably realized as pre-aspirated or pre-glottalized, e.g., *a' h̥kà ~ a' kà* ‘sandal’ in a pattern that resembles a pattern of optional pre-aspiration or pre-laryngealization of fortis consonants in Southern Nevada Northern Paiute (SNNP; Western Numic) (Kataoka 2010).⁵

⁵Different Numic varieties exhibit different reflexes of the reconstructed gradation system of Proto-Numic, with the lenis series involving voicing, spirantization, and rhotacization, with no lenition of the fortis series. In Mono Lake Northern Paiute (MLNP; Western Numic), a system with lenis, voiced fortis and fortis oral stops and affricates, the fortis-lenis contrast is argued to involve closure duration, aspiration duration and voicing during the closure interval (Babel et al. 2013: 234). In the closely related Southern Nevada Northern Paiute (SNNP; Western Numic) the main correlate of the fortis-lenis contrast involves the discontinuity of the acoustic signal for the fortis series, achieved by longer consonant duration and optional co-occurrence of preaspiration or preglottalization (Kataoka 2010).

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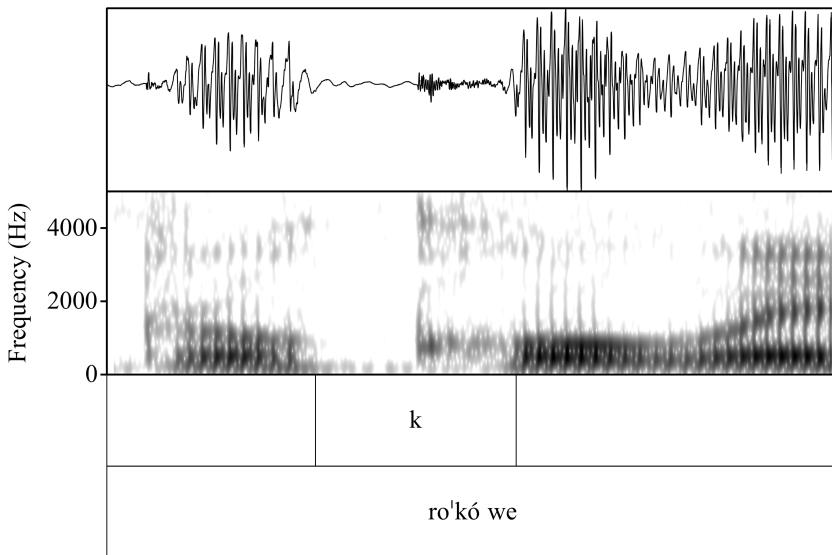


Figure 3.2: Spectrogram showing realization of plain [k] in the word [ro'kó] 'night' {SFH el1028:00:43.8}.

The contrast between voiced and voiceless stops at the bilabial and alveolar place of articulation is shown in (3). There are no voiced coronal or velar stops in the phonological inventory of Choguita Rarámuri. The voiced counterpart of /t/ is a coronal flap (allophonic alternations involving these two segments in the phonology of this language are discussed below in §3.4.3).

(3) Voicing contrast for bilabial and alveolar oral stops

- a. [pa'tʃí]
 $/pətʃí/$
 ‘corn cob’
 ‘elote’ {MDH co1136:03:36.2}
- b. [ba^htʃí]
 $/bə^h tʃí/$
 ‘zucchini’
 ‘calabacita’ {LEL tx130:00:52.5}

- c. [pa'^{tʃ}á]
/pa'^{tʃ}á/
'inside'
'adentro' {LEL tx71:04:10.7}
- d. [ba'^{tʃ}á]
/ba'^{tʃ}á/
'first'
'primero' {BFL tx1:01:10.5}
- e. [ta'râri]
/ta'râri/
'week'
'semana' {LEL tx84:01:45.7}
- f. [raʔla'ká]
/raʔla-'ká/
buy-GER
'buying'
'comprando'⁶ {BFL tx_falda:00:26.9}

Given that the contrast between pre-laryngealized and plain voiceless stops is neutralized in unstressed word-initial position (since pre-laryngealized stops are only attested as onsets of stressed syllables), these minimal pairs reveal a contrast between voiced stops, on the one hand, and either plain voiceless stops or pre-laryngealized voiceless stops, on the other.⁷

The voiced bilabial stop contrasts with the labiovelar semivowel. This is shown in the examples in (4)(for a description of processes targeting labio-velar glides in different positions within the syllable, see §4.4.2 in Chapter 4.)

⁶As attested in this example, the coronal flap is allophonically realized as a trill in word-initial position.

⁷As pointed out by Marc Garellek (p.c.), voiced stops in these examples could potentially be also analyzed as underlyingly plain voiceless, given a process of gradient lenition of these segments which yields voiced segments in fast speech (addressed below in §3.5.1). In these cases, however, we would expect voiced stops to undergo different lenition processes. For instance, word-initial voiced bilabial stops may reduce to labiovelar glides ([wa'kotʃi] /ba'kötʃi/ 'river' < SFH 04 1:17/el >), as described in more detail in §3.4.5. In other words, lenition of stops in Choguita Rarámuri is generally non-neutralizing, a generalization that appears to hold cross-linguistically (Gurevich 2013).

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(4) /w/ vs. /b/

- a. [wasa'^{tʃí}]
/wasa-'^{tʃí}/
- field- LOC
'in the field'
'en el campo de cultivo' < BFL 07 el328/el >
- b. [basa'^{tʃí}]
/basa'^{tʃí}/
- 'coyote' < BFL 07 el328/el >
- c. [bi?ri'báma]
/bi?ri-'bá-ma/
- clean.INTR-INCH-FUT.SG
'It will get cleaned.'
'Se va a limpiar.' < BFL 08 1:21/el >
- d. [wili'báma]
/wili-'bá-ma/
- stand.INTR-INCH-FUT.SG
'It will stand up.'
'Se va a parar.' < BFL 08 1:21/el >

The contrast between the voiced bilabial stop and the labiovelar semivowel in word medial position is shown in (5a–b).

(5) /b/ vs. /w/

- a. [ka'bí]
/ka'bí/
- 'to roll something'
'enrollar' < BFL 07 el321/el >
- b. [ka'wí]
/ka'wí/
- 'sunrise'
'amanecer' < BFL 07 el321/el >

The contrast between presence and absence of glottal stop before a consonant is shown in (4c–d) and also in (6).⁸

⁸The near-minimal pair *ni'wí* 'marry' and *ni?wí* 'to be lightning' differ in terms of absence or presence, respectively, of /ʔ/, in addition to lexical tone differences.

(6) /ʔ/ vs. Ø

- a. [ni'wì]
/ni'wì/
'to marry in church'
'casarse en la iglesia' {MFH el1318:28:54.9}
- b. [niʔwí]
/niʔwí/
'to be lightning'
'relampaguear' {JLG el1274:07:11.4}
- c. [ra'nê]
/ra'n-ê/
offspring-HAVE
'have children'
'tener hijos' {LEL tx32:08:59.5}
- d. [raʔnè]
/raʔnè/
'shoot at'
'disparar' {LEL tx221:02:22.7}
- e. [ka'wí]
/ka'wí/
'sunrise'
'amanecer' < BFL 07 el321/el >
- f. [kaʔwí]
/kaʔwí/
'bring wood'
'traer leña' < BFL 07 el321/el >

The contrast between the alveolar flap (<r> [ɾ]) and the lateral flap (<l> [ɾ]) is shown in (7).

(7) /r/ vs. /l/

- a. [ro'wí]
/ro'wí/
'rabbit'
'conejo'
- b. [lo'wí]
/lo'wí/

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- ‘silly, distracted’
 ‘tonto, distraído’ {MDH co1136:09:42.1}
- c. [lo'wè]
 /lo'w-è/
 stir-APPL
 ‘stir for someone’
 ‘menearlo’ {BFL tx60:02:34.2}
- d. [ro'wé]
 /ro'wé/
 ‘to run (women’s) *ariweta* race’
 ‘correr carrera de *ariweta* {SFH el497:02:56.0}

The contrast between the two rhotic sounds is illustrated in Figure 3.3 (with the alveolar flap phoneme <r> [ɾ] realized as a trill word-initially) and Figure 3.4 (with the retroflex flap phoneme <l> [ɭ] word-initially).

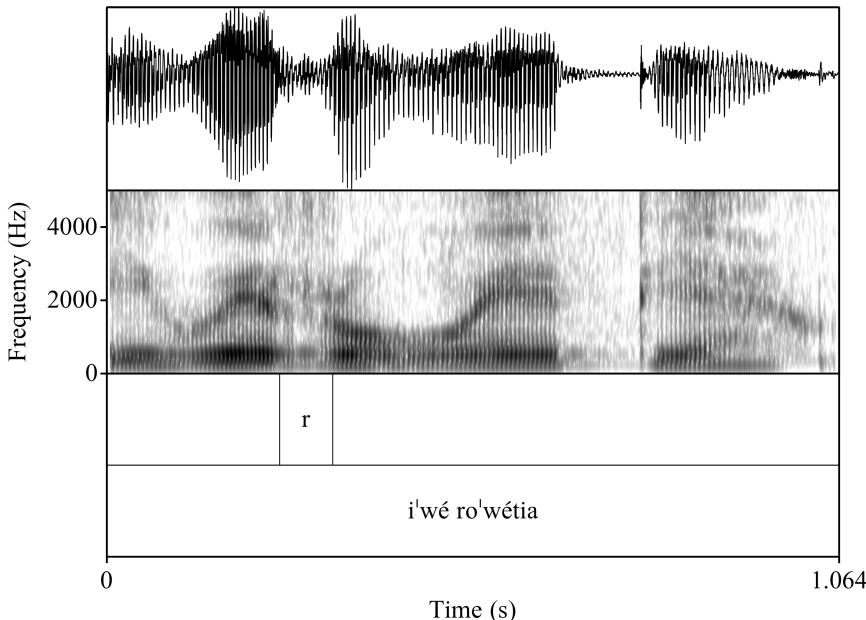


Figure 3.3: Spectrogram showing realization of the alveolar flap phoneme <r> [ɾ] as a trill word-initially in [i'wé ro'wétia] /i'wé ro'wé-ti-a/ ‘The girls will run (a women’s race)’ {LEL tx19:00:26.5}.

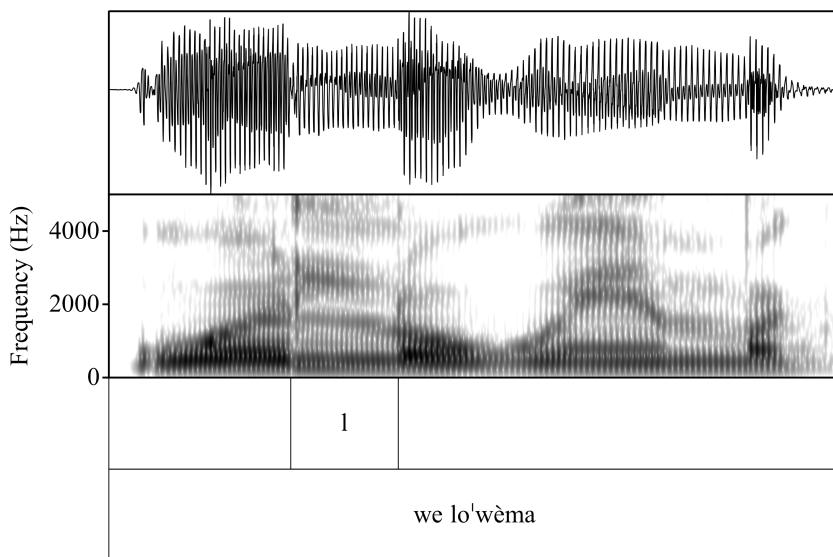


Figure 3.4: Spectrogram showing realization of the retroflex flap phoneme <l> [ɬ] word-initially in [we lo'wèma] /we lo'w-è-ma/ 'you stir it well' {BFL tx60:02:34.2}.

The contrast between the bilabial nasal phoneme and the alveolar nasal phoneme is evidenced in the contrasts depicted in the verbal stems in (8).

(8) /m/ vs. /n/

- a. [mi'hí]
/mi'hí/
'cook mezcal'
'cocinar mezcal' < SFH 07 2:12/el >
- b. [ni'hí]
/ni'hí/
'give away, gift'
'dar, regalar' < ROF 04 1:67/el >
- c. [ma'lála]
/ma'lá-la/
daughter.male_ego-POSS

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- ‘his daughter’
‘su hija de él’ < BFL 05 1:155/el >
- d. [na'làla]
/na'là-la/
cry.POT
‘s/he can cry’
‘puede llorar’ < SFH 05 1:69/el >

The next examples show that the alveolar fricative (9a, c) contrasts with the alveo-palatal affricate (9b, d).

- (9) /s/ vs. /tʃ/
- a. [sí'mí]
/sí'mí/
‘go, SG’
‘ir, SG’ {LEL tx177:02:25.3}
- b. [tʃí'mí]
/tʃí'mí/
‘over there’
‘allá’ < BFL 07 el325/el >
- c. [i'sí]
/i'sí/
‘urinate’
‘orinar’ {MFH el1318:04:13.3}>
- d. [i'tʃí]
/i'tʃí-/
‘plant’
‘sembrar’ {LEL tx130:03:07.8}

The next set examples show the contrast between pre-aspirated voiceless velar stops and ?-voiceless velar consonant sequences (10).

- (10) /^hk/ vs. /?k/
- a. [a^hkâ]
/a^hkâ/
‘sweet/salty’
‘dulce/salado’ < BFL 07 el324/el >

- b. [aʔká]
/aʔká/
'sandal'
'huarache' < BFL 07 el324/el >
- c. [oʰkó]
/oʰkó/
'pine tree'
'pino' < BFL 07 el323/el >
- d. [oʔkô]
/oʔkô/
'pain, to hurt'
'dolor/doler' < BFL 07 el323/el >

Choguita Rarámuri possesses only two semivowels: a voiced labiovelar /w/ and a palatal approximant /j/. The phonemic status of the labiovelar semivowel has already been shown in (5) and (4) above. Some of the examples in (5) and (4) are repeated below in (11), where the voiced bilabial stop (11a, c) contrasts with the labiovelar semivowel (11b, d).

(11) /b/ vs. /w/

- a. [ka'bí]
/ka'bí/
'to roll something'
'enrollar' < BFL 07 el321/el >
- b. [ka'wí]
/ka'wí/
'sunrise'
'amanecer' < BFL 07 el321/el >
- c. [biʔri'báma]
/biʔri-'bá-ma/
clean.INTR-INCH-FUT.SG
'It will become clean.'
'Se va a limpiar.' < BFL 08 1:21/el >
- d. [wili'báma]
/wili-'bá-ma/
stand.INTR-INCH-FUT.SG
'It will stand up.'
'Se va a parar.' < BFL 08 1:21/el >

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The phonemic status of the palatal semivowel, on the other hand, is evidenced in the minimal pairs in (12), where /j/ (12a, c) contrasts word-medially with a glottal stop (12b, d).

(12) /j/ vs. /ʔ/

- a. [tʃó'já]
/tʃó'já/
‘shrink’
‘encogerse’ < BFL 06 5:44/el >
- b. [tʃó'ʔá]
/tʃó'ʔá/
‘extinguish (fire)’
‘extinguirse’ < SFH 04 1:71/el >
- c. [ko'já]
/ko'já/
‘squat’
‘ponerse en cuclillas’ < BFL 05 1:186/el >
- d. [ko'ʔá]
/ko'ʔá/
‘eat’
‘comer’ < SFH 04 1:69/el >

More about the phonemic status of labiovelar and palatal semivowels, as well as processes related to these segments, are discussed in §3.4.

3.3.2 Vocalic minimal pairs

The examples in (13) show minimal pairs involving high vowels (the contrasting vowels are indicated with boldface).

(13) /i/ vs. /u/

- a. [tʃíkúri]
/tʃíkúri/
‘mouse’
‘ratón’ {MDH co1136:13:08.2}
- b. [tʃú'kúli]
/tʃú'kú-li/
be.bent-PST

- ‘It was (bent),’
 ‘Estaba (curvado).’ {LEL tx177:08:12.8}
- c. [hi'râ]
 /hi'râ/
 ‘to bet’
 ‘apostar’ {LEL tx19:01:32.3}
- d. [hu'râ]
 /hu'râ/
 ‘to send’
 ‘mandar’ {SFH, MGD el261:00:20.5}

Minimal pairs involving back vowels are shown in (14).

- (14) /o/ vs. /u/

- a. ['tô]
 /tô/
 ‘bury’
 ‘enterrar’ {MAF el1240:3:29.5}
- b. ['tû]
 /tû/
 ‘down’
 ‘abajo’ {LEL tx5:01:52.3}
- c. ['ko]
 /ko/
 ‘emphatic clitic (EMPH)’
 ‘clítico enfático’ {SFH tx43:06:58.7}
- d. [kù]
 /kù/
 ‘wood’
 ‘leña’ {FLP in61:05:51.9}

Front vowels also create phonemic contrasts, as shown in (15).

- (15) /i/ and /e/

- a. ['wî]
 /wî/
 ‘harvest’
 ‘cosechar’ {SFH el549:04:42.0}

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- b. ['we]
/we/
'very'
'muy, mucho' {LEL tx84:07:28.3}
- c. ['ti]
/ti/
'singular definite article, negative evaluation (DEF.BAD)'
'artículo definido singular, evaluación negativa' {LEL tx5:04:51.7}
- d. ['té]
/té/
'lice'
'piojos' < SFH 04 1:17/el >

Below, the contrast between (16a) (with the verb *bi'tí*, 'stand up up') and (16b) (with the verb *be'te* 'stay overnight') shows that the contrast between front vowels is not restricted to stressed position (although there is a widespread vowel reduction process that targets unstressed vowels (discussed in detail in §5.2).

(16) /i/ vs. /e/ in pre-tonic position

- a. [biti'báma]
/biti-'bá-ma/
stand.up-INCH-FUT.SG
'It will stand up.'
'Se va a parar.' {BFL tx1:00:41.6}
- b. [bete'básá]
/bete-'bá-sa/
stay.overnight-INCH-IMP.SG
'If it stays overnight.'
'Si se queda.' {FLP in243:01:29.5}

Finally, the examples in (17–18) show contrasts between [–high] vowels.

(17) /e/ vs. /a/

- a. ['è]
/è/
'take away'
'llevar' < BFL 07 el336/el >

- b. [ʔà]
/ʔà/
'give'
'dar' < BFL 07 el336/el >
- c. [íréli]
/íré-li/
lock-PST
'It locked it.'
'Lo encerró.' < BFL 07 VDB/el >
- d. [írári]
/írári/
'godparent, godchild'
'padrino, madrina, ahijado, ahijada'

(18) /o/ vs. /e/ vs. /a/

- a. [mó]
/mó/
'go up, sg.'
'subir' {FLP in243:20:58.8}
- b. [mê]
/mê/
'win'
'ganar' {MAF el1242:01:56.3}
- c. [mà]
/mà/
'run'
'correr' {LEL tx177:05:20.8}
- d. [tò]
/tò/
'Give it to me!'
'¡Dámelo!'
- e. [té]
/té/
'lice'
'piojo' < SFH 04 1:17/el >
- f. [tá]
/tá/

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‘small’
‘pequeño’ {JLG co1238:01:53.2}

The next section lays out details of several general phonological processes targeting both consonantal and vocalic segments.

3.4 Processes

The following is a comprehensive description of phonological processes targeting consonantal segments in Choguita Rarámuri, including palatalization of alveolar fricatives, nasal place assimilation, processes targeting rhotics, postconsonantal devoicing and spirantization of voiced bilabial stops.

3.4.1 Palatalization of alveolar fricatives

Alveolar fricatives palatalize before high vowels. The fricative palatalization rule is schematized in (19).

- (19) Fricative palatalization rule
 $s \rightarrow \int / _ [+ \text{high}] V$

The degree of palatalization is subject to speaker variation: for many speakers, the allophone is realized as a slightly retroflexed sibilant. Some speakers, however, produce a full-fledged alveopalatal fricative. The following examples show palatalized fricatives in word-medial (20a–c) and word-initial position (20d–f).

- (20) Fricative palatalization before high vowels
- [ka'ʃi]
/kasì/
‘to shatter’
‘quebrar’ < ROF 04 1:59/el >
 - [o'ʃi]
/os-ì/
write.read-APPL ‘to read or write for someone’
‘escribirle o leerle a alguien’ < JHF 04 1:5/el >
 - [buʃu'rê]
/busurê/
‘to wake up’
‘despertarse’ < BFL 05 1:133/el >

- d. [ʃutu'bétʃi]
/sutubé̪tʃi/
'to trip'
'tropezarse' < BFL 05 1:187/el >
- e. [ʃu'ní]
/suní/
'to finish'
'terminar' < BFL 06 tx1(18)/tx >
- f. [ʃi'méa]
/si-'mêa/
go.SG-FUT.SG
'S/he will go.'
'Irá.' < BFL 06 tx48(24)/tx >

The rule of fricative palatalization is counteracted by post-tonic vowel deletion. In (21), palatalization overapplies since the trigger high vowel from the underlying representation has been deleted.

(21) Opaque fricative palatalization

- a. [a'tíʃli]
/a'tísi-li/
to.sneeze-PST
'S/he sneezed.'
'Estornudó.' < BFL 05 1:111/el >
- b. [mi?àʃnula]
/mi?à-si-nula/
to.kill-MOT-ORDER
'S/he made them kill it.'
'Hizo que lo matara.' < BFL 06 4:145/el >
- c. [nu'lèʃti-]
/nu'l-è-si-ti-/
to.command-MOT-CAUS-
'S/he makes them go along commanding.'
'Los hace ir mandando.' < BFL 06 4:145/el >
- d. [wili'báʃnila]
/wili-'bá-si-nula/
stand-INCH-MOT-ORDER
'S/he makes them go along standing.'
'Lo hace que se vaya parando.' < BFL 06 1:10 >

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The overapplication is schematized in (22):

- (22) Counterbleeding
- Underlying Representation /atísi-li/
- a. s → \int / — [+high] V [a'tiʃi-li]
 - b. V → Ø / stressed syllable _ [a'tiʃ-li]
Surface Representation [a'tiʃ-li]

There are thus many palatalized fricatives with no surface-apparent conditioning environment.

3.4.2 Optional nasal place assimilation

Nasal phonemes in Choguita Rarámuri display very little allophonic variation. Alveolar nasals display optional nasal place assimilation when they precede bilabial stops. This process, as shown in (23), is fed by post-tonic vowel deletion (the stressed vowels undergo compensatory lengthening, cf. §9.4.3.2).

- (23) Optional nasal place assimilation
- a. ['éempi]
/éna-pi/
go.PL-IRR.FUT.PL
'Maybe they will go.'
'A lo mejor van a ir.' < BFL 07 el35/el >
 - b. ['sûumpo]
/sû-ni-po/
sew-APPL-FUT.PL
'They will sew for them.'
'Les van a coser (a ellas).' < SFH 05 1:80/el >
 - c. [ra'páampo]
/ra'pá-na-po/
split.APPL-TR-FUT.PL
'They will split (the wood) for them.'
'Les van a partir (la leña).' < AHF 05 1:131/el >

The optionality of nasal place assimilation is evident from examples like (24), where an underlying alveolar nasal does not assimilate to a following bilabial stop after post-tonic vowel deletion (the forms with asterisk indicate unattested forms with vowel deletion and nasal place assimilation).

(24) No nasal place assimilation before bilabial stops

- a. ['tʃóonpo]
/tʃóni-po/
step-FUT.PL
'They will step.'
'Van a pisar.' < BFL 07 VDB/el >
*tʃóompo
- b. [jónpo]
/jóni-po/
nag-FUT.PL
'They will nag.'
'Van a regañar.' < BFL 07 VDB/el >
*jóompo
- c. [lánpo]
/láni-po/
bleed-FUT.PL
'They will bleed.'
'Van a sangrar.' < ROF 04 1:82/el >
*láampo
- d. [ro'míinpo]
/ro'mí-na-po/
fold-TR-FUT.PL
'They will fold it.'
'Van a doblarlo.' < AHF 05 1:126/el >
*ro'míimpo

There is no evidence that alveolar and bilabial nasals assimilate in place of articulation to other (non-bilabial) following segments. Some relevant examples are shown in (25).

(25) No nasal place assimilation

- a. ['tâanko]
/tâ-ni-ki-o/
ask-APPL-APPL-EP
'S/he asks them.'
'Le pregunta.' < BFL 07 1:31/el >

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- b. [tʃaʔi'bûunki]
 /tʃaʔi- 'bû-ni-ki/
 stuck-TR-APPL-PST.EGO
 'I stuck it for them.'
 'Se lo atoré.' < BFL 07 1:32/el >
- c. [muru'bêenki]
 /muru'bê-ni-ki/
 get.close-APPL-PST.EGO
 'I got it close for them.'
 'Se lo acerqué.' < BFL 06 6:146/el >
- d. ['náamtu]
 /'námi-ru/
 hear-NMLZ
 'a noise'
 'sonido' < SFH 04 1:112/el >
- e. [ba'râamki]
 /ba'râmi-ki/
 be.thirsty-PST.EGO
 'I was thirsty.'
 'Tuve sed.' < BFL 05 1:132/el >
- f. [ba'tʃiimtipo]
 /ba'tʃimi-ti-po/
 sprinkle-CAUS-FUT.PL
 'They will cause them to sprinkle.'
 'Lo van a hacer que rocíe agua.' < BFL 05 1:135/el >

In (25a–c) post-tonic deletion yields a heterosyllabic cluster with a nasal followed by a voiceless velar; the alveolar nasals, however, are not velarized. Bilabial nasals do not assimilate in place of articulation to following alveolar or velar stops either (as shown in (25d–f)).

Finally, there is no place assimilation when an alveolar nasal precedes a bilabial nasal, as exemplified in (26).

- (26) No place assimilation of alveolar nasal
 [ra'jènma]
 /ra'jèni-ma/
 be.sunny-FUT.SG
 'It will be sunny.'
 'Va a estar soleado.' < SFH 06 1:128/el >

There are no cases in the corpus where an alveolar nasal assimilates in place of articulation to a following bilabial nasal.

3.4.3 Processes targeting rhotics

Recall from §3.2.1 above that there are two rhotics in Choguita Rarámuri, an alveolar flap (*/ɾ/ <r>*) and a lateral flap (*/ɺ/ <l>*). The alveolar flap is realized as an alveolar trill word-initially. The rule in (27) represents this exceptionless generalization.⁹

- (27) Word-initial allophone of */ɾ/*
/ɾ/ → [r] / #_

The examples in (28) include an IPA notation (where [r] represents the alveolar trill and */ɾ/* stands for the alveolar flap in the underlying representation). Since alveolar trills and flaps are in complementary distribution, these sounds are represented with *<r>* in the rest of the grammar.

- (28) Word-initial trill

- a. [ra⁷lá]
/ra⁷lá/
‘to buy’
‘comprar’ < AHF 07 1:74/el >
- b. [ro¹nò]
/ro¹nò/
‘to boil’
‘hervir’ < SFH 04 1:81/el >
- c. [re¹ká]
/re¹ká/
‘to lay down’
‘acostarse’ < SFH 04 1:67/el >
- d. [riti¹wá]
/riti¹wá/
‘to watch’
‘ver’ < JHF 04 1:2/el >

⁹An anonymous reviewer asks whether this process may be due to contact with Spanish, where a similar pattern is attested. According to Merrill & Burgess (2014), word-initial [r] in Rarámuri varieties developed from a **t* > *r* sound change in the early nineteenth century (2014: 242), at a time period where colonial expansion had taken place. This change could thus have involved contact-induced transfer of a phonological pattern, though it may also be an internal development.

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- e. [ru'hi]
/ru'hi/
'to hail'
'granizar' < SFH 04 1:123/el >

Alveolar trills are not uncommon in word-medial position in loanwords from Spanish: [ba'ríkat̪i], 'bucket', from *barrica*, and [mo'râlt̪i], 'bag', from *morral*, are just a couple of examples. For some speakers, there are also trills in word-medial position in native words: [ha'ré], 'some' < LEL 06 5:100/el, BF 06 rec48/tx >, and [wasa'rá-ma] 's/he will plow' < BFL 06 tx48 nururía/tx >.

The lateral flap, as discussed in §3.2, is a sound that is auditorily both like a lateral approximant and like an alveolar (or retroflex) flap. Choguita Rarámuri back vowels following the flap condition its perception/production as a lateral.¹⁰ While the perceptual salience of the lateral quality of the segment is stronger in word-initial position (29a–e), there are many examples of the lateral flap being unambiguously produced as a lateral word-medially (29f–i).

(29) Lateral allophone of the lateral flap

- a. [làna]
/làna/
'bleed'
'sangrar' < ROF 04 1:82/el >
- b. [lo'ká]
/lo'ká/
'drink pinole'
'tomar pinole' {MDH co1136:10:25.9}
- c. [lo'wâ]
/lo'wâ/
'stir'
'revolver' < SFH 04 1:71/el >
- d. [la'ké]
/la'ke/
'carve (wood)'
'labrar (madera)' < BFL 04 1:111/el >

¹⁰The same conditioning environment is reported to favor the lateral production of the lateral flap in Naasioi (East Papuan), Barasana (Tucanoan) and Tucano (Tucanoan) (Ladefoged & Maddieson 1996: 243). Lionnet (1972) identified the same conditioning environment for the lateral perception of the flap in Norogachi Rarámuri.

- e. [lotʃ̪e] /lo'tʃe/ 'be hungry' 'tener hambre' {JLG co1235:2:24.2}
- f. [ri'h̪t̪ulo] /ri'h̪t̪u-ri-li-o/ freeze-CAUS-PST-EP 'They froze them.' 'Los congelaron.' < BFL 05 1:112/el >
- g. [wa'ló] /wa'ló/ 'dry' 'secar' < SFH 04 1:110/el >
- h. [tʃ̪iló] /tʃ̪ilo/ 'to sizzle' 'chisporrotear' < BFL 05 1:154/el >
- i. [basalówi] /basalowa-i/¹¹ stroll-IMPF 'They used to stroll.' 'Paseaban.' < BFL 05 1:162/el >

The flap is also optionally realized as a lateral in cluster with another consonant (after post-tonic syncope), including other rhotics (30a–b), voiceless stops (30c–d), fricatives (30e) and nasals (30f).

(30) Pre- and postconsonantal allophone of /l/

- a. [nârli] /nâri-li/ ask-PST 'They asked.' 'Preguntaron.' {MDH co1136:3:13.3}
- b. [kôrli] /kôli-li/ visit-PST 'They visited.' 'Visitaron.' < BFL 04 1:111/el >

¹¹A loan from Spanish *pasear*.

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- c. [tʃíkoltia]
/tʃíkóli-ti-a/
tickle-CAUS-PROG
'They are making them tickle.'
'Los están haciendo haacer cosquillas.' < AHF 05 1:146/el >
- d. [ka'pôltia]
/ka'pôli-ti-a/
spherical-CAUS-PROG
'They are making them spherical.'
'Los están haciendo esféricos.' < AHF 05 1:149/el >
- e. ['kólsia]
/'kóli-si-a/
be.spicy-MOT-PROG
'It's becoming spicy.'
'Se va haciendo enchiloso.' < ROF 04 1:82/el >
- f. [ka'wélnale]
/ka'wéli-nale-/
reject-DESID-
'It wants to reject it.'
'Lo quiere rechazar.' < BFL 07 1:155/el >

In all of the examples above, the lateral flap forms a heterosyllabic consonant cluster with a preceding or following rhotic or oral stop after posttonic vowel deletion.

The following examples show the environments which favor the flap (non-lateral) variant of this phoneme. These environments, as shown in (31), overwhelmingly involve front vowels.

(31) Flap allophone of /l/

- a. [na'wàri]
/na'wà-li/
arrive-PST
'They arrived.'
'Llegaron.' < JHF 04 1:1/el >
- b. [ko'rî]
/ko'lî/
'chile pepper'
'chile' {MDH co1137:0:50.1}

- c. [tʃíkória]
/tʃíkóli-a/
have.itch-PROG
'They are itchy.'
'Tienen comezón.' < AHF 05 1:146/el >
- d. [ka'pôritia]
/ka'pôli-ti-a/
be.round-CAUS-PROG
'They are making it round.'
'Lo está haciendo redondo.' < AHF 05 1:149/el >
- e. ['kôri]
/kôli/
'to visit'
'visitar' < BFL 05 1:111/el >
- f. [naka'wéri]
/naka'wéli/
'to reject'
'rechazar' < BFL 07 1:155/el >
- g. ['méniri]
/'mê-nále/
win-DESID
'They want to win.'
'Quieren ganar.' < ROF 04 1:81/el >
- h. [simí'náre]
/simí-'nále/
go.SG-DESID
'They want to go.'
'Quieren ir.' < SFH 05 1:86/el >

The flap allophones are produced slightly retroflexed for some speakers. For other speakers, however, the flap allophone is indistinguishable from the alveolar flap phoneme. For each example in (31), however, there is evidence that the flap has a related form with the lateral allophone. For instance, the past suffix */-li/* is realized with a flap allophone in (31a), but with a lateral allophone in (30a) above after posttonic syncope.

3.4.4 Post-consonantal devoicing

Finally, oral stops are also subject to a general phonological rule: without exception, stops devoice post-consonantly. In (32), post-tonic vowel deletion yields an environment in which the onset of the future plural is necessarily voiceless. For instance, as shown in (32a), *'nâar-po*, but not **'nâar-bo*, is unattested after posttonic deletion. There are no examples in the Choguita Rarámuri corpus with a voiced/lenis allophone appearing post-consonantly.

(32) Post-consonantal voiceless oral stops

- a. [nâarpo]
/nâri-po/
 ask-FUT.PL
 'They will ask.'
 'Van a preguntar.' < SFH 07 in243/in >
**'naar-bo*
- b. [desfilârpa]
/desfilâr-pa/
 parade-FUT.PL
 'They will paarade.'
 'Van a desfilar.' < LEL 06 Nov5/el >
**desfilâr-ba*
- c. [bam'pâsa]
/bam-'pâ-sa/
 year-INCH-COND
 'if they become older'
 'si cumple años' < SFH 06 tx12/tx >
**bam-'ba-sa*
- d. [sam'pâ]
/sam-'pâ/
 be.wet-INCH
 'to become wet'
 'mojarse' < SFH 04 1:113/el >
**sam-bá*

There is evidence that the onsets of the causative, future plural, and inchoative in (32) have voiced onsets with the same roots in other morphological contexts (this is addressed in detail in Chapter 9). The examples in (33) show that the voiceless allomorphs in (33b) and (33d) are not lexically determined, but

phonologically-conditioned. The root *bami* has an inchoative suffix allomorph with a voiced onset in (33a) and a voiceless allomorph in (33b) after pre-tonic vowel deletion; the transitive stem *rapa-na*, ‘to split, TR’ (‘*partir*, TR’), has a future plural suffix allomorph with a voiced onset in (33c) and a voiceless suffix allomorph in (33d) after post-tonic vowel deletion.¹²

(33) Phonologically-conditioned devoicing

- a. [ba'míbali]
/ba'mí-ba-li/
year-INCH-PST
'They turned one year older.'
'Cumplieron años.' < SFH 06 tx12/tx >
- b. [bam'pása]
/bam-'pá-sa/
year-INCH-COND
'If they turn one year older.'
'Si cumplen años.' < SFH 06 tx12/tx >
*bam-'ba-sa
- c. [rapa'nâbo]
/rapa-'nâ-bo/
split-TR-FUT.PL
'They will split it (the wood).'
'La van a partir (la leña).' < AHF 05 1:131/el >
- d. [ra'pám̩po]
/ra'pá-m̩-po/
split.APPL-TR-FUT.PL
'They will split it for her/him.'
'Se la van a partir (la leña).' < AHF 05 1:131/el >
*ra'pá-m̩-bo

These alternations result from application of the rule in (34), which is fed by pre- or posttonic vowel deletion.

(34) Post-consonantal stop devoicing
[+ voice] stop → [-voice] / C__

¹²Some lexical items have variable pronunciations with bilabial stop and bilabial nasal alternants. The positional verbal predicate for liquids /ma'na/, for instance, has alternative pronunciations with a bilabial nasal stop (*ma'na*) and with a voiced bilabial oral stop (*ba'na*).

3.4.5 Spirantization of voiced bilabial stops

Word-medially, voiced bilabial stops are lenited and realized as voiced bilabial fricatives or approximants intervocally, and, for some speakers, as labiovelar semivowels pre-consonantly after further weakening. The spirantization rule is schematized in (35a) and the pre-consonantal gliding of bilabial stops is schematized in (35b). Pre-consonantal gliding is fed by post-tonic vowel deletion.¹³

(35) Voiced bilabial stop lenition

- a. /b/ → [β] ~ [β̯] / V — V
- b. /b/ → [w] / _C

The following examples show the lenition of /b/ to a voiced fricative ([β]) (36a–b) and a voiced approximant ([β̯]) (36c–d) intervocally.

(36) Intervocalic lenition of /b/

- a. [zi'βóò] /si-'bô/ go.PL-FUT.PL 'Let's go!' '¡Vamos!' {MFH tx1133:01:17.2}
- b. [apa'βéza] /apa'bé-sa/ go.around.PL-COND 'if they go around' 'si andan' {MFH tx1133:01:17.2}
- c. ['èβəma] /'èbi-ma/ bring-FUT.SG 'S/he will bring it.' 'Lo va a traer' < BFL 06 6:73/el >
- d. [mu'tjíβali] /mu'tjíi-ba-li/ sitting.PL-INCH-PST

¹³As suggested by an anonymous reviewer, the interaction between vowel deletion and pre-consonantal gliding may be argued to show that either (i) vowel deletion is phonological, despite being a variable process, or (ii) that both vowel deletion and pre-consonantal gliding are both phonetic processes. Vowel deletion interacts with other variable phonological processes (e.g., nasal place assimilation, described in §3.4.2).

‘They sat down.’
 ‘Se sentaron.’ < BFL 06 6:73/el >

The forms in (37) exemplify the lenition of /b/ to a labiovelar glide ([w]) pre-consonantly.

(37) Pre-consonantal lenition of /b/

- a. [èwtiki]
 /èbi-ti-ki/
 bring-CAUS-PST.EGO
 ‘I made him/her bring it.’
 ‘Lo hice traerlo.’ < BFL 06 6:73/el >
- b. [mu'tfiwpo]
 /mu'tfi-ba-po/
 be.siting.PL-INCH-FUT.PL
 ‘They will sit down.’
 ‘Se van a sentar.’ < BFL 06 6:73/el >

More examples of the word-medial labiovelar semivowel allophone of /b/ are provided in (38).

(38) Pre-consonantal [w] allophone of /b/

- a. [i'wma]
 /ibi-ma/
 bring-FUT.SG
 ‘S/he will bring it.’
 ‘Lo va a traer.’ < BFL 06 6:75/el >
- b. [i'wki]
 /ibi-ki/
 bring-PST.EGO
 ‘I brought it.’
 ‘Lo traje.’ < BFL 06 6:75/el >
- c. [a'tfiwma]
 /a'tfi-ba-ma/
 sit.SG.TR-INCH-FUT.SG
 ‘S/he will sit her down.’
 ‘La va a sentar.’ < BFL 06 6:146-148 >

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In word-initial position, underlying /b/ may surface as voiced bilabial stops (e.g., (39a)) or undergo lenition and surface spirantized (e.g., (39b)). This latter pattern is the most frequently attested in the Choguita Rarámuri corpus.

(39) Word-initial allophones of /b/

- a. [b̥i'nèʃia]
/b̥e'nè-simi-a/
learn-MOT-PRS
'(they) go along learning'
'van aprendiendo' {LEL tx73:02:03.9}
- b. [βen'tâantʃi]
/ben'tânitʃi/
'window'
'ventana' {SFH tx152:02:14.4}

For some speakers, word-initial underlying voiced bilabial stops undergo gliding (surfacing as [w]), thus neutralizing the phonemic contrast between /w/ and /b/ in word-initial position. Some examples are given in (40).

(40) Word-initial neutralization of /w/ and /b/

- a. [wa'kôtʃi]
/bakôtʃi/
'river'
'río' < SFH 04 1:17/el >
- b. [wa?wí]
/ba?wí/
'water'
'agua' < SFH 04 1:17/el >
- c. [wa'râmi-sa]
/barâmi-sa/
be.thirsty-COND
'if s/he gets thirsty'
'si tiene sed' < LEL 06 6:121/tx >
- d. [wa?wéra]
/ba?wéra/
'water pot'
'olla para agua' < SFH 07 6:163-175/el >

- e. [wisa'rô]
/bisarô/
'plant'
'planta' < SFH 07 6:163-175/el >
- f. [wa'rásiri]
/barásiri/
'strong rain'
'lluvia fuerte' < SFH 07 1:163-175/el >
- g. [wa?'wíwa]
/ba?wíwa/
'icy rain'
'agua-nieve' < SFH 06 6:74/el >

As these examples show, this neutralization is prevalent before low, central vowels, and marginally attested before high, front vowels (cf. (40e)). There are no examples of this neutralization in word-initial position before mid, front vowels or round, back vowels. For the speakers that display this neutralization, the word-initial underlying stop is produced as either a full-fledged labiovelar semivowel or a bilabial approximant; when asked to give a careful pronunciation of these words, these speakers produce a bilabial stop.

Underlying labiovelar semivowels, on the other hand, may be neutralized and have surface realizations as voiced bilabial approximants intervocally. As the examples in (41) show, the neutralization is favored before /a/ (41a–b) and /i/ (41c–d). These are the same environments that favor velarization of /b/ in word-initial position (as shown in (40)).

(41) Optional word-medial neutralization of /b/ and /w/

- a. [ro'tʃíβari]
/rotʃíwari/
'quelite' < SFH 07 6:163-175/el >
- b. [saβá'róame]
/sawaróame/
'yellow'
'amarillo' < SFH 07 6:163-175/el >
- c. [wi'kâβi]
/wikâwi/
'to forget, forgive'
'olvidar, perdonar' < SFH 07 1: 183/el >

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- d. [re'ròβi]
/reròwi/
‘potato’
‘papa’ < FLP 06 in61/in >

This neutralization is optional and is not attested with the onsets of stressed syllables. This is shown in (42).

(42) No glide hardening in stressed syllables

- a. [ba?wíβa]
/ba?wíwa/
‘icy rain’
‘agua-nieve’ < SFH 06 6:74/el >
- b. [lo'wâ]
/lo'wâ/
‘stir’
‘revolver’ < SFH 04 1:71/el >
- c. [i'wépi]
/i'wépi/
‘wrestle’
‘luchar’ < SFH 04 1:96/el >
- d. [ri'wè]
/re'wè/
‘leave’
‘dejar’ < AFH 05 1:181/el >

3.5 Phonetic reduction processes

This section addresses patterns of reduction/lenition of consonant segments that appear to be phonetic in nature, being affected by speech rate and style, not exhibiting any morphological conditioning and not exhibiting interactions with clearly phonological rules. This phonetic reduction, which is perceptually highly salient to Choguita Rarámuri speakers as a social/regional marker, does not involve contrast neutralization, a crucial difference between this process and the lenition processes operating in the lexical phonology. Several of these patterns exhibit a high degree of inter- and intra-speaker variation.

3.5.1 Lenition of voiceless plosives

Plain (non-laryngealized) voiceless stops exhibit a large variety of surface realizations. Specifically, voiceless oral stops are gradiently realized within a continuum that ranges from a voiceless aspirated stop (if stressed) to a labiovelar glide or deletion altogether (schematically: [p^h > p > b > β > β̩ > w > Ø]). Voicing effects in these contexts are so strong that they are clearly perceptible without any instrumental analysis. This continuum for the bilabial place of articulation is exemplified in (43) with instances of the realization of *pa* (in boldface), a monosyllabic function word that marks clause and/or utterance boundaries (square brackets in the examples below indicate clausal boundaries in mult-clausal sentences).¹⁴

(43) Gradient production of *pa*, clause final marker (CL)

- a. *aʔlì ́etfì bi'láti be'nèli tamu'hē ba tʃù ri'ká tì'búsa 'lé **pa** 'nà ka'wì **βa***
aʔlì ́etfì bi'lá-ti be'nè-li tamu'hē ba] tʃù ri'ká
 then DEM indeed=1PL.NOM learn-PST 1PL.NOM CL how that
*tì'bú-sa a'lé **pa**] 'nà ka'wì **βa***
 take.care-COND IRR CL PROX land CL
 'Then that is how we learned, how to take care of it, this earth.'
 'Entonces así aprendimos nosotros, cómo cuidarla, la tierra.' {SFH tx977:00:60.0}
- b. *'nápu ko'líki bi'tí **ba***
*'nápu ko'lí-ki bi'tí **ba***
 SUB around.the.side-LOC lie.PL.PRS CL
 'Like the ones who lie in that other side (by the graveyard).'
 'Como los que están (acostados) de aquel lado (del panteón).' {MDH co1136:17:43.0}
- c. *'kítì tʃì'hùnucam tʃoʔ'má **βa***
*'kítì tʃì'hùnú-r-ame tʃoʔ'má **βa***
 because be.disgusted-AG-PTCP snot CL
 'Because he was disgusted by the snot.'
 'Porque le tuvo asco al moco.' {SFH tx128:02:28.2}
- d. *aʔlì bi'lá ko wa'bé bi'lá kiʔà 'nìla ra **pa** ku'rí ke tʃó me biwa'tʃéatʃí 'nà ka'wì **βa***

¹⁴While these processes mostly target weak functional items like clitics and particles, voiceless stops in roots and affixes may also undergo this type of reduction, e.g. (46), (47).

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*aʔlì bi'lá=ko wa'bé bi'lá ki'ʔà 'ní-la ra **pa**]*
 and indeed=EMPH INT indeed long.ago COP-REP say.PRS CL
*ku'rí ke tʃó me biwa'tʃé-a-tʃí 'nà ka'wì **βa**]*
 recently NEG yet almost solidify-PRS-TEMP DEM earth CL
 'And so it was a long time before this earth was solid.'
 'Y entonces fue mucho cuando todavía no amacizaba este mundo.'
 {SFH tx43:11:11.2}

As shown in these examples, the onset of this function word is realized as a voiceless stop (43a,d), a voiced stop (43a,b), a voiced fricative (43c) or a voiced approximant (43d), often displaying different realizations in different positions within the same utterance.

Voiceless velar stops also undergo gradient production, with variable voicing and spirantization. The forms in (44) exemplify this process with the emphatic enclitic *=ko* (in boldface).

(44) Gradient production of *ko*, topic marker (EMPH)

- a. *aʔlì bi'lá **ko** mi'tíira 'lé ri'hò go, tʃí'hùna tʃú'kúlam ba 'étʃí tʃó'má ba*
aʔlì bi'lá=ko mi'tí-ra a'lé ri'hò=go, tʃí'hùna
 then indeed=EMPH win.PST.PASS-REP DUB man=EMPH be.disgusted
tʃú'kúl-ame ba 'étʃí tʃó'má ba
 be.curved-PTCP CL DEM snot CL
 'And that is why the Rarámuri person was beaten, because he was disgusted by the snot.'
 'Y por eso le ganaron al tarahumar, porque le estuvo teniendo asco al moco.' {SFH tx128:01:26.2}
- b. *ni'hé 'jéla **go** 'pâma 'lé ko'bísi ermo'síjo 'ka*
ni'hé 'jé-la=go 'pâ-ma a'lé ko'bísi ermo'síjo 'ka
 1SG.NOM mom-GEN=EMPH bring-FUT.SG DUB pinole Hermosillo IRR
 'My mom will bring pinole to Hermosillo.'
 'Mi mamá va a traer pinole a Hermosillo.' {SFH el444:00:57.8}
- c. *ta'mò **ko** 'hê ri'gá 'nòtʃami 'hú 'nà 'wé i'séligam **go** ...*
ta'mò=ko 'hê ri'gá 'nòtʃ-ame 'hú 'nà 'wé
 1PL.NOM=EMPH like that work-PTCP COP PROX INT
i'séli-g-am=go
 be.governor.PL-g-PTCP=EMPH
 'We, that is how we work, the governors.'
 'Nosotros los gobernadores así trabajamos.' {JMF tx816:00:00.0}

- d. *mani'ké 'lär ba ni 'mátimi aʔ'lá bo'sáli a'lé ba^htâli go ba ne*
mani=ké *lär* *ba ni* *'má=timi* *aʔ'lá bo'sá-li*
to.be.liquid=COP.IMP *think CL EMPH* *already=2PL.NOM* *well full-PST*
a'lé ba^htâli=go *ba ne*
DUB corn.beer=EMPH CL EMPH
 'You all got full with the corn beer, I think.'
 'Se llenaron ustedes con el tesgüino, yo creo.' {MFH tx1133:00:17.3}
- e. *t̪ili'ká i'násma t̪o'ná 'hônsa ko t̪o pa ne t̪iri'ká bi'lá pe*
t̪ili'ká i'ná-s-ma *t̪o'ná 'hônsa=ko* *t̪o pa ne*
like.that go.SG-MOT-FUT.SG *that from=EMPH* *again CL EMPH*
t̪iri'ká bi'lá pe
like.that indeed just
 'So that you won't be thinking any of that.'
 'Para que de eso no vayas pensando nada.' {MFH tx1133:01:06.0}
- f. *aʔ'lám ri'kát̪ími aʔ'lá i'wéami raʔa'mâbi 'lé yo a mi raʔa'mâmi 'lé*
pa'gótami baʔa'lí
aʔ'lám ri'kát̪í=mi *aʔ'lá i'wé-ame* *raʔa'mâ-bi*
well like.that=2.ACC *well strong-PTCP* *give.advice-IRR.PL*
a'lé=yo *a mi* *raʔa'mâ-mi* *a'lé pa'gótami baʔa'lí*
DUB=EMPH *AFF* *there give.advice-IRR.SG* *DUB people* *tomorrow*
 'Perhaps tomorrow people will give you all advice.'
 'A lo mejor de aqui a mañana llegan gentes a darles consejos.' {MFH tx1132:00:30.3}

As with bilabial stops, velar stops display a range of surface realizations, ranging from voiceless stops (44a,c,e), voiced stops (44a,b,c,d), and voiced fricatives (44f). These effects are also attested in intervocalic position within morphologically complex words, as shown in (45):

- (45) Intervocalic voicing of /k/ in morphologically complex words
- a. *aʔ'lí mámi baʔ'wí roʔèma o'hòsa a'náuka bi'lé ba'ríka*
aʔ'lí má=mi *baʔ'wí roʔ-è-ma* *o'hò-sa*
and already=2SG.NOM *water pour.APPL-FUT.SG* *dekernel-COND*
a'náu-ka *bi'lé ba'ríka*
measure-GER *one cask*
 'When you dekernel it you pour water, having measured a cask.'
 'Cuando lo desgranas y ya le echas agua, ya que mides una barrica.' {BFL tx60:00:27.2}

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- b. *ri'pákina 'ku tʃú'kúli ti tʃímo'rí ko iʔ'nèga tʃú o'lásá*
ri'pákí-na 'ku tʃú'kú-li ti tʃímo'rí=ko iʔ'nè-ga tʃú
above-ABL REV stand-PST DEM squirrel=EMPH watch-GER that
o'lásá
do-COND
'And the squirrel stood watching when he did that to them.'
'Y la ardilla lo estuvo viendo de arriba cuando les hizo eso.' {BFL
tx191:03:37.6}

These examples show how the voiceless velar stop (in the simultaneous action -ka suffix) emerges as either voiceless (45a) or voiced (45b) in intervocalic position. This effect is part of a phenomenon of variable voicing of velar stops that is also attested within lexical items, as shown in (46):

(46) Gradient voicing of velar stops

- a. [tʃíkô-l-ame] ~ [tʃígô-l-ame]
/tʃíkô-l-ame/
steal-l-PTCP
'thief'
'ladrón'
- b. [pa'kó-t-ame] ~ [pa'gó-t-ame]
/pa'kó-t-ame/
wash-t-PTCP
'people'
'gente' {LEL tx5:05:05.4} {CFH tx_korimaka:00:10.4}
- c. [ka'lí] ~ [ga'lí]
/ka'lí/
'house'
'casa'

Recall from §3.2.1 above that there is no voicing contrast at the velar place of articulation in Choguita Rarámuri. While variable voicing of velar stops is attested across Choguita Rarámuri speakers regardless of their exposure to other varieties of Rarámuri, voiced velar stops are identified by Choguita Rarámuri speakers as characteristic pronunciations of other dialects (e.g., Norogachi Rarámuri), and seem to function as a highly salient social/regional marker, though no detailed sociolinguistic study has been carried out in this area to date. Crucially, surface voiced velar stops have a more restricted distribution than surface voiced

bilabial stops and coronal flaps in monomorphemic words and do not emerge in any morphological alternations.¹⁵

Finally, voiceless coronal stops also undergo lenition in fast speech, and this process is attested in intervocalic position. In contrast to bilabial and velar stops, coronal stops do not voice when undergoing lenition; instead, they undergo spirantization and a change in place of articulation. That is, in contrast to the pattern found in other morphological and phonological environments where the voiceless coronal stop alternates with a voiced coronal flap, the lenis counterpart of [t] in these fast speech contexts is a voiceless inter-dental fricative. This effect is exemplified in (47).

(47) Spirantization of voiceless coronal stops in fast speech

- a. [pa'yóθam]
/pa'gót-ame/
baptize-PTCP
'people'
'gente' {MFH tx1132:00:30.3}
- b. [ma'θéθca]
/ma'tétara/
'thank you'
'gracias' {MFH tx1133:02:38.8}

Preliminary examination of phonetic data reveals these gradient realizations in fast speech reflect a lenition process in which productions on the lenis end of the continuum (fricatives and approximants) tend to be produced in utterance-final position, while productions on the fortis end (voiceless and voiced stops) tend to be produced utterance-medially, a factor that may suggest that these alternations are sensitive to phrasal phonological effects.¹⁶

While the precise role of post-lexical phonology in conditioning lenition in these environments is still under investigation, there is a clear effect of a constraint that precludes [+continuant] consonants ([β~β~w~Ø]) in post-consonantal

¹⁵Voiced velar stops are only marginally attested in underlying forms in some place names, as in the form *basi'gotʃi* 'Basigóchi', a toponym containing the root *basi'ko* and the locative suffix *-tʃi* that means 'place where *basi'ko* grows'. The root *basi'ko* is synchronically used to refer to a plant species, and it can be productively derived with the locative suffix, *basi'ko-tʃi*. This last form with the voiceless velar stop in the stem plus the locative suffix has the meaning 'on top of the plant *basikó*'.

¹⁶Lenition results in the neutralization of the voicing contrast at the bilabial place of articulation, with the voiced bilabial stop also displaying a gradient realization ranging from a stop proper, to a fricative, an approximant, a labiovelar glide or deletion ([b~β~ɸ~w~Ø]).

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position, a constraint that applies across word boundaries, e.g., *o'waam pa*, *tʃukúlam ba*, *i'sélígam go*. In the corpus data examined so far, there are no [-continuant] consonants in these environments, suggesting that a constraint like *CC[+continuant] is at play. This reduction process does involve contrast neutralization, a crucial difference between this process and the lenition processes operating in the lexical phonology.

3.5.2 Depalatalization and deaffrication of alveopalatal affricates

Alveopalatal affricates can optionally depalatalize before low, central vowels and can be produced as alveolar affricates, as schematized in the rule in (48). This allophonic variation is exemplified in (49), where alveopalatal affricates are optionally depalatalized root-internally (49a–c) or as onsets of suffixes (49d–f). Alternative pronunciations with the alveo-palatal affricate are also shown in (49).

(48) Depalatalization of alveopalatal affricates

$\widehat{tʃ} \rightarrow ts / _ a$

(49) Optional depalatalization of alveopalatal affricate

- a. [a'kâtsala] ~ [a'kâtʃala]
/a'kâtʃa-la/
paternal.grandmother-POSS
'their paternal grandmother'
'su abuela paterna' < FLP 07 in243/tx >
- b. [a'tsâsa] ~ [a'tʃâsa]
/a'tʃâ-sa/
to.sit.SG.TR-COND
'if they sit it down'
'si lo sienta' < SFH 04 1:38/el >
- c. ['nòtsari] ~ ['nòtʃari]
/'nòtʃari/
'work'
'trabajo' < AADB(292)/el >
- d. [ku'sú-tsani] ~ [ku'sú-tʃani]
/ku'sú-tʃani/
make.animal.noise-EV
'It sounds like an animal is making noise.'
'Suena que canta (un animal)' < SFH 05 1:81/el >

- e. [o'sitsana] ~ [o'sitʃana]
 /o'si-tʃan-a/
 write.read-EV-PROG
 'It sounds like they're writing/reading.'
 'Suena que están escribiendo/leyendo.' < SFH 05 1:88/el >
- f. [tʃi'wátsa] ~ [tʃi'wátʃa]
 to.tear-TR.PL
 'to tear something many times'
 'rasgar muchas veces' < ROF 04 1:59/el >

In fast speech, alveopalatal affricates may depalatalize and deaffricate in a high frequency word combination: the distal demonstrative *'etʃi* and a following adjective, are pronounced as a single word within nominal phrases, with stress in the second syllable. This involves the deletion of an underlying high vowel, as shown in the examples from text provided in (50).

(50) Depalatalization and deaffrication of *tʃ*

- a. es'tá 'tʃélami ko ba
 'etʃi 'tá o'tʃélam=ko ba
 DIST DET old.man=EMPH CL
 'that old man'
 'ese viejo' < LEL 06 6:141-162/tx >
- b. 'nè ko ani'mê o'lá 'hê 'nà es 'tá ra?itʃiri
 'nè=ko ani'-mêa o'lá hê 'nà 'etʃi 'tá ra?itʃi-ri
 1SG.NOM=EMPH say-FUT.SG CER DEM PROX DIST DET speak-NMLZ
 'I am going to say these words.'
 'Yo voy a decir esta plática.' < BFL 07 frog story_2/tx >
- c. we ka'ní-lam 'tʃó 'níra 'lé és 'kútʃi o'kwâka
 we ka'ní-l-ame 'tʃó 'ní-ra a'lé 'etʃi 'kútʃi o'kwâ-ka
 INT love-r-PTCP also COP-POT DUB DEM small two-COLL
 'They loved each other, those two, I think.'
 'Se querían mucho también, yo creo, ellos dos.' < BFL 07 frog story_2/tx >

The depalatalization process exemplified in (50a-b) can be analyzed as a reinterpretation of a phonetically ambiguous form, a consonant cluster with an alveopalatal affricate followed by an alveolar voiceless stop. This consonant sequence

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would arise across word boundaries in these forms in an intermediate representation after posttonic deletion ({etʃ tá}). The same analysis can be extended to other contexts of depalatalization of affricates: in (51) below, the alveopalatal affricate undergoes non-local anticipatory assimilation with the following alveolar stop. The posttonic front, high vowel that intervenes between the alveopalatal affricate and the alveolar stop is extra short and can be deleted altogether in fast speech.

- (51) Depalatalization and deaffrication of *tʃ*

ma 'kárua 'kúti to'lí
ma 'káru-*a* 'kútʃi to'lí
already cackle-PROG small chicken
'The chickens already cackled.'

'Ya cacaraquearon las gallinas.' < SFH 07 el170 (12:25)/el >

4 Syllables

This chapter describes the syllabification patterns of Choguita Rarámuri. Native speakers segment words into syllables in careful speech pronunciation, and several suprasegmental processes make crucial reference to the syllabic structure of words, such as stress assignment (described in §11.3.5) and glottal stop prosody (described in §7.1).

The structure of this chapter is as follows. §4.1 provides an overview of the underlying syllabic structure of Choguita Rarámuri, followed by a description of attested derived consonant and vowel sequences in §4.2 and §4.3, respectively. Finally, §4.4 covers syllable structures involving semi-vowels.

4.1 Underlying syllable structure

The underlying syllable in Choguita Rarámuri is an open syllable ((C)V). Onsets are optional, and never elaborate to a cluster. As in the closely related Taracahitic language, Guarajío (Miller 1996), the only possible (underlying) coda is glottal stop. CV, V, CV?, and V? syllables in word-initial position are illustrated in (1–4). These syllable types are exemplified in monomorphemic words.

- (1) Word-initial CV syllables
 - a. *ta.kí*
‘instrumental violin piece’
‘canción instrumental en violín’ < SFH 06 6:73/el >
 - b. *pa.kó*
‘to wash (dishes)’
‘lavar trastes’ < JHF 04 1:3/el >
 - c. *ra.pá*
‘to split’
‘partir’ < AHF 05 1:131/el >
 - d. *ba.kí*
‘to go.in, sg’
‘entrar, sg’ {BFL tx191:0:29.9}

(2) Word-initial (onsetless) V syllables

- a. *o.se.'rí*
‘paper’
‘letter’ {JLG co1235:10:21.5}
- b. *i.'wí*
‘breathe’
‘respirar’ < JHF 04 1:1/el >
- c. *u.'tfú*
‘sting (a bug)’
‘picar (un bicho)’ < LEL 07 1:6/el >
- d. *a.'tí*
‘to laugh’
‘reirse’ < SFH 05 1:98/el >

(3) Word-initial CV? syllables

- a. *sa?.'pá*
‘meat’
‘carne’ {SFH tx43:06:07.8}
- b. *bi?.'wà*
bi?.'w-à
‘to clean, TR’
‘limpiar, TR’ < BFL 04 1:112/el >
- c. *wa?.'kó*
‘grunt’
‘gruñir’ < AHF 05 1:147/el >
- d. *ra?.'lá*
‘buy’
‘comprar’ < SFH 04 1:74/el >

(4) Word-initial V? syllables

- a. *u?.'ká*
‘choose’
‘escoger’ < SFH 07 DB/el >
- b. *a?.'tá*
‘arch’
‘arco’ < SFH 07 DB/el >

- c. *iʔ.'pè*
 ‘to gather small things’
 ‘recoger cosas pequeñas’ < BFL 06 4:189/el >
- d. *oʔ.té.li*
 ‘to burp’
 ‘eruptar’ < SFH 05 1:177/el >

The only types of syllables found word-medially in monomorphemic words are CV syllables. These are exemplified in (5). There are no word-medial CV? syllables (i.e., with glottal stop coda), since glottal stop is restricted to appear within a disyllabic window (as the coda of a word-initial syllable or the onset of the second syllable of the prosodic word) (for further details about this restriction, see §7.1).

(5) Word-medial CV syllables

- a. *ko.rí.'mè.ni*
 ‘bees, honey’
 ‘abejas, miel’ {BFL tx191:01:27.6}
- b. *na.ha.'râ.pa*
 ‘to wrestle’
 ‘luchar’ < BFL 07 VDB/el >
- c. *su.tu.'bé.tí*
 ‘to trip’
 ‘tropezarse’ < LEL 06 5:35/el >
- d. *ba.ʔa.'lí*
 ‘tomorrow’
 ‘mañana’ {JLG co1234:08:45.4}
- e. *ku.'ñ.ri*
 ‘to help’
 ‘ayudar’ {LEL tx5:04:34.8}

Word-medial onsetless (V) syllables are not attested in monomorphemic verbal roots, but can be found in polysyllabic nouns. Some of these nominal roots (e.g. (6a) and (6c)) are lexicalized compounds.

(6) Word-medial V syllables

- a. *a.wa.'kó.a.ni*
 ‘scorpion’
 ‘alacrán’ < SFH NDB/el >

- b. *ki.o.'rîo*
‘esquiate (corn drink)’ {GFM tx904:00:04.5}
- c. *tʃo'.ké.a.ri*
‘toasted beans’
‘frijol tostado’ < SFH NDB/el >
- d. *ko.a.'lâ*
koə-'lâ
forehead-poss
‘their forehead’
‘su frente’ < MGD 06 1:107/el >

Word-medial onsetless (V) syllables are found after morpheme boundaries in morphologically complex words. Examples are given in (7).

(7) Word-medial V syllables at morpheme boundaries

- a. *wi.pi.'só.a*
wipi'só-a
hit-PROG
‘S/he is hitting.’
‘Está pegando.’ {LEL tx223:03:03.5}
- b. *bu.su.'rê.a*
busu'rê-a
wake.up-PROG
‘S/he is waking up.’
‘Se está despertando.’ {JMF tx816:00:16.6}
- c. *su.'rí.a*
su'rí-a
fight.over.something-PROG
‘S/he is fighting about something’
‘Se está peleando.’ < SFH 05 1:100/el >
- d. *na.'kí.o*
na'ki-o
want-EP
‘S/he wants’
‘Quiere.’ < BFL 04 1:91/el >
- e. *no.'ká.o*
no'k-á-o
move.TR-EP

- ‘S/he moves it.’
 ‘Lo mueve.’ < BFL 05 1:114/el >
- f. *pi.'rē.o*
pi'rē-o
 dwell.PL-EP
 ‘They dwell.’
 ‘Viven.’ {LEL tx32:02:51.1}

All phonemic consonants can be onsets. There are no complex onsets. Table 4.1 summarizes the types of syllables in Choguita Rarámuri and examples of each syllable type in word-initial and word-medial position.

Table 4.1: Syllable types and their distribution in Choguita Rarámuri

Type	Word-initial position	Word-medial position
V	i.'wí ‘breathe’	a.wa.'kó.a.ni ‘scorpion’
CV	pa.'kó ‘wash dishes’	o.se.'rí ‘paper/letter’
CV?	sa?.'pá ‘meat’	
V?	o?.'kô ‘pain’	

Taking onset complexity (singleton vs. CC onsets) and presence and elaboration of codas as indices of syllable structure complexity (following Maddieson 2005), we can conclude that Choguita Rarámuri has a simple syllable structure in underlying representations: there are no elaborate onsets beyond a single consonant and no codas, except for glottal stop.

In surface forms, however, posttonic deletion gives rise to heterosyllabic consonant clusters, yielding a moderate level of syllable complexity in surface realizations.¹ This is discussed next.

¹As discussed in more detail in §5.2 below, Choguita Rarámuri exhibits complex patterns of stress-based vowel reduction and deletion. I assume deletion is a categorical phonological process, with vowel deletion yielding a gestural reorganization that affects the syllabic structure of the resulting word. One pending question, however, is whether these cases involve extreme phonetic vowel reduction instead of a phonological process of deletion. As suggested by an anonymous reviewer, in the latter scenario we may expect the syllable pattern of the target word to remain the same, i.e., with the consonant sequence behaving as if the vowel would have remained in place, as proposed for vowel deletion involving some consonant clusters in Tokyo Japanese (Shaw & Kawahara 2022). I leave this question for future research.

4.2 Consonant sequences

There are very few restrictions as to the types of derived clusters that are possible in Choguita Rarámuri. One of these restrictions involves voiced oral stops. As described in more detail above (§4.1), there is a productive rule of oral stop devoicing in post-consonantal position, fed by stress-governed posttonic vowel deletion. There are, thus, no surface sequences involving a voiced stop following a voiceless consonant in a consonant cluster. This is schematized in (8).

- (8) Stop devoicing
 *[-voice] C - [+voice] stop

Bilabial oral stops in general form heterosyllabic clusters with other voiceless stops and with nasal stops. Nasal stops can form consonant clusters with all other consonants except for other sonorants (although some CC sequences involving identical sonorants are discussed below).

Alveopalatal affricates, on the other hand, may form a heterosyllabic cluster with a following nasal stop (9a–b) or a velar stop (9c).

- (9) $tʃN$ derived clusters
- a. [sa?mètʃma]
 /sa?mètʃa-ma/
 soak-FUT.SG
 ‘It will soak.’
 ‘Se va a mojar’ < BFL 05:1:135/el >
 - b. [rata'bátʃni]
 /rata-bá-tʃa-ni/
 heat-INCH-TR.PL-APPL
 ‘S/he will heat it up for them.’
 ‘Se lo va a calentar.’ < SFH 05:123/el >
 - c. [rata'bátʃki]
 /rata-bá-tʃa-ki/
 heat-INCH-TR.PL-APPL
 ‘S/he will heat it up for them.’
 ‘Se lo va a calentar.’ < SFH 05:123/el >

Another restriction on derived consonant clusters in Choguita Rarámuri involves alveopalatal affricates: a sequence of an alveopalatal affricate followed by an alveolar stop forms an illicit consonant cluster. Repairs include metathesis (10a–b), and progressive, assimilatory deaffrication of the alveopalatal stop (10c):

(10) Repair of *t̪t̪* cluster

- a. [sutu'bét̪it̪ili]
/sutu'bét̪i-[†]ti-li/
trip-CAUS-PST
'S/he made them trip.'
'Lo hizo que se tropezara.' < SFH 09-05-07/el >
- b. [sutu'bétt̪fima]
/sutu'bét̪i-[†]ti-ma/
trip-CAUS-FUT.SG
'S/he will make thhem trip.'
'Lo va a hacer que se tropiece.' < SFH 07 1:183/el >
- c. [sutu'bétt̪ili]
/sutu'bét̪i-[†]ti-li/
trip-CAUS-PST
'S/he made them trip.'
'Lo hizo que se tropezara.' < SFH 07 1:183/el >

There are thus almost no restrictions as to possible derived consonant clusters in Choguita Rarámuri, except for sequences involving alveopalatal affricates and voiceless stops.

Posttonic vowel deletion also yields sequences of identical stops in morphologically derived environments. The most common type of derived geminates in Choguita Rarámuri involves both oral (11) and nasal (12) stops at the bilabial place of articulation.

(11) Bilabial oral stop geminates

- a. [na'téppo]
/na'tépi-po/
meet.up-FUT.PL
'They will gather.'
'Se van a reunir.' < BFL 07 el339/el >
- b. [t̪oma'ipo]
/t̪oma'ípi-po/
cover.faceFUT.PL
'They will cover their face.'
'Se van a cubrir la cara.' < BFL 07 1:181/el >

- c. [tôppo]
/tô-pi-po/
bury-REV-FUT.PL
'They will get unearthed.'
'Se van a desenterrar.' < BFL 05 1:113/el >
- d. [mo'téppo]
/mo'tépi-po/
make.braids-FUT.PL
'They will make braids.'
'Van a trenzar(se).' < BFL 05 1:113/el >
- e. [tʃa'bóppo]
/tʃa'bó-pi-po/
beard-REV-FUT.PL
'They will shave.'
'Se van a rasurar.' < BFL 05 1:113/el >

(12) Bilabial nasal stop geminates

- a. [ku'nàmma]
/ku'nà-mi-ma/
husband-die-FUT.SG
'She will become widowed.'
'Va a enviudar.' < BFL 04 1:37/el >
- b. [ba'râmma]
/ba'râmi-ma/
be.thirsty-FUT.SG
'S/he will be thirsty.'
'Tendrá sed.' < BFL 05 1:132/el >
- c. [ba'tʃímma]
/ba'tʃími-ma/
sprinkle-FUT.SG
'It will sprinkle'
'Va a rociar.' < BFL 05 1:135/el >
- d. ['úmma]
/húmi-ma/
run.PL-FUT.SG
'They will run.'
'Van a correr.' < JHF 04 1:19/el >

Marginally attested are stop geminates that are shown in (13). These geminates involve alveolar oral stops (13a), velar oral stops (13b), and alveolar nasal stops (13c).

(13) Marginal types of geminates

- a. [na'hîttipo]
/na'hîti-ti-po/
become-CAUS-FUT.PL
They will make them turn into something.
'Los van a hacer que se conviertan en algo.' < BFL 07 el339/el >
- b. [jókki]
/'jóki-ki/
paint-PST.EGO
'I painted.'
'Pinté.' < BFL 07 el339/el >
- c. [pi'tfînnilma]
/pi'tfî-ni-nale-/
sweep-APPL-DESID
'S/he will want to sweep for them.'
'Le va a querer barrer.' < BFL 06 4:145/el >

Fricative geminates ([ss]) and alveopalatal affricate geminates ([tʃʃ]) are not attested. In contexts where these sequences would arise, there are other mechanisms (such as syllable deletion) that block the application of vowel deletion (e.g., /a'sísi-sa/ → [a'síi-sa] 'If she were to wake up', see §9.4.3.1 for more details).

Geminates derived through post-tonic vowel deletion are variably attested across speakers, as there are sequences of syllables with identical onsets that undergo haplology (see §9.4.3.1). The choice between derived geminates and haplology seems to be correlated with idiolects, although both phenomena are documented with all speakers in the Choguita Rarámuri corpus.

4.3 Vowel sequences

While vowel length is not contrastive in Choguita Rarámuri, there are different morphological and phonological sources for derived long vowels. Two of these sources, compensatory lengthening and passive-induced lengthening, are discussed in Chapter 9. A third source for derived long vowels is found at morpheme boundaries: in (14), the vowel initial progressive *-a* suffix creates a long vowel sequence with roots with final, stressed *a*.

(14) Derived long, low, central vowels

- a. [hu'râa]
/hu'râ-a/
send-PROG
'S/he is sending it.'
'Lo está mandando.' < BFL 05 1:151/el >
- b. [bi?'wàa]
/bi?'w-à-a/
clean-PROG
'S/he is cleaning it.'
'Lo está limpiando.' < BFL 05 1:112/el >
- c. [o'sàa]
/o'sà-a/
read.write-PROG
'S/he is writing.'
'Está escribendo.' {JLG co1238:02:40.7}
- d. [t̪íwáa]
/t̪íw-á-a/
rip-PROG
'S/he is ripping it.'
'Lo está trozando.' < ROF 04 1:104/el >

The imperfective suffix *-e* undergoes vowel reduction: it is realized in the surface as a high front vowel [i] in post-tonic position, and yields a long vowel sequence with roots with final, stressed *i*, as shown in (15).

(15) Derived long high, front vowels

- a. [su'wíi]
/su'wí-i/
eat.up-IMPF
'S/he used to eat it up.'
'Se lo acababa' < SFH 04 1:119/el >
- b. [i'síi]
/i'sí-i/
urinate-IMPF
'S/he used to urinate.'
'Orinaba.' < SFH 05 1:80/el >

- c. [a'wìi]
/a'wì-i/
dance-IMPF
'S/he used to dance.'
'Bailaba.' {MDH co1136:12:33.9}
- d. [tʃa'píi]
/tʃap'i-i/
grab-IMPF
'S/he used to grab it.'
'Agarraba.' < SFH 05 1:100/el >

Finally, there are also minimal pairs developed through *h* deletion (16) and labio-velar semi-vowel deletion (17) in word-medial position. Both of these processes (exemplified in (16b) and (17b) below) yield a long vowel sequence. As pointed out by an anonymous reviewer, the fact that there is stress retraction in (16b) makes it clear that this form is not just a case of vowel hiatus (where /VhV/ → [V.V]), but rather involves a true long vowel.

(16) *h* deletion

- a. [nâta]
/nâta/
'think'
'pensar' {SFH tx12:01:57.2}
- b. [na'hâta] ~ ['náàta]
/na'hâta/
'follow'
'seguir' {BFL el658:04:14.5}, {FLP in243:15:35.9}

(17) Labio-velar semi-vowel deletion

- a. ['nârma]
/nâri-ma/
ask-FUT.SG
'S/he will ask.'
'Va a preguntar.'
- b. [na'wáruma] ~ ['náàrma]
/na'wáru-ma/
send-FUT.SG
'S/he will command.'
'Va a mandar.'

Forms with derived long vowels in (16b) and (17b) coexist with forms with no *h*-deletion and labio-velar semi-vowel deletion. These forms are subject to a great deal of speaker variation, and are likely to represent a change in progress.

Other vowel sequences involve diphthongs, tautosyllabic \widehat{VV} sequences attested in both stressed and unstressed syllables. This analysis is based on how native speakers segment words into syllables in careful speech pronunciation. Crucially, there are no phonological processes in Choguita Rarámuri that allow probing the phonological behavior of these sequences as similar or different than single vowels. Attested diphthongs in Choguita Rarámuri include falling diphthongs (Vi). These are exemplified in (18).

(18) Falling diphthongs

- a. *ei*
 [se'mèi]
 /se'mè-i/
 play.violin-IMPF
 'He used to play the violin.'
 'Tocaba el violín' < SFH 05 1:85/el >
- b. *oi*
 [re'hòi]
 /re'hòi/
 'man'
 'hombre' {JLG co1234:16:06.3}
- c. *ui*
 [sí'kúi]
 /sí'kúi/
 'ant'
 'hormiga' < SFH 05 *láchimi*/tx >
- d. *ai*
 [kai'nâma]
 /kai'nâ-ma/
 yield.harvest-FUT.SG
 'It will yield harvest.'
 'Se va a dar la cosecha.' {SFH tx977:09:36.7}

These falling diphthongs occur lexically in word-final syllables (18a-18b), morpheme-internally after stress shifts (18c) and across morpheme boundaries in

word-final syllables (18a). As the examples in (18) show, in these V_1V_2 sequences V_1 is often but not necessarily stressed.

High front vowels are also attested in rising diphthongs with low central vowel off-glides (19a–b) and mid back vowel off-glides (19c–19d). Crucially, these vowel sequences are parsed as tautosyllabic by native speakers in unstressed syllables: as seen in these examples, these cases involve rising diphthongs in post-tonic position in inflected verbs where no further suffixes are added. These diphthongs are therefore all attested word-finally.

(19) Rising diphthongs

- a. [tʃi.wà.nia]
/tʃi wà-ni-a/
rip-TR-PROG
'S/he is ripping it.'
'Lo está trozando.' < ROF 04 1:104/el >
- b. [a.tí.sia]
/atí-si-a/
sneeze-PROG
'S/he is sneezing.'
'Está estornudando.' < BFL 05 1:111/el >
- c. [wi:tʃosia]
/wi:tʃó-si-a/
wash-MOT-PROG
'S/he is washing clothes.'
'Está lavando ropa.' {LEL tx32:4:08.4}
- d. [tʃo.?'i.sio]
/tʃo?'i-si-o/
extinguish-MOT-EP
'It's going along getting extinguished (the fire).'
'Se va apagando' < BFL 05 1:112/el >
- e. [si.rún.s io]
/si'rún-si-o/
hunt-APPL-MOT-EP
'S/he goes along hunting.'
'Va cazando.' < BFL 05 1:112/el >

Finally, labio-velar onset semi-vowels turn into labio-velar offglides after post-tonic vowel deletion targets the nucleus of the labio-velar semi-vowel onset. This is shown in (20).

(20) Diphthongization of labio-velar semi-vowels

- a. [i.wi.li → i̯w.li]
/i̯wi-li/
 bring.for-PST
 ‘S/he brought it for them.’
 ‘Se lo trajo.’ < BFL 06 5:75/el >
- b. [ku.tʃ̩iwi.ma → ku.tʃ̩i̯w.ma]
/ku'tʃ̩iwi-ma/
 have.kids-FUT.SG
 ‘S/he will have children.’
 ‘Va a tener hijos.’ < BFL 06 6:74/el >
- c. [wi.no'mî.wi.pi → wi.no'mîw.pi]
/wino'mîwi-pi/
 have.money-IRR.PL
 ‘Maybe they will have money.’
 ‘A lo mejor van a tener dinero.’
 < BFL 06 6:74/el >

As discussed in §4.4.2, these labio-velar offglides can be weakened and monophthongized with its nucleus.

Finally, Choguita Rarámuri also has a series of heterosyllabic vowel sequences. Attested hiatus sequences across morpheme boundaries involve a stressed vowel followed by a low central vowel (21) or by a mid back vowel, (22). These forms contrast with the forms shown in (19, where parallel vowel sequences in unstressed syllables are parsed as tautosyllabic.

(21) Hiatus sequences with low central vowels

- a. ['m .a]
/'m -a/
 bring-PROG
 ‘S/he is bringing it.’
 ‘Lo est  trayendo.’ < SFH 04 1:73/el >
- b. [re.'? .a]
/re'? -a/
 play-PROG
 ‘S/he is playing.’
 ‘Est  jugando.’ < SFH 04 1:76-78/el >

- c. [wi.pi.'só.a]
/wipi'só-a/
 hit.with.stick-PROG
 'S/he is hitting with stick.'
 'Está apaleando.' < BFL 04 1:112/el >
- d. [bi?.tò.a]
/bi?tò-a/
 twist-PROG
 'It is twisting.'
 'Se está torciendo.' < SFH 04 1:109/el >
- e. [tʃa.'pí.a]
/tʃa'pí-a/
 grab-PROG
 'S/he is grabbing it.'
 'Lo está agarrando.' < BFL 05 1:133/el >
- f. [ti.'tʃí.a]
/ti'tʃí-a/
 comb-PROG
 'S/he is combing.'
 'Está peinando.' < ROF 04 1:116/el >
- g. [ri.'mù.a]
/ri'mù-a/
 dream-PROG
 'S/he is dreaming.'
 'Está soñando.' < ROF 04 1:107/el >
- h. [ʃú.a]
/ʃú-a/
 sew-PROG
 'S/he is sewing.'
 'Está cosiendo.' < ROF 04 1:81-82/el >

(22) Hiatus sequences with mid, back vowels

- a. [ni.kâ.o]
/ni'kâ-o/
 bark-EP
 'It barks.'
 'Ladra.' < BFL 05 1:114/el >

- b. [pá.o]
/pá-o/
throw-EP
'S/he throws it.'
'Lo tira.' < BFL 04 VDB/el >
- c. [ni.kè.o]
/ník-è-o/
bark-APPL-EP
'It barks to them.'
'Les ladra.' < BFL 07 VDB(53)/el >
- d. [pi.ré.o]
/pi'rè-o/
dwell.PL-EP
'They dwell.'
'Viven.' < BFL 05 1:161/el >
- e. [na.kí.o]
/na'kí-o/
want-EP
'S/he wants (it).'
'Quiere.' < BFL 04 1:91/el >
- f. [bo.ti.wí.o]
/boti'wí-o/
sink-EP
'It sinks.'
'Se hunde.' < SFH 05 1:120/el >
- g. [ʃi.rû.o]
/si'rû-o/
hunt-EP
'It hunts.'
'Caza.' < SFH 05 1:136/el >
- h. [na.rú.o]
/na'rú-o/
exist-EP
'It exists.'
'Existe.' < BFL 04 1:93/el >

So far, the examples presented show verbal roots with final stress followed by the progressive suffix *-a* (21) or by the epistemic suffix *-o* (22). There are

no underlying monomorphemic hiatus sequences with verbal roots (although semi-vowel deletion yields vowel hiatus sequences, as discussed below in §4.4.1). Root-internal vowel hiatus, however, is attested with nominal roots (23). As mentioned above, these root-internal hiatus sequences are only attested with stressed vowels followed by mid, central vowels. To date, no monomorphemic hiatus sequences with final mid back vowels have been recorded in the Choguita Rarámuri corpus.

(23) Nominal root-internal hiatus

- a. [tʃó.ké.ri]
/tʃókéri/
'mountain dove'
'paloma de monte' < SFH NDB/ el >
- b. [ko.tʃ í.ala]
/ko'tʃ ía-la/
eyebrow-poss
'their eyebrow'
'su ceja' < MGD 06 1:107/el >
- c. ['wí.a]
/'wía/
'rope'
'mecate' < JHF 04 1:17/ el >
- d. [a.wa.'kó.a.ni]
/awa'kóani/
'scorpion'
'alacrán' < SFH NDB/el >

Hiatus sequences, thus, show an interesting asymmetry in the phonological behavior of words of different lexical categories: hiatus sequences are licensed with nominal roots, but are only attested across morpheme boundaries with verbal roots.²

²In Chapter 9, I discuss how vocalic (onsetless) suffixes may induce deletion of the preceding morpheme's vowel in morphologically defined contexts.

4.4 Semi-vowels

4.4.1 Semi-vowel deletion

Choguita Rarámuri has word-medial palatal and labio-velar semi-vowels. The example words in (24–25) show that semi-vowels occur independent of any particular vowel quality.

(24) Word-medial palatal semi-vowels

- a. [ki̯jótʃi̯]
/ki̯jótʃi̯/
‘fox’
‘zorra’ < SFH 08 1:103/el >
- b. [ko̯já]
/ko̯já/
‘squat’
‘estar en cuclillas’ < SFH 08 1:103/el >
- c. [na̯jú]
/na̯jú/
‘to be sick’
‘estar enfermo’ {MFH el1318:27:23.9}
- d. [hi̯jé]
/hi̯jé/
‘to follow a trace’
‘seguir la huella’, “huellar” < SFH 05 1:98/el >

(25) Labio-velar semi-vowels

- a. [ku̯wé]
/ku̯wé/
‘dry season’
‘tiempo de secas’ < NDB/el >
- b. [a̯ríwi]
/a̯ríwi/
‘to sun-set (dusk)’
‘atardecer’ < NDB/el >
- c. [ma̯wétʃi̯]
/ma̯wétʃi̯/
‘bean cultivating field’
‘campo de cultivo de frijol’³ < NDB/el >

³This refers to the burnt field where beans are sown.

- d. [ka'wì]
 /ka'wì/
 'hill, world'
 'cerro, mundo' {SFH tx43:11:11.2}

Word-medial semi-vowels are optionally deleted.⁴ The palatal semi-vowel, for instance, is optional when preceded by a low central vowel and followed by a stressed, front mid vowel. This is shown in (26).

(26) Optional deletion of palatal semi-vowels

- a. [ra'jèniri] ~ [ra'èniri]
 /ra'jèniri/
 'sun'
 'sol' {SFH in485:7:04.8}, {SFH in484:10:54.4}
- b. [ma'jé] ~ [ma'è]
 /ma'jé/
 'think'
 'pensar' < BFL 07 el326/el >
- c. [ka'jènili] ~ [ka'ènili]
 /ka'jèni-li/
 harvest-PST
 'S/he harvested.'
 'Cosechó.' < SFH 07 el327/el >
- d. [pa'jéri] ~ [pa'éri]
 /pa'jéri/
 'to dance sutubúri'
 'bailar sutubúri' < SFH 07 2:34/el >

There are also examples of optional labio-velar semi-vowel deletion in the Choguita Rarámuri data. The examples in (27) involve a stressed mid, back vowel and a high, front vowel flanking the labio-velar semi-vowel. Optionally, these words are produced with a falling diphthong.

(27) Optional labio-velar semi-vowel deletion

- a. [sí'nówi] ~ [sí'nói]
 /sí'nówi/

⁴As observed by an anonymous reviewer, a similar analysis is proposed in (Davidson & Erker 2014) arguing against the claim that glides are inserted in hiatus environments in English.

- ‘snake’
 ‘víbora’ < SFH 04 1:17/el >
- b. [re'ròwi] ~ [re'ròi]
 /re'ròwi/
 ‘potato’
 ‘papa’ < SFH 07 NDB200/el >

There are also cases where there is no palatal (28a–c) or labio-velar (28d–f) semi-vowel deletion word-medially. These cases all involve words where the semi-vowel is the onset of a stressed syllable. The unattested forms in the second column in (28) show hypothetical forms with no word-medial semi-vowel.

(28) No semi-vowel deletion

- a. [i'jóni] *i'óni
 /i'jóni/
 ‘to nag’
 ‘regañar’ < SFH 05 1:83/el >
- b. [ni'jú] *ni'ú
 /ni'jú/
 ‘to escape’
 ‘escaparse’ < ROF 04 1:118/el >
- c. [ko'jéra] *ko'éra
 /ko'jéra/
 ‘headband’
 ‘koyéra’ < LEL 06 5:127/el >
- d. [ne'wà] *ne'à
 /ne'wà/
 ‘to make’
 ‘hacer’ < SFH 04 1:67/el >
- e. ruru'wá *ruru'á
 /ruru'wá/
 ‘to be cold’
 ‘tener frío’ {LEL tx130:3:43.6}

- f. [na'wà] *na'à
 /na'wà//
 'to arrive'
 'llegar' < SFH 05 1:73/el >

While semi-vowels delete productively, there is no evidence of productive semi-vowel epenthesis in Choguita Rarámuri. The only forms with apparent epenthetic semi-vowels are shown in (29). In these examples, a monosyllabic root adds the applicative suffix -è. As shown here, either a palatal or a labio-velar glide may be epenthesized between the stem and the applicative suffix in a pattern of intra-speaker variation (speaker LEL produced both (29a) and (29b), and speaker ROF produced both (29c) and (29d)).

(29) Lexicalized cases of semi-vowel epenthesis

- a. [ru'jè]
 /ru-'è/
 tell-APPL
 'to tell someone'
 'contarle' {LEL tx32:8:42.9}
- b. [ru'wè]
 /ru-'è/
 tell-APPL
 'to tell someone'
 'contarle' {LEL tx32:5:13.9}
- c. [bu'jè]
 /bu-'è/
 wait-APPL
 'to wait for someone'
 'esperarlo' < ROF 04 1:67/el >
- d. [bu'wè]
 /bu-'è/
 wait-APPL
 'to wait for someone'
 'esperarlo' < ROF 04 1:67/el >

Other instances of applicative -è suffixation do not involve optional palatal and labio-velar semi-vowel epenthesis. This is exemplified in (30).

- (30) No semi-vowel epenthesis

[ru'èa]

/ru-'^è-a/

tell-APPL-PROG

‘They are telling them.’

‘Les están diciendo.’ {SFH tx43:04:43.0}

There is thus no evidence for a productive, general semi-vowel epenthesis process in the language.

The next section lays out details of several general phonological processes targeting both consonantal and vocalic segments.

4.4.2 Semi-vowel monophthongization

Labio-velar onset semi-vowels turn into labio-velar offglides after posttonic vowel deletion. Some examples are provided in (31).

- (31) Diphthongization of labio-velar semi-vowels

- a. [i.wi.li] → [i^w.li]

/iwi-li/

bring.APPL-PST

‘S/he brought it for them.’

‘Se lo trajo.’ < BFL 06 5:75/el >

- b. [ku.tʃ̩.wi.ma] → [ku.tʃ̩w.ma]

/ku'tʃ̩wi-ma/

have.children-FUT.SG

‘S/he will have children’

‘Va a tener hijos’ < BFL 06 6:74/el >

- c. [wi.no'mî.wi.pi] → [wi.no.'mîw.pi]

/wino'mî-wi-pi/

money-HAVE-IRR.PL

‘Maybe they will have money’

‘A lo mejor van a tener dinero’ < BFL 06 6:74/el >

There is a gradient semi-vowel weakening process: after posttonic vowel deletion, labio-velar semi-vowels can range from a fully diphthongal velar rhyme to a completely monophthongized variant. This gradient process is schematized in (32).

(32) Semi-vowel weakening and monophthongization

- a. $\sigma [w \rightarrow Vw]_\sigma$
- b. $Vw]_\sigma \rightarrow V^w]_\sigma$
- c. $V^w]_\sigma \rightarrow V_1 V_1$

What this scheme illustrates is a process whereby a labio-velar semi-vowel in onset position is re-syllabified as a coda after post-tonic deletion (a); this coda labio-velar semi-vowel may optionally be weakened to a short off-glide of the nucleus vowel (b); the short off-glide may be further weakened by undergoing monophthongization with the nucleus vowel host, yielding a long vowel sequence (c).

This weakening process is exemplified in (33). The segments in question are in bold face. The labio-velar semi-vowel in (33b) is an underlying voiced, bilabial stop (realized as a voiced bilabial approximant in (33a)). (33d) and (33f) have underlying labio-velar semi-vowels.

(33) Gradient weakening and monophthongization of /w/

- a. [ruru'**tʃíβia**]
/ruru'**tʃíwi-a**/
sprinkle-PRS
'It's sprinkling.'
'Está rociando.' < SFH 07 el170/el >
- b. [ruru'**tʃíwma**]
/ruru'**tʃíwi-ma**/
sprinkle-FUT.SG
'S/he will sprinkle.'
'Va a rociar.' < SFH 07 el170/el >
- c. [ruru'**tʃíima**]
/ruru'**tʃíwi-ma**/
sprinkle-FUT.SG
'S/he will sprinkle.'
'Va a rociar.' < SFH 07 el170/el >
- d. [tí'lúwi]
/tí'lúwi/
'Gargle!'
'¡Haz gárgaras!' < BFL 07 1:43/el >

- e. [ti'lúuma]
 /ti'lúwi-ma/
 gargle-FUT.SG
 'S/he will gargle.'
 'Va a hacer gárgaras.' < BFL 07 1:43/el >
- f. [bini'hî-wma]
 /bini'hî-wi-ma/
 accuse-APPL-FUT.SG
 'S/he will accuse them.'
 'Lo va a acusar.' < BFL 07 2:48/el >
- g. [bini'hîima]
 /bini'hî-wi-ma/
 accuse-APPL-FUT.SG
 'S/he will accuse them.'
 'Lo va a acusar.' < BFL 07 2:48/el >
- h. [na'píwiri]
 /na'píwiri/
 'nixtamal' < 08 1:34/Conv, el >
- i. [na'píwipo]
 /na'píwi-po/
 make.nixtamal-FUT.PL
 'They will make nixtamal.'
 'Van a hacer nixtamal.' < 08 1:34/Conv, el >
- j. [na'píipo]
 /na'píwi-po/
 make.nixtamal-FUT.PL
 'They will make nixtamal.'
 'Van a hacer nixtamal.' < LEL 08 1:34/el >

This process is not subject to speaker variation, and the choice between the labio-velar offglide and monophthongization seems to be correlated with rate of speech and care of pronunciation.

5 Stress

The word prosodic system of Choguita Rarámuri is complex, involving both stress and tone. While the distribution of tone is dependent on the location of stress, these are phonologically independent systems that are encoded through independent acoustic means (Caballero & Carroll 2015). These systems, referred to as “hybrid” in the literature, have until relatively recently been understudied (cf. Remijsen 2001, Remijsen 2002, Remijsen & Van Heuven 2005) and are well attested in other Southern Uto-Aztecan languages in addition to Choguita Rarámuri (this aspect of the Choguita Rarámuri word-prosodic system is discussed in more detail in Chapter 6 and Chapter 11). This chapter addresses the main phonological properties of the Choguita Rarámuri stress system, including the stress properties of morphemes and the morphological factors that govern its distribution. The system exhibits a complex interplay between phonological and morphological factors, which are addressed in Chapter 8, Chapter 9 and Chapter 11, in addition to this chapter.

This chapter is structured as follows. §5.1 provides a basic description of the acoustic correlates and distributional properties of stress. §5.2 addresses stress-dependent phonological phenomena of vowel reduction and deletion. §5.3 provides a detailed description of the stress properties of roots and suffixes. Finally, §5.4 addresses an overarching phonological restriction on stress distribution to an initial three-syllable stress window and how this restriction, together with morphological stress rules, yields stress alternations in the language.

5.1 Acoustic correlates and distributional properties

Stress is defined cross-linguistically as increased prominence associated with one or more syllables in a word (Gordon & van der Hulst 2020). Choguita Rarámuri exhibits phonetic and phonological properties of languages with word level stress (referred to as “stress-accent” languages in Hyman 2006). These properties include *culminativity* (each lexical word has *at most* one syllable which carries the highest degree of prominence) and *obligatoriness* (each lexical word has *at least* one syllable that carries the highest degree of prominence) (Hyman 1977, Hyman

1978, Beckman 1986, Hayes 1995, Hyman 2006). While these two criteria are also used to define languages characterized as “pitch-accent” in the literature, Choguita Rarámuri displays further phonetic and phonological properties that are unique to stress systems, including increased phonetic duration of segments in stressed syllables and reduction of unstressed vowels (fewer vocalic contrasts are realized in unstressed syllables) (the details of which will be discussed in §5.2). For general discussion about the distinction between “stress(-accent)” systems and “pitch-accent” systems, see Poser (1984), Hyman & Wilson (1991), Hyman (1977), Hyman (2001), and Inkelas & Zec (1988). In this description, I follow a property-driven approach to prosodic typology (as advocated in Hyman 2006 and Hyman 2009), which identifies canonical properties of languages and tone languages, but dispenses with the notion of “pitch-accent” as a prosodic type.

In terms of its distribution, stress is underlyingly present for at least some morphemes in this language, and can create lexical contrasts. The examples in (1) show stress minimal pairs.

(1) Choguita Rarámuri stress minimal pairs

- a. *múri* ‘basket’, ‘canasta’
- b. *mu'rí* ‘turtle’, ‘tortuga’
- c. *'éka* ‘close it!’, ‘cierra!'
- d. *e'ká* ‘wind’, ‘viento’
- e. *'mút̪í* ‘baby’, ‘bebé’
- f. *mu't̪í* ‘vagina’
- g. *kót̪í* ‘pig’, ‘cerdo’¹
{MDH co1137:4:05.8}
- h. *ko t̪í* ‘dog’, ‘perro’
{SFH tx152:6:00.1}

As discussed in Chapter 9 and Chapter 11, stress in Choguita Rarámuri may also be the sole exponent of a morphological category (e.g., stress shifts may encode imperative mood, denominalization and applicative derivation). As shown in this chapter, the stress system of Choguita Rarámuri is in part phonologically determined and partly morphologically-conditioned, as attested in other lexical stress systems.

¹This is a loanword from Northern Mexican Spanish *cochi* ‘pig’ (which in turn derives from standard Mexican Spanish *cochino* ‘pig’).

There is no evidence for secondary stress in Choguita Rarámuri. That is, there is no impressionistic evidence of rhythmic prominence, though, as discussed in §11.5, there may be phonological evidence of phenomena sensitive to metrical structure in the language.² Stress is left-aligned and assigned in the first (2a), second (2b–c) or third (2d–e) syllable of the word.

(2) Left alignment of stress

- a. *ket̪isinalə*
ket̪i-si-nale
chew-MOT-DESID
‘S/he wants to go along chewing.’
‘Quiere ir masticando.’ < SFH 08 1:146/el >
- b. *pot̪ipo*
pot̪i-po
jump-FUT.PL
‘They will jump.’
‘Van a brincar.’ < SFH 05 1:69/el >
- c. *pot̪ítisima*
pot̪i-ti-si-ma
jump-CAUS-MOT-FUT.SG
‘S/he will go along making them jump.’
‘Va a ir haciéndolos que brinquen.’
- d. *amat̪ia*
amat̪i-a
pray-PRS
‘S/he is praying.’
‘Está rezando.’ {BFL el655:2:17.8}
- e. *amat̪ismo lá*
amat̪i-si-ma o lá
pray-MOT-FUT.SG CER
‘S/he will go along praying.’
‘Va a ir rezando.’ {BFL el655:2:30.6}

Left alignment of stress in stress systems is a pattern that is relatively uncommon cross-linguistically, but attested in all Uto-Aztecán languages with the

²A metrical analysis is provided in Chapter 11.

exception of Nahuatl language varieties (Munro 1977).³ Left aligned stress is also an areal trait of Native North American languages (Rice 2010, Caballero & Gordon 2020). Based on the recurrence of both second-mora and second-syllable accentual systems, Munro (1977) reconstructs a second mora stress system for Proto-Uto-Aztecan.

Given that Choguita Rarámuri has both stress and tone, a relevant question to ask is how these systems may be encoded acoustically (Remijsen 2002, Remijsen & Van Heuven 2005). Stress may be encoded through a variety of language-specific acoustic cues (Gordon & van der Hulst 2020), including increased duration, higher fundamental frequency (f0), greater intensity, and changes in spectral tilt (Roettger & Gordon 2017). Languages with both stress and tone tend to preclude deployment of f0 as an exponent of stress, restricting use of fundamental frequency to encoding of tonal contrasts (Remijsen & Van Heuven 2005, Guion et al. 2010). Analysis of acoustic measures in Choguita Rarámuri reveals that stress has the following phonetic exponents in this language:

- (3) Phonetic exponents of Choguita Rarámuri stress
 - a. Increased phonetic duration of stressed vowels.
 - b. Augmentation of onsets in stressed syllables.
 - c. Greater intensity of stressed vowels.

The acoustic correlates of stress and tone are examined in Caballero & Carroll (2015) based on the analysis of data obtained through structured elicitation with seven native speakers. The rest of this section summarizes the main results of that study regarding the acoustic encoding of stress in this language (interested readers are referred to this reference for details of data, measures and quantitative results). For the analysis of stress, acoustic correlates were evaluated based on a set of controlled data selected to contrast pretonic (unstressed) vowels with stressed vowels of identical quality in matching segmental contexts. These forms comprise a tonally heterogeneous set and are exemplified in (4).

- (4) Stressed vs. unstressed (pre-tonic) vowel pairs in matching phonological contexts
 - a. *'tô-ma* bury-FUT.SG
 to-'mêa take-FUT.SG

³Nahuatl varieties have developed penultimate fixed stress as a Mesoamerican areal feature (Munro 1977).

- b. *a'nat̪a-li* edure-PST
ana t̪â-ma endure-FUT.SG
- c. *t̪ùta-li* sharpen-PST
t̪u'tâ-ma sharpen-FUT.SG
- d. *'sóma-li* wash.head-PST
so'mâ-ma wash.head-FUT.SG
- e. *ni'wì-ma* have.wedding-FUT.SG
awi'mêa dance-FUT.SG

Segment duration of both vowels and consonants is longer in stressed syllables than in unstressed ones: the central duration value for unstressed vowels is 57 ms, with stressed vowels being about 55% longer (at around 86 ms). The durations of onset consonants are similarly longer in stressed syllables than in unstressed syllables (the central duration value for unstressed onsets is 106 ms, and the stressed onsets are 28% longer, around 136 ms). As discussed in Caballero & Carroll (2015), increased segmental duration associated to the encoding of stress in Choguita Rarámuri is related to patterns of vowel reduction and deletion in this language (and described in §5.2 below).

In terms of intensity, stressed vowels have higher average intensity than unstressed vowels: the central intensity value of the stressed vowels is 1.9 dB greater than that of the unstressed vowels.⁴

Higher f0 is one phonetic cue to stress in many languages, but it is not directly associated with stress in Choguita Rarámuri, instead realizing tonal contrasts in this language. Thus, and as observed for other languages with both stress and tone, stress in Choguita Rarámuri involves dedicated phonetic exponents for each of these systems, contributing to maximizing the contrast between the two.

Finally, while there was no significant association of f0 with stressed positions, there was also a high degree of variation among speakers in terms of the effect of stress on f0: while some speakers did exhibit a trend toward higher f0 in

⁴The parameters considered to assess the role of intensity were two measures of spectral tilt, low-band H1-H2 and mid-band H1-A2. For both of these measures, a lower value indicates greater vocal effort (indicated through a less shallow decline in spectral intensity), an effect expected for stressed vowels. This expectation was borne out for the Choguita Rarámuri data, though the results were not statistically significant for the mid-band H1-A2 measure, which also exhibited a significant amount of inter-speaker variation. Specifically, the results suggest differences between female and male speakers, but comprehensive investigation of the role of sociolinguistic factors in the acoustic realization of prosody would be necessary in order to determine whether there is a significant pattern in the Choguita Rarámuri data.

stressed syllables, no correlation could be detected for other speakers. Speakers also showed differences on how consistently intensity increased as an effect of stress. Speaker-variation in the realization of prosodic contrasts is a topic that needs to be investigated in more depth in this language variety.

5.2 Stress-based vowel reduction and deletion

An important diagnostic of stress in Choguita Rarámuri is patterns of vocalic reduction and deletion. As we have seen in §3.2.2, Choguita Rarámuri contrasts five cardinal vowel qualities in stressed syllables ([a, e, i, o, u]). In unstressed syllables, however, these vowel quality contrasts are often collapsed, reflecting a reduction of the phonetic space. Specifically, vowel height contrasts are neutralized, where mid-front and low-central vowels raise to [i]. Neutralization of vowel height contrasts in unstressed syllables as attested in Choguita Rarámuri is the most common cross-linguistic pattern of unstressed vowel reduction (see Barnes 2002; 2004).

There are three distinct patterns or degrees of vowel reduction. In the first pattern, /e/ optionally raises to [i] both pre-tonically and posttonically. In the second pattern, non-final posttonic /a/ and /o/ optionally raise to [i]. In the third pattern, high vowels optionally reduce to schwa posttonically. These patterns are schematized in (5).

(5) Unstressed vowel reduction patterns

- /e/ → [i] in pre-tonic and posttonic syllables
- /a/, /o/ → [i] in non-final, posttonic syllables
- /i/, /u/ → [ə] in non-final, posttonic syllables

Table 5.1 lays out the surface realization of underlying vowels in pre-tonic, posttonic non-final and posttonic final position. Since all vowel qualities are licensed in stressed position, this chart only considers unstressed vowels.

These patterns of unstressed vowel reduction are addressed below in §5.2.1.1, §5.2.1.3, and §5.2.2.

5.2.1 Stress-conditioned vowel reduction patterns

5.2.1.1 Unstressed mid front vowel reduction to [i]

The first pattern of unstressed vowel reduction in Choguita Rarámuri involves mid front vowels reducing both pre-tonically and posttonically. Pre-tonic vowel

Table 5.1: Surface realization of unstressed vowels

	Pre-tonic	Posttonic non-final	Posttonic final
/i/	i	ə / i	i
/e/	i / e	i / e	i / e
/a/	a	i / a	a
/o/	o	i / o	o
/u/	u	ə / u	u

reduction of mid front vowels is robust. Forms with surface pre-tonic *e* are attested, but these are infrequent. Some examples are presented in (6), where alternative forms with pretonic *i* and pretonic *e* are given. Relevant vowels are in bold face.

(6) Optional pretonic mid, front vowel height neutralization

- a. [ni'**h**ē] ~ [ne'**h**ē]
*/ne'**h**ē/*
‘I’
‘yo’ {JLG el1278:3:20.0}, {FMF el862:1:42.6}
- b. [ri'**p**òpa] ~ [re'**p**òpa]
*/re'**p**òpa/*
‘back’
‘espalda’ < SFH 07 2:65/el >
- c. [bi'**n**è] ~ [be'**n**è]
*/be'**n**è/*
‘learn’
‘aprender’ {BFL tx1:0:45.1}, {MDH co1136:9:04.7}
- d. [tʃi'**w**á] ~ [tʃe'**w**á]
*/tʃe'**w**á/*
‘hit’
‘pegar’ < ROF 1:67/el >
- e. [mi'**h**í] ~ [me'**h**í]
*/me'**h**í/*
‘cook mezcal’
‘cocer mezcal’ < SFH 07 2:12/el >

- f. [mi'tá] ~ [me'tá]
/me'tá/
'crumble'
'desmoronarse' < ROF 04 1:60/el >
- g. [mi'ʔà] ~ [me'ʔà]
/me'ʔà/
'kill'
'matar' < JHF 04 1:1/el >

Other vowel contrasts are preserved pretonically. The examples below show the contrasts licensed: central, front vowels (7a–c); back, high vowels (7d–e); and back, mid vowels (7f–g). The unattested forms listed in (7) show hypothetical forms with pre-tonic, non-initial neutralized vowels. These hypothetical forms would be expected if pretonic vowel reduction would target all vowel qualities.

(7) Pre-tonic vowel contrasts

- a. [aka'bó] **aki'bó*
/aka'bó/
'nose'
'nariz' {SFH tx152:4:25.1}
- b. [a^hka'râ] **a^hki'râ*
a^hka-'râ
sandal-VBLZ
'to put on sandals'
'ponerse huaraches' < SFH 05 1:103/el >
- c. [ama'tʃia] **ami'tʃia*
/ama'tʃi-a/
pray-PROG
'praying'
'rezando' {BFL el655:2:17.8}
- d. [bahu'rérúa] **bahi'rérúa*
/bahu'ré-rua/
invite-MPASS
'be invited'
'ser invitado' {LEL tx68:2:25.3}

- e. [buru'rútʃi] **buri'rútʃi*
/buru'rútʃi/
'tamales'
< SFH 07 DB/el >
- f. [boho'nîsa] **bohi'nîsa*
/boho'nî-sa/
cross.river-COND
'when it crosses the river'
'cuando cruce el río' {LEL tx177:9:25.1}
- g. [boko'wíma] **boki'wíma*
boko'wí-ma
to.become.dark-FUT.SG
'it will get dark (from the sun setting)'
'va a atardecer' {LEL tx84:1:59.8}

As discussed in Chapter 9, there are particular pretonic vowel alternations that are specific of a group of verbal stems. These stems have a root final stressed *a* and a final unstressed, pretonic *i* in specific morphological constructions (e.g. *raʔlə-li*, 'buy-PST' vs. *raʔli-ˈmēa*, 'buy-FUT.SG'). These vocalic alternations are characteristic of a group of stems where the alternations are morphologically-conditioned (§5.4), and are not related to the vowel reduction patterns described in this section.

There is inter-speaker variation in terms of reduction patterns, including vocalic reduction patterns. One apparent trend is that older speakers seem to use less mid-vowel neutralization than younger speakers. This is exemplified in the following examples which are part of a recorded conversation. In this interaction, SFH, a 35-year old speaker, uses the verbal stem /bete-/ with pretonic vowel raising (in (8a)); FLP, an 80-year old speaker, on the other hand, responds using the same verbal form with no pretonic mid vowel neutralization (in (8b)). The contrast between the younger speaker's neutralization and lack of neutralization in the older speaker's speech remains constant along the conversation.

(8) Inter-speaker variation in vowel reduction

- a. [SFH]: *si'né ro'kò biti'básə?*
si'né ro'kò bete-ˈbá-sa
one night stay.overnight-INCH-COND
'He would stay up all night?'
'Quedándose una noche?' {SFH in243:1:29.5}

Mid front vowels may also be raised to *i* post-tonically. Some examples are shown in (9).

(9) Post-tonic front vowel height neutralization

- a. [be'nèriami]
/be'nè-ri-ame/
learn-CAUS-PTCP
'teacher' (lit. 'the one who causes to learn')
'maestro' (lit. 'el que causa que se aprenda') < BFL 06 4:168/el >
 - b. [ra'síami]
/ra'sí-ame/
misbehave-PTCP
'mischievous person, prankster'
'malcriado, bromista' < BFL 04 1:90/el >
 - c. [ko?ái]
/ko?á-e/
eat-IMPF
'S/he used to eat.'
'Comía.' < ROF 04 1:109/el >
 - d. [o'sái]
/o'sà-e/
write-IMPF
'S/he used to write.'
'Escríbia'. < AHF 05 1:127/el >

Pre-tonic and posttonic raising of unstressed *e* is subject to some degree of intra-speaker variation, but this reduction pattern is the one displaying the least amount of variation.

5.2.1.2 [-high] Unstressed posttonic vowel reduction

A second unstressed vowel reduction pattern in Choguita Rarámuri involves /a/ and /o/ rising to *i* post-tonically. This reduction process does not take place in

word-final position. Some examples are provided in (10). Each vowel reduction example is followed by a related form with no vowel reduction.

(10) Post-tonic reduction of low vowels

- a. [t̪ó̄tiki] /t̪ó̄ta-ki/ begin-PST.EGO 'I began.' 'Empecé.' {BFL el259:11:54.9}
- b. [t̪ó̄tânsa] /t̪ó̄tâ-nale-sa/ begin-DESID-COND 'if they want to begin' 'si quieren empezar' {FLP in243:6:32.3}
- c. [t̪íhánili] /t̪íhá-na-li/ scatter-TR-PST 'S/he scattered it.' 'Lo desparramó.' < SFH 07 1:17/el >
- d. [t̪íha'nâsa] /t̪íha-'na-sa⁵/ scatter-TR-COND 'S/he will scatter it.' 'Lo va a desparramar' < SFH 07 1:17/el >
- e. [sutu'bétfínili] /sutu'bétfí-nale/ trip--DESID 'S/he wants to trip (is about to trip).' 'Se quiere tropezar' < BFL 07 1:138/el >
- f. [simi'nál] /simi-'nále-/ go.SG-DESID 'S/he wants to go.' 'Quiere ir.' < BFL 06 EDCW/el >

⁵As described in more detail in §5.3, there are morphologically given need stress shifts in complex words.

- g. [t̪i'jópitʃi] /t̪i'jópa-t̪i/ church-LOC 'at the church' 'en la iglesia' {GFM tx904:3:54.9}
- h. [t̪i'jópa] /t̪i'jópa/ 'church' 'iglesia' {LEL tx223:3:03.5}
- i. [t̪fónili] /t̪fóna-li/ get.dirty-PST 'It got dirty.' 'Se ensució.' < LEL 06 6:78/el >
- j. [t̪fóna] /t̪fóna/ 'get dirty' 'ensuciarse' < ROF 04 1:65/el >

In (10a–b), (10c–d)⁶ and (10e–f), the reduced forms can be contrasted with their stressed, non-reduced counterparts; in (10h) and (10j), on the other hand, reduction does not take place because the vowels in question are in word-final position.

Unstressed vowel reduction is attested in incorporated forms as well. In incorporated forms stress is assigned in the first syllable of the morphological head of the incorporated verb (this morphological stress rule is discussed below in §9.3.3). In the examples in (11), the stress shifts one syllable to the left, yielding reduction of underlying /o/ (11a) and /a/ (11c).

(11) Post-tonic vowel reduction in incorporated verbs

- a. [rono'bâkima] /ro'nô+pa'kó-ma/ feet+wash-FUT.SG 'S/he will wash her feet' 'Se va a lavar los pies'

⁶The forms in (10a,b) involve a stress shift that is morphologically-conditioned, but the post-tonic reduction is subject to speaker variation; this contrasts with the morphologically-conditioned vocalic alternations to be discussed in Chapter 9 (§9.1), since these do not display speaker variation.

- b. [pa'kóma]
/pa'kó-ma/
wash-FUT.SG
'S/he will wash'
'Va a lavar'
- c. [siwa'bôtima]
/si'wá+bo'tá-ma/
guts+loosen-FUT.SG
'It will get disemboweled'
'Se va a destripar'
- d. [bo'táma]
/bo'tá-ma/
loosen-FUT.SG
'It will become loose'
'Se va a aflojar'

Not all pre-final, post-tonic underlying /a/ raise to [i]. The potential targets for reduction in (12) share the characteristic of being the first vowel of a vowel-initial suffix. These suffix vowels do not undergo reduction, and hypothetical forms with reduced post-tonic vowels (exemplified in the second column in (12)) are unattested.

(12) Blocked vowel reduction

- a. ['fûami]
/'sû-ame/
sew-PTCP
'the one who sews'
'el que cose' < BFL 06 4:168/el >
*'*fû-imi*
- b. [sa'wèrami]
/sa'w-è-r-ame/
cure-APPL-PST.PASS-PTCP
'the one who cures'
'el que cura' < BFL 06 4:168/el >
*'*sa'w-è-r-imi*

- c. [ba'jéatʃi]
 /ba'j-è-a-tʃi/
 call.out-APPL-PROG-LOC
 ‘at the place where they invite, call out’
 ‘donde llaman, invitan’ < BFL 05 2:56/el >
 *ba'-j-è-i-tʃi
- d. [la'múami]
 /la'mú-amē/
 purple-PTCP
 ‘purple’
 ‘morado’ < LEL 06 6:79/el >
 *la'mú-imē
- e. [pòara]
 /pò-a-ra/
 cover-PROG-PURP
 ‘lid’
 ‘tapadera’ < SFH 07 in242/in >
 *pò-i-ra

Reduction, thus, can be blocked due to morphological restrictions.

5.2.1.3 Unstressed high vowel reduction to schwa

Choguita Rarámuri has a third process of unstressed vowel reduction, where high vowels may reduce to schwa posttonically. The examples below show the target vowels, /i/ (13a–d) and /u/ (13e–f).⁷

(13) Optional post-tonic reduction to schwa

- a. [tʃípórəma]
 /tʃípó-ri-ma/
 bounce-CAUS-FUT.SG
 ‘S/he will make it bounce.’
 ‘Lo va a hacer rebotar.’ < LEL 07Caus_ME >

⁷There is only one example where the target of reduction is an underlying low, central vowel: i'na-nər-o (/i'na-nale-o/), ‘walk-ORDER-EP’ < BFL 06 DECW/ el >.

- b. [ʃûnəpo]
/'sû-ni-po/
sew-APPL-FUT.PL
'They will sew.'
'Van a coser.' < BFL applicatives/el >
- c. [tôpəma]
/'tô-pi-ma/
bury-REV-FUT.SG
'They will unearth it.'
'Lo va a desenterrar.' < BFL 05 1:113/el >
- d. [pôləki]
/'pôli-ki/
cover-PST.EGO
'I covered it.'
'Lo tapé.' < AHF 05 1:125/el >
- e. [na'wíñala]
/na'wí-nula/
sing-ORDER
'They will oblige them to sing.'
'Les van a ordenar cantar.' < BFL 07 VDB/el >
- f. [tònəla]
/'tô-nula/
take-ORDER
'They will oblige them to take them.'
'Les van a obligar a llevarlo.' < LEL 07 Ind_Caus/el >

High vowel reduction to schwa is gradient, and favored when preceding or following a back, round vowel or *a*. I have not documented any cases of unstressed high vowel reduction to schwa in pre-tonic position with open class lexical items or in word-final position.⁸

5.2.2 Stressed-conditioned vowel deletion

Unstressed vowels may also undergo syncope in immediately post-tonic syllables. In (14), the deleted vowel is in bold face in the underlying representation.

⁸But it is common to find function words with pre-tonic vowels reducing to schwa in fast speech, e.g. the adverb *bi'lá* 'indeed', is often realized as [bə'lá].

(14) Post-tonic vowel deletion

- a. [muru'bênti]
 /muru'bê-ni-ti-/
 get.close-APPL-CAUS
 'to cause something to be closer for someone'
 'acercarle algo a alguien' < BFL 07 appl/el >
- b. [wa'tónki]
 /wa'tó-na-ki-/
 stretch-TR-APPL
 'to stretch something for somebody'
 'estirar algo para alguien' < SFH 07 Caus,_ME/el >
- c. [wa'tónili]
 /wa'tó-na-li/
 stretch-TR-PST
 'S/he stretched it.'
 'Lo estiró.' < SFH 06 6:73-77/el >
- d. [to'náltʃino]
 /tò-nále-tʃane-o/
 take-DESID-EV-EP
 'It sounds like they want to take it.'
 'Suena que se lo quiere llevar.' < BFL 06 5:148-150/el >
- e. [koʔ'nálti]
 /koʔá-nále-ti-/
 eat-DESID-CAUS
 'S/he will make them want to eat it.'
 'Va a hacer que se lo quiera comer.' < SFH 06 6:75-76/el >

As the examples above show, post-tonic vowel deletion targets underlying high (14a), low (14b–c), and mid (14d–e) vowels.

Deletion does not target word-final unstressed vowels. This is shown in (15).

(15) No post-tonic vowel deletion of word-final vowels

- a. [na'kûri]
 /na-'kûri/
 PL-help
 'They help.'
 'Ayudan.' < SFH 05 1:102/el >

- b. [to'náli]
 /tò-nále/
 take-DESID
 'They want to take it.'
 'Quieren llevarlo.' < BFL 06 5:148-150/el >

Deletion does not target pretonic vowels as a general phonological process, but instances of pretonic deletion can be found in morphologically specific contexts. For instance, the forms in (16) involve pretonic deletion with root-inchoative sequences. Examples (16b, d, f) show a corresponding form with the same root with no deletion. Other pretonic effects which are stress-conditioned (such as syllable truncation in morphologically specific contexts) are discussed in Chapter 9 and Chapter 11.

(16) Morphologically-conditioned pretonic deletion

- a. [wam'pása]
 /bami-bá-sa/
 turn.year-INCH-COND
 'if they become a year older'
 'si cumplen años' {SFH tx12:8:40.0}
- b. [ba'míbiri]
 /bamí-bá-ri/
 turn.year-INCH-NMLZ
 'year'
 'año' {FLP in61:3:09.9}
- c. [sam'páma]
 /sa?mí-bá-ma/
 get.wet-INCH-FUT.SG
 'It will get wet'
 'Se va a mojar' < SFH 04 1:113/el >
- d. [sa?míli]
 /sa?mí-li/
 get.wet-PST
 'It got wet.'
 'Se mojó.'
- e. [om'pása]
 /omèra-bá-sa/
 be.able-INCH-COND

- ‘if s/he is (not) able to’
 ‘si (no) puede’ {JLG co1236:1:49.6}
- f. [o'mèri]
 /omèra/
 be.able.PRS
 ‘S/he is (not) able.’
 ‘(No) puede.’ {LEL tx130:5:08.4}

In sum, while pre-tonic vowel deletion is uncommon, posttonic vowels generally reduce or delete. In the latter case, the choice between reduction and deletion results from a gradient process that is affected by rate of speech. This process may also exhibit intra-speaker variation, though this has not yet been systematically examined in the Choguita Rarámuri data.

5.3 Stress properties of roots and suffixes

As described above, stress is part of the underlying representation of at least some morphemes in Choguita Rarámuri. Diachronic loss of contrastive vowel length, reconstructed for Proto-Uto-Aztecan (Campbell & Langacker 1978), is argued to be the likely source of lexically contrastive stress in contemporary Uto-Aztecan varieties (Munro 1977).⁹ Choguita Rarámuri stress might have become unpredictable when the Proto-Uto-Aztecan vowel length distinction was lost.

As proposed for other Uto-Aztecan languages (e.g. Cupeño (Cupan; Hill & Hill 1968, Alderete 2001)), Choguita Rarámuri roots fall into two classes: *stressed* and *unstressed*. Stressed roots have fixed stress across morphologically related forms.¹⁰ Unstressed roots, on the other hand, lack underlying lexical specification for stress; stress in these cases is not fixed and its position determined by the phonological and morphological context. Specifically, unstressed roots may receive stress by default when attaching a stress-neutral suffix or shift stress rightward when attaching a stress-shifting suffix (the stress properties of suffixes are described below in §5.3.4). All prosodic words in Choguita Rarámuri, whether they contain a lexically stressed root or an unstressed lexical root, have surface stress, a syntagmatic prominence cued acoustically primarily via intensity and duration (as described in §5.1 above).

⁹Some Uto-Aztecan prosodic systems exhibit weight-based stress systems (e.g., Numic languages, like Southern Paiute (Sapir 1930) and Tümpisa Shoshone (Dayley 1989) are documented to have rhythmic stress systems sensitive to mora count).

¹⁰Stressed roots are analyzed in Caballero (2008) and Caballero (2011b) as lexically specified with a diacritic mark which is phonetically realized as stress in output forms.

The contrast between stressed and unstressed roots is exemplified below with the different stress patterns of nominal roots that add the (stress-shifting) locative suffix *-tʃí*, as exemplified in Table 5.2.

Table 5.2: Stressed and unstressed roots in Choguita Rarámuri

Underlying	Gloss	Bare stem	LOC suffix
Stressed roots			
a. /'múli/	'basket' 'canasta'	'múli	'múli-tʃí
b. /'púra/	'belt' 'cinto'	'púra	'púra-tʃí
c. /'sôru/	'soda'	'sôru	'sôru-tʃí
d. /wa'rî/	'basket' 'canasta'	wa'rî	wa'rî-tʃí
Untressed roots			
e. /sekâ/	'hand' 'mano'	se'kâ	seka-'tʃí
f. /rapé/	'rock' 'roca'	ra'pé	rape-'tʃí
g. /wasá/	'field' 'tierra'	wa'sá	wasa-'tʃí
h. /ronô/	'foot' 'pie'	ro'nô	rono-'tʃí
i. /kupá/	'hair' 'pelo'	ku'pá	kupa-'tʃí

Stressed roots have fixed stress in the first (a–c) or second (d) syllable, whether bare or suffixed with locative *-tʃí*. In unstressed roots, stress falls on the locative suffix, one syllable to the right with respect to their bare counterparts (e–i).

Lexical stress in roots blocks morphologically-conditioned stress shifts; stress in these cases will be fixed on the first, second or third syllable, regardless of what suffixes are attached. On the other hand, words containing unstressed roots have predictable stress assignment. In words containing unstressed roots and stress-neutral suffix, stress will be assigned by default on the second syllable of the root or the only syllable of monosyllabic roots. In words containing unstressed roots and stress-shifting suffixes, stress shifts rightward. The default stress assignment algorithm is summarized in (17):

- (17) **Default stress assignment in Choguita Rarámuri:** words containing unstressed disyllabic or trisyllabic roots and neutral morphological constructions (affixation and non-concatenative processes) have second syllable stress (Caballero 2011b).

More details about the morphological dimension of stress in nominal and verbal paradigms is provided in Chapter 8 and Chapter 9, respectively. The stress properties of monosyllabic, disyllabic and trisyllabic roots in Choguita Rarámuri are addressed next.¹¹

5.3.1 Stress properties of monosyllabic roots

Most roots in Choguita Rarámuri are disyllabic or trisyllabic, but monosyllabic roots are attested. Monosyllabic roots are almost all stressed, but there are attested cases of unstressed monosyllabic roots. This contrast is exemplified in Table 5.3.^{12,13}

Table 5.3: Stressed and unstressed monosyllabic roots

Underlying	Gloss	PST neutral	FUT shifting
a. /'pá/	'throw' 'tirar'	'pá-li	'pá-ma
b. /'sû/	'coser' 'sew'	'sû-li	'sû-ma
c. /tò/	'take' 'llevar'	'tò-li	to-'mêa
d. /rú/	'say' 'decir'	'rú-li	ru'mêa

Stressed monosyllabic roots have fixed stress (Table 5.3a–b), regardless of the type of suffix it may combine with (stress neutral like the past *-li* suffix or stress-shifting like the future *-ma/'mêa* suffix).¹⁴ Unstressed monosyllabic roots, on the other hand, may shift stress rightward onto the suffix if the suffix is stress-shifting (Table 5.3c–d). Unstressed monosyllabic roots have stress in the root (the first syllable of the prosodic word) when attaching stress-neutral suffixes, exemplifying that default stress is assigned in the root (stress neutral suffixes are never stressed).

¹¹ As discussed in §9.3.3 and §11.3.6, roots longer than three syllables are infrequent. The stress properties of noun incorporation is addressed in §9.3.3

¹² As discussed in §11.2, monosyllabic roots undergo lengthening when bare (e.g., present tense) in order to satisfy a prosodic word bimoraic minimality requirement.

¹³ The tone properties of morphologically complex words is addressed in Chapter 8, Chapter 9 and Chapter 11.

¹⁴ The future singular suffix displays an interesting allomorphy: *-ma*, used with stressed roots, and *-'mêa*, used with unstressed roots. Consistently, the former is unstressed while the latter is stressed, and root stress seems to be the only parameter that plays a role in allomorph selection. The future singular suffix is the only suffix that displays this stress-conditioned suppletive allomorphy. Guarajio, another Taracahitan language, does not have this allomorphy for the cognate future suffix (in both stressed and unstressed contexts, the future singular suffix is *-ma* Miller 1996).

5.3.2 Stress properties of disyllabic roots

Disyllabic roots may be underlyingly stressed or unstressed. Disyllabic stressed roots are exemplified in Table 5.4.

Table 5.4: Stressed disyllabic roots

Underlying	Gloss	Stem	FUT shifting	PST neutral
a. /tâni/	‘ask for’	tâni	tâni-ma	tâni-li
b. /pùtfî/	‘blow’	pùtfî	pùtfî-ma	pùtfî-li
c. /mèti/	‘drive’	mèti	mèti-ma	mè=tí-li
d. /éri/	‘close’	éri	éri-ma	éri-li
e. /nâri/	‘ask’	nâri	nâri-ma	nâri-li
f. /ka'tfî/	‘spit’	ka'tfî	ka'tfî-i-ma	ka'tfî-i-li
g. /a'wê/	‘grill’	a'wê	a'wê-ma	a'wê-li
h. /ri'wè/	‘leave’	ri'wè	ri'wè-ma	ri'wè-li
i. /na'pà/	‘hug’	na'pà	na'pà-ma	na'pà-li
j. /se'mè/	‘play violin’	se'me	se'me-ma	se'me-li

Most disyllabic roots with first syllable stress are lexically stressed. The great majority of these roots have first syllable stress that remains constant across morphological paradigms, as exemplified in Table 5.4a–e. As shown in these examples, whether these verbal roots combine with neutral constructions (like the past *-li* suffix) or shifting constructions (like the future singular *-ma* ~ *-mêa* suffix), stress remains fixed on the first syllable.

Unstressed disyllabic roots are exemplified in Table 5.5.

Table 5.5: Unstressed disyllabic roots

Underlying	Gloss	Stem	FUT shifting	PST neutral
a. /ukú/	‘rain’	u'kú	uku-'mêa	u'kú-li
b. /tʃapí/	‘grab’	tʃa'pí	tʃapi-'mêa	tʃa'pí-li
c. /tʃa'ñí/	‘get stuck’	tʃa'ñí	tʃa'ñi-'mêa	tʃa'ñí-li
d. /sawí/	‘cure INTR’	sa'wí	sawi-'mêa	sa'wí-li
e. /ronò/	‘boil’	ro'nò	rono-'mêa	ro'nò-li

These roots, with third syllable stress in shifting morphological contexts, increase the proportion of words with third syllable stress in the Choguita Rarámuri corpus.

A set of exceptional disyllabic roots have *first* syllable stress with stress-neutral suffixes, and *second* syllable stress with stress-shifting suffixes. From the Choguita Rarámuri corpus, only eight roots exhibit this behavior. An exhaustive list is given in Table 5.6.

Table 5.6: Disyllabic roots with first and second syllable stress

Underlying	Gloss	FUT shifting	PST neutral
a. /úba/	'bathe'	u'bâ-ma	'úbi-li
b. /nòtʃa/	'work'	no'ʃ̩ â-ma	'nòtʃi-li
c. /sèba/	'reach'	se'bâ-ma	'sèbi-li
d. /tʃúta/	'sharpen'	tʃu'tâ-ma	'tʃ úti-li
e. /péwa/	'smoke'	pe'wâ-ma	'péwi-li
f. /tʃòta/	'begin'	tʃo'tâ-ma	'tʃ ôti-li
g. /sóma/	'wash head'	so'mâ-ma	'sómi-li
h. /nâta/	'think'	na'tâ-ma	'nâti-li

Comparison of these roots with their cognates in closely related Guarijío (Tara-Guarijío; Miller 1996), reveals that this set of roots is truly exceptional. Specifically, the Guarijío cognates all have three syllables, suggesting that Choguita Rarámuri has innovated initial syllable truncation with these forms. The cognate forms are shown in Table 5.7.

It is not the case that all of the Choguita Rarámuri roots are one syllable shorter than the corresponding Guarijío cognates (e.g. Choguita Rarámuri *raʔitʃa* – Guarijío *taʔitʃa* (M391), 'speak'; Choguita Rarámuri *roʔsówa* – Guarijío *toh'soá* (M396), 'cough'). The forms in Table 5.7 are derived from trisyllabic roots through a recent diachronic development. This comparative evidence suggests these exceptional forms do not constitute a counterexample to the stress patterns found with unstressed roots elsewhere in the language (where stress shifts are attested), but instead follow the pattern of unstressed trisyllabic roots. I turn to these next.

5.3.3 Stress properties of trisyllabic roots

Most trisyllabic roots are stressed, with fixed second syllable stress or fixed third syllable stress, as shown in Table 5.8 and Table 5.9, respectively.

Table 5.7: Cognate forms: Choguita Rarámuri and Guarijío roots

C. Rarámuri	Guarijío	Gloss
a. úba < SFH 05 1:86 >	u?u'pa [M402]	‘bathe’
b. nòt̪a < ROF 04 1:129 >	i'not̪a [M340]	‘work’
c. sèba < ROF 04 1:109 >	ah'seba [M323]	‘reach’
d. t̪òta < LEL 06 5:36 >	iht̪ò'ta [M337]	‘begin’
e. sóma < LEL 06 FN >	mo'so'ma [M360]	‘wash head or hair’
f. nàta < JHF 04 1:2 >	u?na'ta [M401]	‘think’

Table 5.8: Second-syllable, stressed trisyllabic roots

Underlying	Gloss	Stem	FUT shifting	PST neutral
a. /na'téti/	‘pay’	na'téti	na'téti-ma	na'téti-li
b. /na'hâta/	‘follow’	na'hâta	na'hâti-ma	na'hâti-li
c. /na'hâta/	‘follow’	na'hâta	na'hâti-ma	na'hâti-li
d. /se'bâri/	‘complete’	se'bâri	se'bari-ma	se'bâri-li
e. /o't̪ópi/	‘stick’	o't̪ópi	o't̪ópi-ma	o't̪ópi-li

Table 5.9: Third-syllable, stressed trisyllabic roots

Underlying	Gloss	Stem	FUT shifting	PST neutral
a. /bini'hî/	‘acuse’	bini'hî	bini'hî-ma	bini'hî-li
b. /bahu'ré/	‘invite’	bahu'ré	bahu'ré-ma	bahu'ré-li
c. /suku't̪ú/	‘scratch’	suku't̪ú	suku't̪ú-ma	suku't̪ú-li
d. /wika'râ/	‘sing’	wika'râ	wika'râ-ma	wika'râ-li

There are also unstressed trisyllabic roots. As shown in (18), these roots have shifting stress in morphologically complex constructions.

(18) Unstressed trisyllabic roots

- a. *a'nat̪ili*
a'nat̪a-li
 endure-PST
 'S/he (didn't) endured it.'
 '(No) aguantó.' {JLG co1237:3:47.1}
- b. *a'nat̪iko*
a'nat̪a-ki
 endure-PST.EGO
 'I endured it.'
 'Aguanté.' {BFL el658:5:32.3}
- c. *a'nat̪ati*
a'nat̪a-ti
 endure-CAUS
 'to make someone endure it'
 'hacer aguantar' < ROF 04 1:123/el >
- d. *a'nat̪ai*
a'nat̪a-i
 endure-IMPF
 'S/he used to endure it.'
 'Aguantaba.' < ROF 04 1:123/el >
- e. *ana't̪âma*
ana't̪â-ma
 endure-FUT.SG
 'She will endure it.'
 'Va a aguantar.' < MDH co1140:10:56.0 >
- f. *ana't̪âbo*
ana't̪â-bo
 endure-FUT.PL
 'They will endure it.'
 'Van a aguantar.' {JLG co1237:2:41.2}
- g. *ana't̪âsa*
ana't̪â-sa
 endure-COND

- ‘if s/he endures it’
 ‘si aguanta’ {MFH el1318:20:00.0}
- h. *ana'tʃānale*
ana'tʃā-nale
 endure-DESID
 ‘S/he wants to endure it.’
 ‘Quiere aguantar.’ < ROF 04 1:123/el >

The stress shifts that the verbal root *a'nátʃa*, ‘endure’ (‘aguntar’), undergoes in (18) parallels those of unstressed disyllabic roots in different morphological constructions: the verb has second syllable stress when inflected with stress-neutral suffixes in (18a–e), but third syllable stress when inflected with stress-shifting suffixes (18f–i). Further examples of unstressed trisyllabic roots are given in Table 5.10.

Table 5.10: Unstressed trisyllabic roots

Stress-neutral		Stress-shifting		
a.	na?̚sòwa-li	‘mix-PST’	na?so'wâ-ma	‘mix-FUT.SG’
b.	na?̚sòwa-ki	‘mix-PST.EGO’	na?so'wâ-sa	‘mix-COND’
c.	na?̚sòwa-a	‘mix-PROG’	na?so'wâ-bo	‘mix-FUT.PL’
d.	ra?̚àma-li	‘advice-PST’	ra?̚ámâ-ma	‘advice-FUT.SG’
e.	ra?̚àma-a	‘advice-PROG’	ra?̚ámâ-sa	‘advice-COND’
f.	ra?̚àma-ki	‘advice-PST.EGO’	ra?̚ámâ-bo	‘advice-FUT.PL’
g.	ra?̚itʃa-li	‘speak-PST’	ra?̚itʃ̚ â-ma	‘speak-FUT.SG’
h.	ra?̚itʃa-a	‘speak-PROG’	ra?̚itʃ̚ â-bo’	‘speak-FUT.PL’
i.	ra?̚itʃa-ki	‘speak-PST.EGO’	ra?̚itʃ̚ â-sa’	‘speak-COND’

5.3.4 Stress properties of suffixes

The stress patterns of unstressed trisyllabic roots in morphologically complex words (shown in (18) and Table 5.10 above) show that stress-neutral suffixes are not pre-stressing, as could have been assumed from the stress pattern of unstressed disyllabic roots. If stress-neutral suffixes were pre-stressing, we would expect third-syllable stress with trisyllabic unstressed roots, immediately preceding the suffixes, instead of the attested second syllable stress. These hypothetical, unattested forms are illustrated in the second column in (19).

(19) Attested and hypothetical forms with stress-neutral suffixes

- a. *naʔsòwili*
naʔsòwa-li
 mix-PST
 'S/he mixed it.'
 'Mezcló.' {JLG co1239:6:12.5}
**naʔso'wâ-li*
- b. *naʔsòwaki*
naʔsòwa-ki
 mix-PST.EGO
 'I mixed it.'
 'Mezclé' < ROF 04 1:123/el >
**naʔso'wâ-ki*
- c. *naʔsòwaa*
naʔsòwa-a
 mix-PROG
 'S/he is mixing.'
 'Está mezclando.' {JLG co1239:5:58.8}
**naʔso'wâ-a*
- d. *raʔàmali*
raʔàma-li
 give.advice-PST
 'S/he gave advice.'
 'Aconsejó.' < ROF 04 1:64/el >
**raʔa'mâ-li*
- e. *raʔàmaa*
raʔàma-a
 give.advice-PROG
 'S/he is giving advice'
 'Está aconsejando' < ROF 04 1:64/el >
**raʔa'mâ-a*
- f. *raʔàmaki*
raʔàma-ki

- give.advice-PST.EGO
 'I gave advice.'
 'Aconsejé.' < ROF 04 1:64/el >
 **raʔa'mâ-ki*
- g. *ra'ʔitfili*
ra'ʔitfa-li
 speak-PST
 'S/he spoke.'
 'Habló.' {MFH el1318:14:24.5}
 **raʔi'tfâ-li*
- h. *ra'ʔitfî*
ra'ʔitfâ-i
 speak-IMPF
 'S/he used to speak.'
 'Hablabá' {JLG co1239:2:15.2}
 **raʔi'tfâ-a*
- i. *ra'ʔitfaki*
ra'ʔitfâ-ki
 speak-PST.EGO
 'I spoke.'
 'Hablé' < SFH 05 1:98/el >
 **raʔi'tfâ-ki*

Finally, stress-neutral suffixes are never stressed, an observation also made in §5.3.1 above. Following the pattern of unstressed trisyllabic roots (in (18) and (19)), we would expect unstressed disyllabic roots adding a stress-neutral suffix (like causative *-ti*) and a stress-shifting suffix (like future singular *-ma*) to have third syllable stress. These verbs, however, have second-syllable stress. This is illustrated in (20).

(20) The unstressability of stress-neutral suffixes

- a. *a'wítisa*
a'wí-ti-sa
 dance-CAUS-COND

- ‘if s/he makes them dance’
 ‘si lo hace bailar’ < SFH 08 1:112/el >
**awi-’tî-sa*
- b. *raʔlisima*
raʔli-si-ma
 buy-MOT-FUT.SG
 ‘S/he will go around buying.’
 ‘Va a ir comprando.’ < AHF 05 1:130/el >
**raʔli-’si-ma*
- c. *o'sisima*
o'si-si-ma
 read.write-MOT-FUT.SG
 ‘S/he will go around reading/writing.’
 ‘Va a ir leyendo/escribiendo.’ < SFH 05 1:78/el >
**osi-’si-ma*
- d. *tʃo'nikima*
tʃo'ni-ki-ma
 fist.fight-APPL-FUT.SG
 ‘They will fist-fight for someone.’
 ‘Van a pelear a chingazos por alguien.’ < SFH 05 1:67/el >
**tʃoni-’kî-ma*

The unstressability of stress-neutral suffixes is further evidenced by unstressed monosyllabic roots. Only two of twenty-seven monosyllabic verbal roots are unstressed (*ru* ‘say’ (*decir*) and *tó* ‘bring’ (*traer*) (exemplified above in §5.3.1). These roots shift stress to stress-shifting suffixes, as shown in Table 5.11.

We might have expected the forms in Table 5.11a–d to have second syllable stress when adding stress-neutral suffixes, following the pattern of disyllabic and trisyllabic unstressed roots. Instead, stress in these words is in the root, the first syllable. These cases suggest that the stress rule associated with stress-neutral suffixes must also meet the condition of being assigned *within* the root. Stress-neutral suffixes are not part of the stress domain and are thus non-cohering. Cohering suffixes are suffixes that form one prosodic word with the preceding stem (evidenced by their phonological behavior as identical to morphologically simple words), and non-cohering suffixes form prosodic words of their own (Booij 2002).

Table 5.11: Unstressed monosyllabic roots

Form	Gloss	Unattested	
a. 'rú-ki	'say-PST.EGO'	*ru-'ki	< JHF 04 1:27/el >
b. 'rú-li	'say-PST'	*ru-'ri	< JHF 04 1:27/el >
c. 'rú-simi	'say-MOT'	*ru-'simi	< ROF 04 1:102/el >
d. 'rú-ra	'say-REP'	*ru-'ra	< ROF 04 1:102/el >
e. ru-'mêa	'say-FUT.SG'		< JHF 04 1:27/el >
f. ru-'sâ	'say-COND'		< ROF 04 1:102/el >
g. ru-'bô	'say-FUT.PL'		< JHF 04 1:27/el >
h. ru-'nále	'say-DESID'		< ROF 04 1:102/el >

(For general discussion about cohering and non-cohering affixes, see Dixon 1977; Booij 1977; 1999; 2002).

The morphological conditions for stress and the stress patterns of morphologically complex words are addressed in Chapter 9 and Chapter 11.

5.4 Initial three-syllable stress window

As described for closely related Taracahitan languages (Norogachi Rarámuri (ISO code: tar) (Brambila 1953), Mountain Guarijío (ISO code: var) (Miller 1996), Yaqui (Demers et al. 1999), and Mayo (Hagberg 1989)), stress in Choguita Rarámuri is restricted to an initial stress window. Stress window systems are characterized by alternations that keep stress within a two- or three-syllable margin of the edge of the domain, whether stress is unpredictable or not within this margin (Kager 2012, Everett 1988, Green & Kenstowicz 1995).¹⁵ Window effects are evidenced by alternations in compound, reduplicated and multiple-affixation constructions that maintain stress within a disyllabic margin in the Cahitan languages Yaqui and Mayo, and a trisyllabic margin in Guarijío. Initial three syllable stress windows are uncommon cross-linguistically: outside of the Taracahitan branch, only a handful of languages (most of them in the Americas) have been documented to possess an initial three-syllable window, including the Uto-Aztecan (Numic) language Comanche (ISO code: com) (Smalley 1953: 299) (cited in Kager 2012).

Earlier descriptions of other Rarámuri varieties and Guarijío have documented that stress is left-aligned in these languages and never placed beyond the third

¹⁵In Pirahã (spoken in the Amazon), for example, stress is assigned to the heaviest syllable within the last three syllables of the word (Everett 1988, Green & Kenstowicz 1995).

syllable, with alternations in reduplication and compounding maintaining this three-syllable restriction (see Brambila 1953: 245 for Norogachi Rarámuri and Miller 1996: 49–50 for Mountain Guarajío). Choguita Rarámuri has lost productive prefixation processes, but the three-syllable window is evident in other morphological constructions. Closely related Mountain Guarajío, where prefixing reduplication is still productive, does exhibit systematic alternations to keep stress within the window (Miller 1996).

The forms below show that Choguita Rarámuri stress is clearly left-aligned. Since the longest monomorphemic roots in this language are tetrasyllabic at most, the evidence in (21) involves morphologically complex forms.

(21) Left alignment of stress

- a. *po't̪ípo*
po't̪í-po
 jump-FUT.PL
 'They will jump.'
 'Van a brincar.' < SFH 05 1:69/el >
- b. *po't̪ítisima*
po't̪í-ti-si-ma
 jump-CAUS-MOT-FUT.SG
 'S/he will go along making them jump.'
 'Los va a ir haciendo brincar.' < SFH 08 1:72/el >
- c. *ama't̪íma*
ama't̪í-ma
 pray-FUT.SG
 'S/he will pray.'
 'Va a rezar.' < SFH 04 1:133/el >
- d. *ama't̪ítima*
ama't̪í-ti-ma
 pray-CAUS-FUT.SG
 'S/he will make them pray.'
 'Los va a hacer rezar.' < BFL 08 1:108/el >
- e. *a'tísima*
a'tísi-ma
 sneeze-FUT.SG
 'S/he will sneeze.'
 'Va a estornudar.' < BFL 05 1:111/el >
- f. *a'tíst̪fanale*
a'tís-t̪fa-nale

- sneeze-EV-DESID
 'It sounds like they want to sneeze.'
 'Suena que quieren estornudar.' < SFH 07 1:73/el >
- g. *basa'rôwiki*
basa'rôwa-ki
 stroll-PST.EGO
 'I strolled.'
 'Pasée.' < BFL 05 1:162/el >
- h. *basa'rôwinima*
basa'rôwa-ni-ma
 stroll-DESID-FUT.SG
 'S/he will want to stroll.'
 'Va a querer pasear.' < SFH 07 1:150/el >

While the forms in (21a–e, g) could be ambiguous between second and third syllable stress and penultimate and antepenultimate stress, embedding these forms in further morphology reveals that the correct generalization about stress assignment can only be made with respect to the left edge of the prosodic word. Each pair of morphologically related words ((21a–b), (21c–d), (21e–f) and (21g–h)) shows that stress is constantly on the second or third syllable.

Choguita Rarámuri, like Norogachi Rarámuri and closely related Guarajío, also has constructions that display stress alternations that maintain stress within a left-aligned window margin. There are N-V constructions that are restricted to nouns referring to body parts and bodily fluids. In these constructions, the noun root is fully integrated with the verb morphologically, and both the noun root and the verb root can be used independently. As discussed in Chapter 9, these properties are prototypical of “body part incorporation”, a restricted kind of noun incorporation, which is common in languages of the Americas (Baker 1996). Stress in these constructions is actively constrained by the grammar. If the head, the incorporated verb, has second syllable stress in isolation and if the first member, the body-part noun, is two syllables long, stress retracts to the verb’s first syllable, the construction’s third syllable.¹⁶ This is exemplified in the forms provided in (22).

¹⁶In (22e–g), the glottal stop associated with the verbal roots does not emerge in the surface incorporated form due to the glottal prosody place restriction described in §7.1

(22) Stress retraction in incorporated constructions

- a. /bu'sí+ka'sì/ → *busi+kâsi*
eye+break
'to become blind'
'volverse ciego'
- b. /ro'pâ+ka'sì/ → *ropa+kâsi*
stomach+break
'to have a miscarriage'
'abortar'
- c. /bu'sí+bo'tá/ → *busi+bôta*
eye+come.out
'for an eye to come out'
'salirse el ojo'
- d. /ka'wá+bo'tá/ → *kawa+bôta*
egg+come out
'for an egg to come out'
'salirse el huevo'
- e. /ku'tâ+bi?rì/ → *kuta+bîri*
neck+twist
'to neck-twist'
'torcerse el cuello'
- f. /tʃo?má+bi?wa/ → *tʃoma+bîwa*
mucus+clean
'to mucus-clean'
'limpiar los mocos'
- g. /tʃe'rewá+bi?wa/ → *tʃere+bîwa*
sweat+clean
'to sweat-clean'
'limpiar el sudor'

All possible interactions of underlyingly stressed and unstressed roots are attested in these forms: unstressed noun plus unstressed verb (22a), stressed noun plus unstressed verb (22b), unstressed noun plus stressed verb (22c), and stressed noun plus stressed verb (22d). Regardless of the underlying stress make-up of the roots of the construction, stress is assigned in the first syllable of the head of the construction, the verbal root. The stress retraction phenomenon involves actual deletion of lexical inherent root stress from the head of the construction. The verbal root *bi?w-a* 'to clean', for instance, is a stressed root (with fixed stress when adding stress-shifting suffixes) (e.g. (23)):

(23) Stress properties of verb root *biʔw-a* ‘clean, TR’ (‘limpiar’)

- a. *biʔwâma*
biʔw-â-ma
 clean-FUT.SG
 ‘S/he will clean.’
 ‘Va a limpiar.’ < SFH 05 1:72/el >
- b. *biʔwâsa*
biʔw-â-sa
 clean-COND
 ‘if s/he cleans’
 ‘si limpia’ < SFH 05 1:72/el >
- c. *biʔwâbo*
biʔw-â-bo
 clean-FUT.PL
 ‘They will clean.’
 ‘Van a limpiar.’ < SFH 05 1:72/el >
- d. *biʔwânale*
biʔw-â-nale
 clean-DESID
 ‘S/he wants to clean.’
 ‘Quiere limpiar.’ < SFH 05 1:72/el >
- e. *biʔwâsi*
biʔwâ-si
 clean-IMP.PL
 ‘You all clean!’
 ‘¡Limpien!’ < SFH 05 1:72/el >

In incorporation, however, this verbal root undergoes a stress shift one syllable to the left (e.g., *tʃoma+biwa* in (22f) above).

Stress in incorporated verbs, therefore, involves both stress deletion and stress-reassignment. Brambila (1953) and Miller (1996) interpret similar stress deletion and re-assignment facts in the Taracahitan languages as evidence for a three-syllable stress window. Fourth syllable stress, which would result in the incorporated forms in (22a–f) if there were no stress reassignment, would fall outside this window, and is therefore retracted one syllable to the left.

The stress alternations in the incorporated forms of Choguita Rarámuri can alternatively be attributed to a morphological stress rule specific to incorporated construction rather than a stress window. This morphological stress rule would

require stress to be assigned in the first syllable of the head of the incorporated construction. This morphological stress rule is defined in (24).

- (24) **Incorporation stress rule:** The head of the incorporation construction (the verbal root) must bear stress in the first syllable

There are, however, further testing grounds for the window hypothesis. The behavior of trisyllabic nouns in incorporation is crucial in this regard. Choguita Rarámuri, like other Uto-Aztecán languages (e.g. Southern Paiute (Sapir 1930) and Kawaiisu (Zigmond et al. 1991)), tends to shorten its trisyllabic nouns to a disyllabic form when incorporated. These truncated forms in incorporation are shown in Table 5.12.

Table 5.12: Noun truncation in incorporation

Underlying representation	Gloss	Bare noun	Incorporated verb
/tʃe'rewa+bi'wa/	'sweat+clean'	tʃe'rewa	tʃere+'bîwa
/tʃa'mèka+re'pu/	'tongue+cut'	tʃa'mèka	tʃame+'répu

Truncation of tetrasyllabic nouns in the incorporated forms in Table 5.12 is ambiguously triggered by either an initial three-syllable stress window or a morphological incorporation stress rule defined in (24). However, while most speakers completely reject non-truncated versions of the forms in Table 5.12, for some speakers such forms are in fact interpretable even if never produced spontaneously. These non-truncated forms are shown in (25), where angled brackets indicate that these forms are abstract and not spontaneously produced.

- (25) Interpretable, non-truncated incorporated verbs

- a. *tʃame'kârepù*
<tʃame'kâ+repù>
 tongue+cut
 'to cut the tongue'
 'cortar la lengua'
- b. *kuta'tʃirepu*
<kuta'tʃí+repù>
 neck+cut
 'to cut the neck'
 'cortar el cuello'

These forms, with stress in the third syllable, are never spontaneously produced, but their intended meanings can be retrieved. Equivalent non-truncated forms with stress in the fourth syllable, on the other hand, were completely rejected and their intended meaning could not be recovered. These forms are shown in (26).

(26) Uninterpretable, non-truncated incorporated verbs

- a. **tʃameka+'rêpu* tongue+cut
- b. **kutatʃi+'rêpu* neck+cut

The incorporation stress rule is violated in the interpretable cases in (25), but the initial three-syllable stress window is violated in the completely rejected forms in (26), suggesting that there is indeed an overarching, exceptionless rule that restricts stress to the first three syllables of the word in Choguita Rarámuri. There is indeed not a single form in the Choguita Rarámuri corpus that has stress outside this three-syllable range.

While the initial three-syllable window is mainly manifested synchronically as a static, exceptionless generalization in the native vocabulary of Choguita Rarámuri, loanwords from Spanish contribute further evidence of this phenomenon, exhibiting alternations related to this restriction. Specifically, Choguita Rarámuri loanwords retain original prominence from the Spanish source (27a–b), in addition to a default HL tone (see also Caballero & Carroll 2013 and Chapter 11 below about prosodic loanword adaptation). Given that Spanish has a final three syllable window, there are cases of loanwords where the prominence would emerge beyond the initial three syllable margin in Choguita Rarámuri. As shown in (27c–e), the repair is to truncate a syllable of the Spanish source to match the prosodic requirement of Choguita Rarámuri (in the examples below, stressed syllables are highlighted with boldface and truncated syllables with underlining in the Spanish source forms).

(27) Spanish loanwords in Choguita Rarámuri

- a. *ma'sâna*
'apple'
Sp. *manzana*
- b. *meho'râra*
'acetaminophen'
Sp. *mejoral*

- c. *naugu'râr*
 'inaugurate'
 Sp. *inaugurar*
- d. *sera'dêrofî*
sera'dêro-[—]fî
 log.house-LOC¹⁷
 Sp. *aserradero*
- e. *kiri'sâante*
 'fertilizer'
 Sp. *fertilisante*

Truncation of the source words targets the initial syllable in each of the examples in (27).

While languages with a final ternary stress window – permitting only final, penultimate, or antepenultimate stress – are not uncommon (e.g. Imbabura Quechua, Macedonian, Greek, Hebrew, Spanish, Polish, Zoque, Italian, to name just a few), initial three-syllable stress windows are a typologically highly marked pattern (Kager 2012; see also Caballero 2011b; Martínez-Paricio 2013). Initial three syllable stress windows have been described in languages outside the Uto-Aztecan language family, including Icua Tupi (Tupi), Terena (Arawakan), Wishram Chinook (Chinookan) (Kager 2012), and Azkoitia Basque (Hualde 1998).

¹⁷Loanword nouns from Spanish are often incorporated in the lexicon with a locative suffix (for more details about loanword adaptation, see §7.3).

6 Tone and intonation

This chapter addresses the Choguita Rarámuri lexical tone and intonation systems. All documented Uto-Aztecan languages are described as having stress,¹ with tonogenesis being independently innovated in several branches, predominantly in the US Southwest/Northern Mexico area (Caballero & Gordon 2020).² In addition to Choguita Rarámuri, other Uto-Aztecan languages that have been described as having both stress and tone in their word prosody include Yaqui (Cahitan; Demers et al. 1999), Mayo (Cahitan; Hagberg 1989, Hagberg 1993), Northern Tepehuan (Tepiman; Bascom 1959, Woo 1970), Cora (Corachol; McMahon 1967), Huichol (Corachol; Grimes 1959), Hopi (Manaster-Ramer 1986) and Balsas Nahuatl (Aztec; Guion et al. 2010).³

All tonal Uto-Aztecan languages have a restricted distribution of tonal contrasts to stressed syllables. Restricted tone systems as documented in these languages are similar in some regards to other languages described as ‘pitch accent’ in the literature (Hyman 2006, van der Hulst 2011). In this grammar, I assume Choguita Rarámuri is better characterized as having both stress and tone as independent systems and that pitch is part of the lexical realization of at least some morphemes, as defined for tonal languages cross-linguistically (Yip 2002; Hyman 2001; Hyman 2006: 229). Choguita Rarámuri is the only Uto-Aztecan language documented to date to feature a three-way tone contrast as opposed to a binary one, suggesting its tone system involves a recent innovation.

Choguita Rarámuri deploys f_0 in its intonation system, resulting in different accommodation strategies when the lexical phonology, the morphology and the

¹Proto-Uto-Aztecan is reconstructed as having a weight-sensitive, rhythmic stress with left alignment (Munro 1977); the synchronic stress systems of daughter languages exhibit are widely diverse, though they exhibit a predominance of left alignment (Caballero 2011a; Chapter 5).

²The diachronic development of tone has been linked to the loss of laryngeal features in Hopi (Manaster-Ramer 1986), Northern Tepehuan (Shaul 2000), and varieties of Balsas Nahuatl (Guion et al. 2010).

³Recent research argues that some varieties previously analyzed as being tonal exhibit only stress: Reyes Taboada (2014) explicitly rejects a tonal analysis of Santa María de Ocotán Tepehuan (Southern Tepehuan; Tepiman). Work on tone and prosodic documentation more generally in the language family has not yet addressed dialect variation across the different branches.

intonational phonology assign conflicting tones to the same target tone bearing units. Intonation has been understudied for Uto-Aztecán languages: prior work on intonation in the language family includes studies on Nahuatl (Aztecán; Guion et al. 2010, Patiño Velázquez 2014, Aguilar 2020) and Northern Tepehuan (Tepiman; Gil Burgoin & Carrillo Carrillo 2019). This chapter provides a basic description of intonation patterns in declarative and interrogative sentences of this language. Declaratives feature optional H% boundary tones and the presence of optional pitch targets ('rhythmic lead tones') preceding each of the lexical tones: a low target before high and falling tones, and a high target before low tones (Garellek et al. 2015, Caballero et al. 2022). Interrogatives are intonationally characterized by H% boundary tones and raised register across the utterance.

While tone also encodes morphosyntactic information, this chapter addresses only the phonologically predictable aspects of tone in this language, saving the description and analysis of its morphological contribution to the chapters devoted to the verbal morphology (Chapter 9) and nominal morphology (Chapter 8). Interactions between lexical, morphological and phrasal tones are addressed in Chapter 11.

6.1 Tone

6.1.1 Tonal inventory

The Choguita Rarámuri tone system involves a three-way lexical contrast between HL, L and H tones.⁴ The HL lexical tone is a phonological unit, a contour tone that is not decomposable into two tonal primitives.

Tone is not conditioned by voicing or laryngeal setting of the preceding consonant, nor any other phonological features. Lexical tonal contrasts in this language are associated exclusively with surface stressed syllables, i.e., there is only one lexical tone per prosodic word and stressless syllables lack lexical tone (see §11.1 for discussion of criteria that define prosodic words in the language). Stressed syllables may bear any of the three lexical tones. Tone is also obligatory, i.e., there are no toneless words.

The tone-bearing unit is the mora: falling tones have their high target on the stressed syllable, with the fall starting in the tonic and continuing through a post-tonic syllable, if there is one. H tones may spread their high f0 to the post-tonic syllable (Caballero & Carroll 2015, Garellek et al. 2015, Caballero et al. 2022). Figure 6.1 shows the f0 trajectories of the three lexical tones in stressed syllables.

⁴H tones are described as M in Caballero & Carroll (2015).

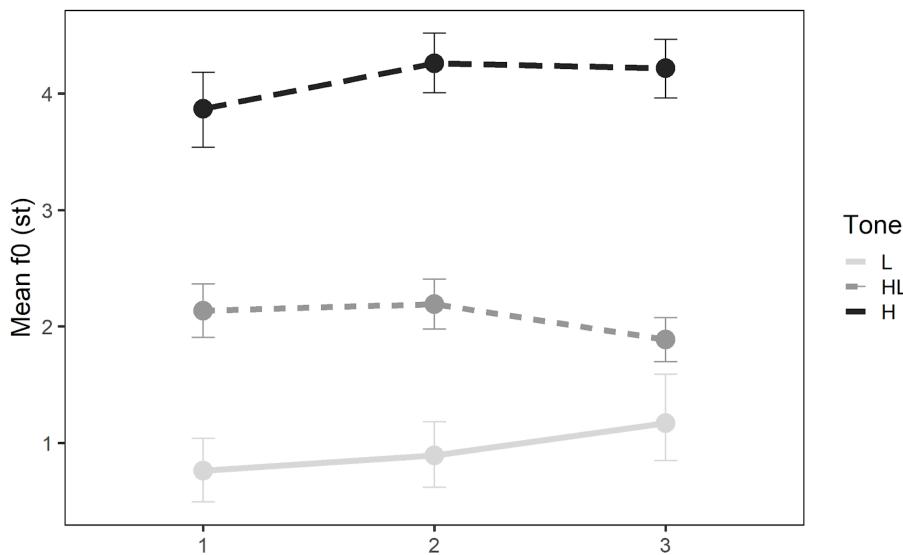


Figure 6.1: Mean f0 tracks (in semitones with base 100 Hz for male speakers, with base 200 Hz for female speakers) over utterance-medial tonic vowels, averaged over vowel thirds (Caballero et al. 2022).

As illustrated in Figure 6.1, lexical tonal contrasts are acoustically encoded both through pitch height and slope. There are relatively small differences in terms of f0 between the three lexical tones in tonic syllables: Caballero & Carroll (2015) report an average difference of 2 semitones between L and H tones, while Caballero et al. (2022) report a 3 semitone difference between L and H tones (illustrated here). There are also some speaker differences, with some speakers showing even narrower f0 distinctions between certain tones.⁵ These pitch differences are among the smallest compared to pitch differences for lexical tonal contrasts in other languages with similar tone inventories (Alexander 2010, Silva 2006).⁶

Despite the narrow f0 differences, lexical tonal categories are reliably distinguished by f0 alone and consistent across speakers in the realization of pitch of

⁵It should be noted, however, that the data examined for both studies involved differences in terms of the size of the corpus, number of speakers and types of examples recorded.

⁶Other languages that have been reported with similar narrow pitch differences include Edo, a Volta-Niger language spoken in Nigeria with a binary tone system and Hausa (Chadic), a language with a three-way tone contrast with H, M and HL tones (Maddieson 1979). In the Americas, Guion et al. (2010) report narrow pitch differences in the realization of the two-tone system recently developed in Balsas Nahuatl.

stressed syllables. Furthermore, as reported in Garellek et al. (2015), Caballero et al. (2022) and discussed below, lexical tonal contrasts are further differentiated by f0 changes from the pre-tonic to the tonic and post-tonic syllables (§6.2.2) and by additional acoustic parameters in different phrase positions (§6.2.4).

6.1.2 Tonal (near-)minimal pairs

The (near) minimal pairs in (1) show that tone is contrastive in Choguita Rarámuri in both nouns and verbs,⁷ in monosyllabic roots (1a–f), disyllabic roots with second-syllable stress (1g–l), and disyllabic roots with first syllable stress (1m–n) (a circumflex accent indicates a falling HL tone <ô>, a grave accent indicates a L tone <ò>, and an acute accent indicates a H tone <ó>). Only lexical tones are represented in the phonemic transcription.⁸

(1) Tone (near-)minimal pairs

	<i>Lexical tone</i>	<i>Form</i>	<i>Gloss</i>	<i>Source</i>
a.	HL	<i>tô</i>	‘to bury’	{MAF el1240:3:29.5}
b.	L	<i>tò</i>	‘to take’	{JLG el1274:1:26.1}
c.	HL	<i>mê</i>	‘to win’	{MAF el1242:1:56.3}
d.	H	<i>mé</i>	‘to bring’	{SFH el83:1:17.9}
e.	L	<i>mè</i>	‘mezcal’	{MDH co1140:2:06.6}
f.	H	<i>pá</i>	‘to throw’	{MAF el1240:2:48.8}
g.	L	<i>pà</i>	‘to bring’	{BFL el728:2:44.9}
h.	HL	<i>koli</i>	‘chile pepper’	{BFL el728:5:11.6}
i.	L	<i>koli</i>	‘spatial root’	{SFH el549:3:52.7}
j.	HL	<i>isî</i>	‘to urinate’	{BFL el728:03:24.8}
k.	L	<i>isì</i>	‘to do’	{BFL el728:3:53.8}
l.	H	<i>ni?wí</i>	‘to be lightning’	{JLG co1237:10:52.7}
m.	L	<i>niwì</i>	‘to marry’	{MFH el1318:28:54.9}
n.	HL	<i>nôtfa</i>	‘pretentious’	{BFL el728:8:03.5}
o.	L	<i>nôtfa</i>	‘hard working’	{BFL el728:7:41.7}

The examples in (1) show examples of tone in monosyllabic and disyllabic roots with different stress properties. Tonal contrasts are also realized on the stressed syllable of trisyllabic roots, as shown in (2).

⁷The audio examples illustrating verb forms in the set in (1) may be inflected and/or provided within a phrase.

⁸As discussed in §6.2 and Chapter 11, there is evidence of H% boundary tones and post-lexical tonal targets associated with lexical tones in declarative intonation, as well as non-modal phonation and lengthening of specific lexical tones in phrasal boundaries.

(2) Tonal contrasts in trisyllabic roots

	<i>Lexical tone</i>	<i>Form</i>	<i>Gloss</i>	<i>Source</i>
a.	HL	<i>napa'bû</i>	'to get together'	{FLP in243:4:16.8}
b.	L	<i>siki'rè</i>	'to cut'	{SFH el1080:13:37.7}
c.	L	<i>naʔ'sòwa</i>	'to stir, mix'	{JLG co1234:8:41.9}
d.	HL	<i>hûmisi</i>	'to take off, PL'	{LEL tx19:1:40.3}
e.	H	<i>wipi'só</i>	'to hit with stick'	{SFH el1080:3:55.8}
f.	H	<i>a'nátſa</i>	'to endure'	{MFH el1318:19:58.1}

6.1.3 Tone patterns by root type and stress position

As described in §5.3, Choguita Rarámuri roots can be characterized as lexically stressed or unstressed based on their stress properties in morphologically complex words. Both lexically stressed and lexically unstressed roots may have lexical tone realized in the surface tonic syllable. Unstressed roots may bear either H or L tone when bare or in neutral contexts, which can be attributed to a lexical tonal specification. Stressed roots, on the other hand, may bear HL, H or L tone, i.e., there are no unstressed HL-toned roots in the language.

From the logically possible lexical tone melodies by root type (monosyllabic, disyllabic and trisyllabic) and stress position (first, second and third syllable stress), two patterns are not yet attested, namely H and L-toned trisyllabic roots with first syllable stress. This gap in the tonal melody inventory is likely due to the combined effect of the relative infrequency of both trisyllabic roots and first-syllable stress (from a corpus of 1040 roots, only 15 (1.5%) are trisyllabic roots with first-syllable stress). It is likely that the missing tonal contrasts will be found upon further investigation.

As discussed in Chapter 11, tonal melodies show systematic distributions in terms of phonological characteristics (whether a stem contains a lexically stressed or unstressed root), as well as morphological factors (the type of morphological constructions involved in inflected words).

6.1.4 Stress-based tonal neutralization

As discussed in §5.3, stress distribution is governed by morphological factors. Given that tone distribution is dependent on stress, stress shifts result in tonal alternations in morphologically complex words. Specifically, morphologically-conditioned stress shifts result in tone neutralization patterns, originally described in Caballero & Carroll (2015). There are two possibilities in terms of surface tone

in contexts where stress shifts. If a stress-shifting suffix is stressed after a stress shift, the stressed suffix syllable will bear the lexical tone of that suffix (this is the case when a monosyllabic or disyllabic unstressed root attaches a stress-shifting suffix). This pattern is shown in the examples provided in Table 6.1.

Table 6.1: Suffix lexical tone after stress shift

Tone	Stem	Gloss	Source
L	'tò-a	take-PROG	{MDH co1136:8:45.7}
HL	to-'kâ	take-IMP.SG	{SFH tx152:10:36.8}
H	ra'há-li	light.fire-PST	< LEL el1907 >
HL	raha-'kâ	light.fire-IMP.SG	< LEL el1907 >
L	'tò-li	take-PST	{LEL tx84:7:15.2}
L	to-'sì	take-IMP.PL	{SFH el505:3:48.3}
H	ki'má-li	put.on.blanket-PST	< BFL el1909 >
L	kimi-'sì	put.on.blanket-IMP.PL	< BFL el1909 >
H	u'kú-li	to.rain-PST	< LEL el1918 >
H	uku-'nále	to.rain-DESID	< LEL el1918 >
H	ki'má-li	put.on.blanket-PST	< BFL el1909 >
H	kimi-'nále	put.on.blanket-DESID	< BFL el1909 >

What these examples show is that suffixes bear their underlying tone when stressed, e.g., HL in the imperative singular *-kâ* (*to-'kâ* 'take it!' and *raha-'kâ* 'light it up!' in Table 6.1), L in the imperative plural *-sì* (*to-'sì* 'you all take it!' and *kimi-'sì* 'cover yourselves in blankets!' in Table 6.1), and H in the desiderative *-nále* (*uku-'nále* 'it is about to rain' and *kimi-'nále* 's/he wants to cover themselves in a blanket' in Table 6.1). The lexical tone of the root, which surfaces when the root attaches neutral morphological contexts, is deleted after the stress shift.

If a trisyllabic unstressed root attaches a stress-shifting suffix, the newly stressed syllable will be a stem syllable. A newly stressed stem syllable after a stress shift will bear a HL tone in these contexts, regardless of what the lexical tone of the root is (H tone in *roʔ'sówa* 'cough' or L tone in *naʔ'sówa* 'stir' in Table 6.2).

One important aspect of this second pattern is that the surface tonal pattern of these morphologically complex words that have undergone a stress shift is not predictable based on the lexical tonal properties of root morphemes nor the lexical tones of suffixes. An example discussed in Caballero & German (2021) is that of unstressed roots attaching the imperative plural *-sì* suffix. As shown in Table 6.1 above, this suffix bears its lexical L tone when stressed (e.g., *to-'sì* 'you

Table 6.2: Stem tone after stress shift

Tone	Stem	Gloss	Source
H	roʔ'sówa-a	cough-PROG	{SFH, MGD el261:11:24.1}
HL	roʔ'só'wâ-ma	cough-FUT.SG	{SFH, MGD el262:0:16.8}
H	roʔ'sówa-li	cough-PST	< LEL el2060 >
HL	roʔ'só'wâ-si	cough-IMP.PL	< LEL el2060 >
L	naʔ'sówa-li	stir-PST	{JLG co1239:6:12.5}
HL	naʔ'só'wâ-ma	stir-FUT.SG	{JLG co1234:8:45.4}
L	naʔ'sówa-i	stir-IMPF	< BFL e1957 >
HL	naʔ'so'wâ-bo	stir-FUT.PL	{BFL el658:7:20.5}

all take it!'), but it will not surface if the stressed syllable after a stress shift is a stem syllable, i.e., the hypothetical forms **rosō'wâ-si* (vs. attested *rosō'wâ-si* 'you all cough!') and **naʔ'so'wâ-si* (vs. attested *naʔ'so'wâ-si* 'you all stir it') in Table 6.2, with L tone when attaching imperative plural *-sì* are unattested.

This tonal pattern is analyzed in Caballero & German (2021) as resulting from a process of HL tone insertion after a stress shift has deleted the root's lexical tone. This analysis is based on the following assumptions (listed in (3)):

(3) HL tone insertion in stress-based tone neutralization

- Each morpheme has one and only one tone, which is lexically associated with one and only one Tone-Bearing-Unit (a mora within the tonic syllable)
- In words containing lexically unstressed roots and neutral morphological constructions, stress is assigned within the root; the stressed syllable bears the underlying lexical tone of these roots
- Stress shifts in shifting environments cause lexical root tones to delete
- If the newly stressed syllable after a stress shift is a stem syllable, it is toneless and acquires an HL tonal melody

It could be argued that this HL tone insertion process is also at play in Spanish loanwords (Caballero & Carroll 2013; see also §7.3.1 and Chapter 11). Loanwords from Spanish are incorporated into Choguita Rarámuri with faithful prominence

to the stress location of the source words.⁹ The stressed syllable in loanwords has a HL tone (no exceptions have yet been documented to this pattern). Relevant examples are given in (4) (the Spanish source words are provided in their orthographic form, where boldface indicates the stressed syllable):¹⁰

(4) Tone in loanwords from Spanish

	<i>Loanword</i>	<i>Source word</i>	<i>Gloss</i>	
a.	[to'mâʃi]	Tomás	‘Thomas’	
b.	[ma'sâna]	manzana	‘apple’	
c.	[sâbaru]	sábado	‘Saturday’	{MFH el1318:15:22.4}
d.	[huâñ]	Juan	‘John’	{FLP in61:4:44.9}
e.	[sa'huâni]	San Juan	‘John’	{LEL tx109:0:53.1}
f.	[ra'niéli]	Daniel	‘Daniel’	
g.	[li'mêta-ʃ̩i]	limeta	‘bottle’	
h.	[bo'têja-ʃ̩i]	botella	‘bottle’	{BFL tx191:0:29.9}
i.	[basâ'lôa]	pasear	‘to stroll’	{LEL tx84:0:53.8}
j.	[kûrsi]	cruz	‘cross’	{JLG co1234:13:13.2}
k.	[to'rôka]	troca	‘truck’	{MDH co1136:8:15.3}
l.	[sôpa]	sopa	‘soup’	{MDH co1136:0:25.5}
m.	[jêrbas]	hierbas	‘herbs’	{GFM tx785:2:22.0}
n.	[ko'rêaka]	correa	‘strap’	{GFM tx785:1:12.5}

The analysis involving a HL tone insertion process for loanwords would involve the assumption that Spanish loanwords are lexically stressed but toneless in Choguita Rarámuri. Alternatively, the tonal properties of loanwords may be analyzed as involving a reinterpretation of the acoustic properties of Mexican Spanish prominence, which has been argued to include a H* pitch accent in the stressed syllable in certain intonational contexts (focus-marked words in declarative sentences) (Prieto et al. 1995).

In sum, morphological factors condition stress shifts. Given the dependency tone has on stress for its distribution, the tonal alternations resulting in these contexts are largely predictable based on the lexical tonal properties of the morphemes that make up a morphologically complex word. Further discussion on

⁹ As discussed in §8.6, nouns borrowed from Spanish are sometimes incorporated into the Choguita Rarámuri lexicon with the -ʃ̩i suffix, which has locative semantics in other contexts. This morphological strategy for loanword nativization is shown in (4g–h).

¹⁰ As shown in (4g–h), some loanwords in Choguita Rarámuri have the same meaning but different source words: in the case of ‘bottle’, one loanword has as its source word *limeta*, an archaic word no longer in use in Northern Mexican Spanish, which coexists with the loanword originating from ‘bottle’, *botella*, a contemporary Spanish term.

the mechanism of tonal patterns in morphologically complex words is provided in Chapter 11.

6.2 Intonation

This section presents a basic description of the intonation patterns of declarative and interrogative sentences in Choguita Rarámuri and the realization of lexical tones in different phrasal contexts. The description of declarative intonation presented here builds on results discussed in Caballero et al. (2014), Garellek et al. (2015), and Caballero et al. (2022), based on qualitative and quantitative analysis of instrumental data recorded with four native Choguita Rarámuri speakers (two male, two female) using controlled elicitation.¹¹ Interactions between lexical tone, grammatical tone and intonation in this language are further addressed in Chapter 11. The intonational characteristics of interrogative constructions are addressed in §6.2.5 and Chapter 14.

This description assumes intonational primitives as laid out in the autosegmental-metrical framework (Pierrehumbert 1980, Beckman & Pierrehumbert 1986, Ladd 1986). These assumptions include the following:

(5) Assumptions from Autosegmental-metrical framework

- Sequences of tonal targets (T) on an autosegmental tier yield intonational contours
- There are two kinds of tonal targets: (i) tones associating with stressed syllables usually marking focal information or *pitch accents* (T*) and (ii) tones associating with the edges of phrasal constituents or *boundary tones* (T%)
- Tonal sequences are licensed by different phonological domains, arranged in a prosodic hierarchy (Selkirk 1986, Nespor & Vogel 1986)

In Choguita Rarámuri declarative intonation there is evidence of (i) a H% boundary tones, (ii) 'lead' (rhythmic) tones associated with lexical tones, and (iii) general and tone-specific non-tonal devices that encode intonation, including vowel rearticulation and lengthening at phrasal boundaries, all of which exhibit both

¹¹The role of f0, duration and voice quality in intonation was assessed in these studies through examination of a corpus of data recorded with Choguita Rarámuri speakers. In this corpus, lengths of words and phrases, location of lexical stress and syntactic structure of phrases were manipulated in order to assess the timing and sequencing of tonal (lexical and post-lexical) patterns. Targets were balanced for lexical tone and stress, as well as utterance context (medial vs. final) and elicited in carrier phrases from a written prompt.

inter- and intra-speaker variation. As discussed in Chapter 14, interrogative constructions also involve register manipulation.

The declarative sentences examined all involved canonical word order with intended broad focus. As described in Chapter 13, Choguita Rarámuri is a head-final language with SOV word order. Examples of this structure are provided in (6), with a clause headed by a ditransitive predicate with both pronominal and NP arguments (6a) and by a transitive predicate with pronominal arguments (6b).

(6) Canonical SOV word order in Choguita Rarámuri

- a. *'mò 'jèla ta'mí ha're ga'jêta 'àko*
[*'mò* *'jè-la*_{SUBJ}] [*ta'mí*]_{P. OBJ.} [*ha're* *ga'jêta*]_{S. OBJ.}
2SG.NOM mother-POSS 1SG.ACC some cookie
'à-ki-o
give-PST.EGO-EP
'Your mom gave me some cookies.'
'Tu mamá me dio galletas.' < BFL 09 1:89/el >
- b. *ba?a'rîni 'mí 'àma*
*ba?a'rî=[ne]*_{SUBJ.} [*mí*]_{OBJ.} *'à-ma*
tomorrow=1SG.NOM 2SG.ACC look.for-FUT.SG
'I'll look for you tomorrow.'
'Mañana te voy a buscar.' < LEL 09 1:70/el >

Other Rarámuri varieties are also described as having SOV as their canonical word order, including Western Tarahumara (Burgess 1984), Rarómuri (Urique Tarahumara) (Valdez-Jara 2013), Pahuírachic Rarámuri (Estrada-Fernández & Tona 2013) and Rochéachi Rarámuri (Morales Moreno 2016). It should be noted, however, that SVO order is also frequently attested in Choguita Rarámuri declarative sentences with broad focus.¹²

6.2.1 H% boundary tones in declarative sentences

The highest domain in the prosodic hierarchy assumed here is the Intonation Phrase (IP), which corresponds to a clause. The prosodic hierarchy is schematized in (7) (Selkirk 1980; 1996; Nespor & Vogel 1986; Hayes 1989).

¹²Whether this alternative word order results from contact with Spanish or other factors is a question I leave for future research.

(7) The prosodic hierarchy

Intonational Phrase

|

Phonological Phrase

|

Clitic Group

|

Prosodic Word

Counter to a strong cross-linguistic trend, where many languages exhibit a downward trend of pitch over the course of an utterance (Cohen et al. 1982, Ladd 1984), Choguita Rarámuri declaratives generally end with a final rise in f_0 , suggesting a $H\%$ boundary tone at the right edge of the Intonational Phrase (IP). This is shown in Figure 6.2 with a sentence composed of words with lexical L tones, *re'hòi su'nù o'hòli* ‘The man dekerneled corn’. As shown in this figure, $H\%$ boundary tones accommodate lexical tones: both the lexical L pitch target and the post-lexical H pitch target are clearly differentiated.

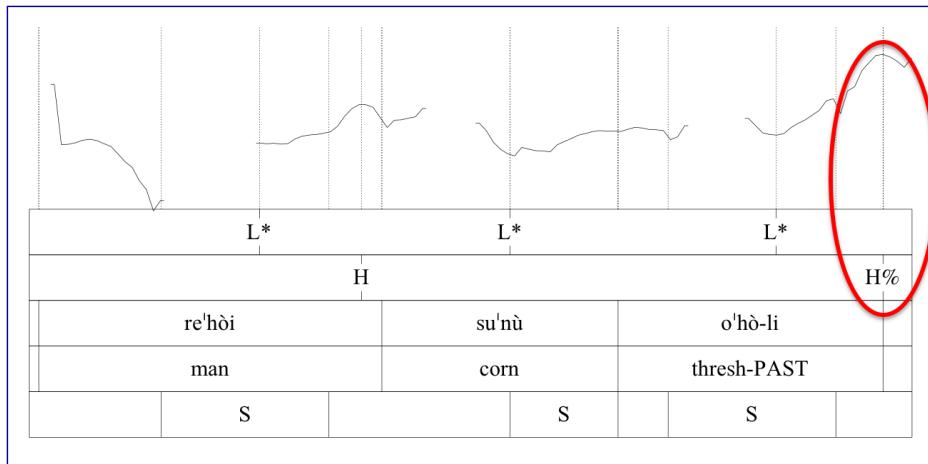


Figure 6.2: High boundary tone in declaratives (Garellek et al. 2015). Lexical pitch targets are represented with “*” in the first tier; stressed syllables are represented with ‘S’ in the bottom tier.

A final rise in pitch at the IP boundary is not attested if the IP contains a lexical HL tone at the right edge: the rise expected with the presence of a $H\%$ is replaced by a pitch fall, i.e., $H\%$ boundary tones are overridden by lexical falling tones. This

6 Tone and intonation

is shown in Figure 6.3 with a sentence composed of words with lexical HL tones, *Ma'nuéli o'kwâ ko'lí i?kili* 'Manuel bit two chili peppers'. As discussed in Garellek et al. (2015), this effect may enhance the distinction between lexical L and HL tones in phrase final position. All three lexical tones are clearly differentiated for all speakers across different intonational contexts (see further discussion in Chapter 11).

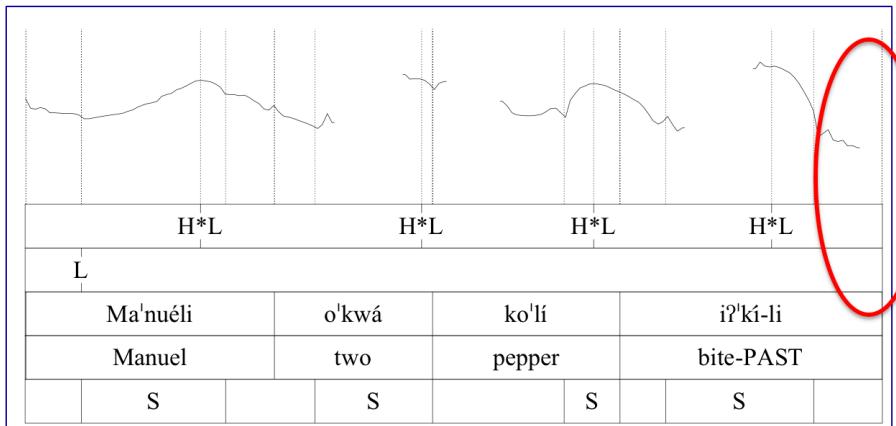


Figure 6.3: No high boundary tone in declaratives with lexical HL tones (Garellek et al. 2015). Lexical pitch targets are represented with ‘*’ in the first tier; stressed syllables are represented with ‘S’ in the bottom tier.

Finally, there is also evidence that sometimes a L% tone is found at the end of declarative sentences. This is exemplified in Figure 6.4. It is yet an open question what factors may govern the variability in the boundary tone, including inter-speaker differences or other variables that have not yet been investigated, though the presence of H% vs. L% boundary tones does not seem to be conditioned by list intonation.

6.2.2 Optional rhythmic ‘lead tones’

In addition to the presence of boundary tones and pitch raising at prosodic boundaries, Garellek et al. (2015) and Caballero et al. (2022) report on optional pitch targets that precede the lexical tonal targets, referred to as ‘lead’ tones in these studies. Lead tones are always an opposite pitch target than their lexical counterpart: if the lexical tone is H or HL, the lead tone involves a low pitch target; if

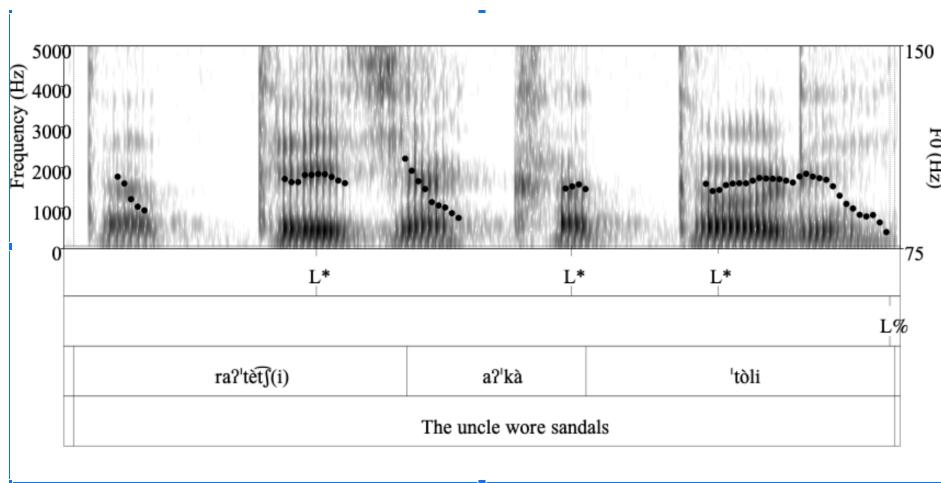


Figure 6.4: L% boundary tone in a declarative sentence with lexical L tones (Caballero et al. 2022). Lexical tones are marked as L* on the stressed syllables.

the lexical tone is L, on the other hand, the lead tone involves a high pitch target. Low lead tones of lexical H and HL tones are exemplified in Figure 6.5 and Figure 6.6, respectively. A high lead tone preceding a lexical L tone is exemplified in Figure 6.7; this figure also exemplifies the optional nature of lead tones: a high target is attested prior to the lexical L tone of *su'nù* 'corn', but not prior to *o'hòli* 'threshed'.

Another property of lead tones is that they are variable in their alignment: while they tend to occur in the pre-tonic syllable, they may be aligned with a syllable prior to the pretonic or the beginning of the tonic syllable (Garellek et al. 2015). In contrast, lexical tones are always consistently aligned with the tonic syllable and the fall of HL tones is always consistently realized with a post-tonic syllable, if there is one (see also Caballero & Carroll 2015).

The fact that optional lead tones are dependent on the pitch height of lexical tones which they precede and that H% boundary tones are not found when a lexical HL tone is at the end of the phrase in order not to override the lexical tone's f0 target suggest that preserving and enhancing the lexical tones of the language are important feature of the tonal grammar of Choguita Rarámuri. As will be discussed in Chapter 11, lexical tones may be replaced by grammatical tones in Choguita Rarámuri, but they appear to resist neutralization in their interaction with post-lexical tones.

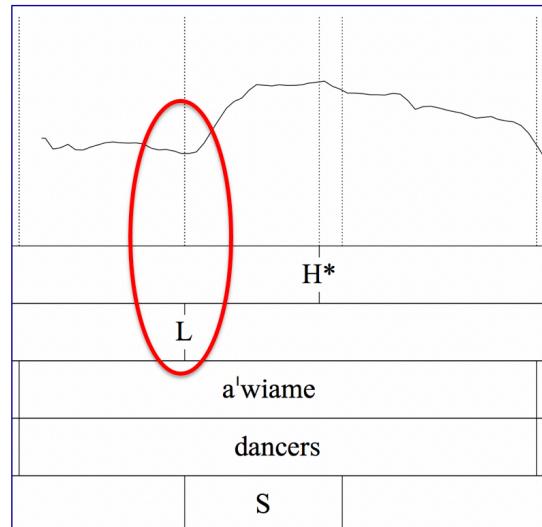


Figure 6.5: Lead low tone preceding a lexical H tone (Garellek et al. 2015). Lexical pitch targets are represented with ‘*’ in the first tier; stressed syllables are represented with ‘S’ in the bottom tier.

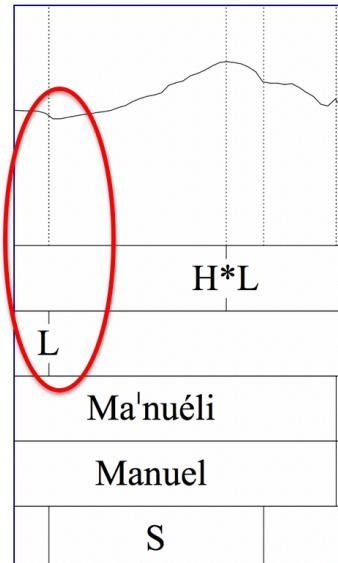


Figure 6.6: Lead low tone preceding a lexical HL tone (Garellek et al. 2015). Lexical pitch targets are represented with ‘*’ in the first tier; stressed syllables are represented with ‘S’ in the bottom tier.

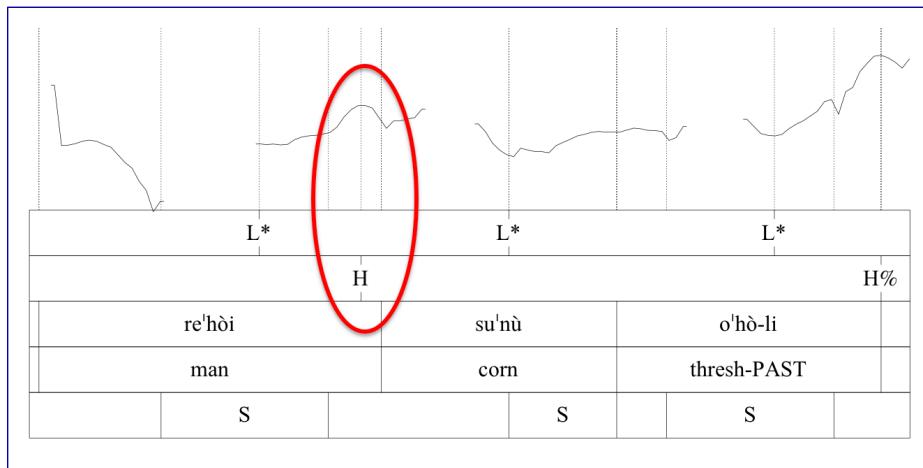


Figure 6.7: Lead high tone preceding a lexical L tone (Garellek et al. 2015). Lexical pitch targets are represented with ‘*’ in the first tier; stressed syllables are represented with ‘S’ in the bottom tier.

6.2.3 Intonation patterns of declarative sentences

The following subsections report on work published in Caballero et al. (2022) and illustrate typical intonation patterns of declarative sentences with sequences of identical tones in contexts intending broad focus.

6.2.3.1 Declarative sentences with lexical L tones

As shown in Figure 6.8, a sentence with a sequence of lexical L tones will typically exhibit alternating low pitch targets for lexical tones and higher pitch targets for the preceding lead tones. This Figure also exemplifies the final high pitch target associated with the H% boundary tone which may be realized in the same stressed syllable as the final lexical L tone, creating a rising pitch contour. A lexical L tone target may be realized with a higher pitch lead tone in the same syllable if followed by another lexical L tone as attested in the word *ra'rài* ‘sandals’, where the high pitch target is associated with *tʃa'bè* ‘before’, the final word in the IP. This example also shows a gradual lowering in f0 of both high-pitched targets of the lead tones as well as the lexical L tones. Thus, sentences with lexical L tones may exhibit declination.¹³

¹³ As discussed in Caballero et al. (2022) and §6.2.1 above, there is also evidence that lead tones are optional and that L% boundary tones may also be attested instead of the typical H% boundary tone of declaratives (as exemplified in Figure 6.4).

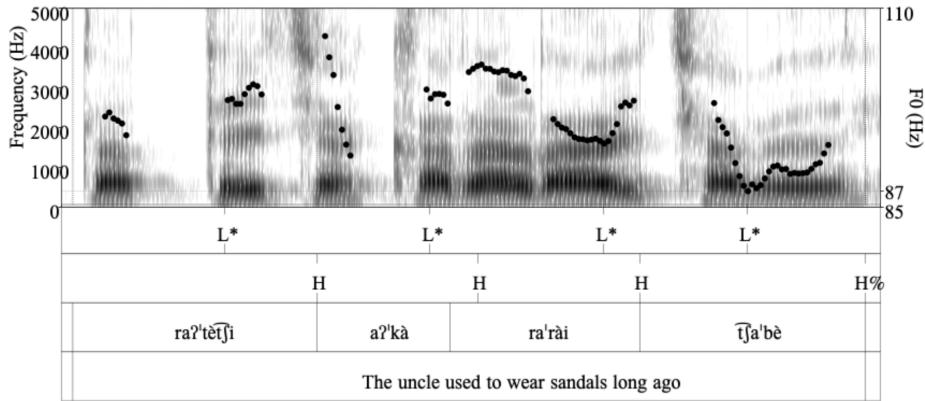


Figure 6.8: Intonation of a declarative sentence containing only L lexical tones (Caballero et al. 2022). Lexical tones are marked as L* on the stressed syllables. Non-lexical pitch targets, including the H% boundary tone and high “lead” tones, are marked on the second tier.

As exemplified in Figure 6.7 and Figure 6.4 above, higher pitch targets associated with lead tones are optional. Thus, as discussed in more detail in Caballero et al. (2022), lexical L tones are only associated with a low pitch target in stressed syllables.

6.2.3.2 Declarative sentences with lexical H tones

Declarative sentences with sequences of lexical H tones also show an alternating pattern between the high pitch targets associated with lexical tones and preceding lower pitch targets of lead tones. This is exemplified in Figure 6.9. This example also shows the highest pitch peak at the end of the IP associated to the H% boundary tone.

Furthermore, the example in Figure 6.9 shows that H lexical tones in a sequence exhibit a progressive rise in the f0 of the lexical H targets. The low-pitched lead pitch targets may also be upstepped (represented in the figures as “ \hat{L} ”), given that they are low with respect to the following lexical H tone, but not the preceding one.

This example also shows the spreading of H tones onto following post-tonic syllables, as in *a'wíame* ‘dancers’, where the H tone spreads from the tonic to the post-tonic syllable. On the other hand, no spreading is attested after *ba^htí* ‘zucchini’. Instead, a low lead tone is attested immediately preceding the following H tone in *ko?áli* ‘ate’.

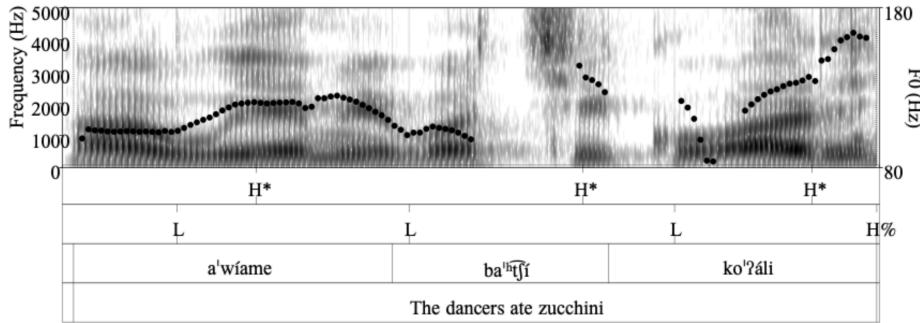


Figure 6.9: Intonation of a declarative sentence containing only H lexical tones (Caballero et al. 2022). Lexical tones are marked as H^* on the stressed syllables. Non-lexical pitch targets, including the $H\%$ boundary tone and low “lead” tones, are marked on the second tier.

Finally, there is also evidence of the optionality of low lead tones preceding H lexical tones, as exemplified in Figure 6.10: there is no low pitch target between the two lexical H tones in *ri^htē 'páli* ‘(they) threw stones’.

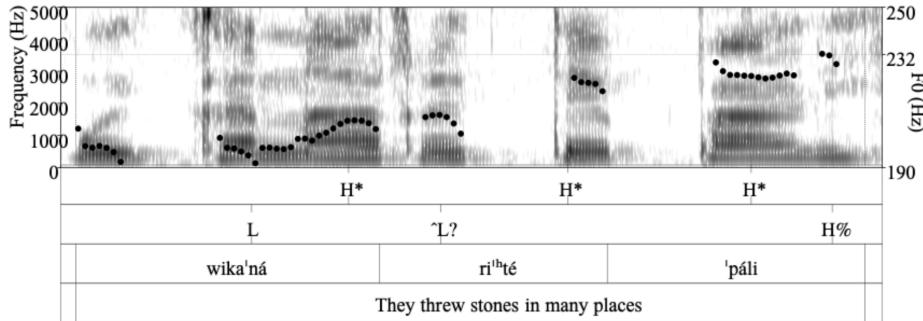


Figure 6.10: Intonation of a declarative sentence containing only H lexical tones with optional low lead tones (Caballero et al. 2022). Lexical tones are marked as H^* on the stressed syllables. Non-lexical pitch targets, including the $H\%$ boundary tone and low “lead” tones, are marked on the second tier.

6.2.3.3 Declarative sentences with lexical HL tones

As discussed in §6.2.1 above, in sentences with sequences of lexical HL tones (represented as H^*L , since the low pitch target of this lexical tone may be realized

in a post-tonic syllable), there is no evidence of H% boundary tones. As seen in Figure 6.11, HL lexical tones may have optional low lead tones; the high pitch target of the last lexical HL tone is higher than the preceding two high pitch targets, and the low pitch targets of the pre-final HL tones exhibit declination. This suggests that HL tones in the final position of the IP exhibit pitch range expansion.

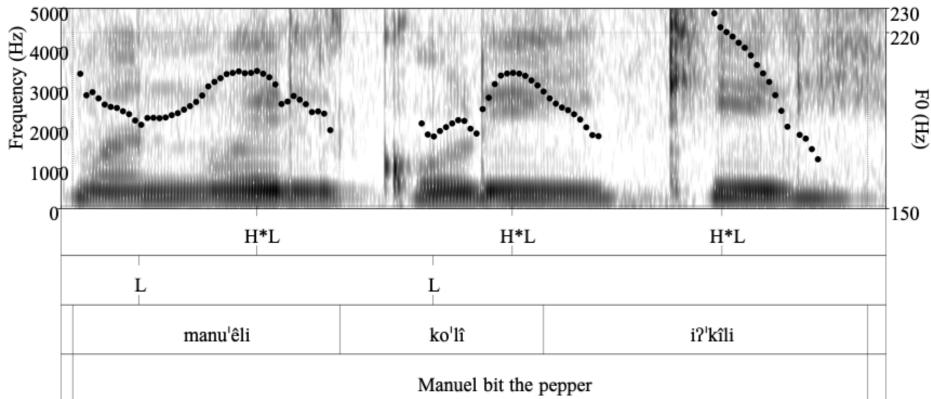


Figure 6.11: Intonation of a declarative sentence containing only HL lexical tones (Caballero et al. 2022). Lexical tones are marked as H*L on the stressed syllables. Non-lexical pitch targets (low “lead” tones) are marked on the second tier.

As discussed in the next section (§6.2.4), utterance final HL tones may be optionally rearticulated.

6.2.4 Non-tonal encoding of intonation

Encoding of intonational contrasts in Choguita Rarámuri also involves non-tonal effects. Non-tonal effects associated with Choguita Rarámuri intonational encoding at prosodic boundaries include: (i) vowel rearticulation and (ii) lengthening of L tones. This section summarizes the findings reported on Caballero et al. (2014) and Aguilar et al. (2015). Controlled elicited data was recorded with four native Choguita Rarámuri speakers (two male and two female), and assessment of the role of lengthening and non-modal phonation assessed through quantitative analysis of acoustic and electroglottographic (EGG) data.¹⁴

¹⁴Lengthening was analyzed using VoiceSauce (Shue et al. 2011) and phonation was assessed through analysis of CQ (Contact Quotient) calculated in EggWorks.

Vowel rearticulation is exclusively attested with HL tones at the right edge of the IP boundary. This is an effect that is optional for some speakers but very robust for others. Vowel rearticulation may involve glottal closure or glottalization, with frequent devoicing of the final portion of the vowel (V?V or V?V). An example is shown in Figure 6.12.

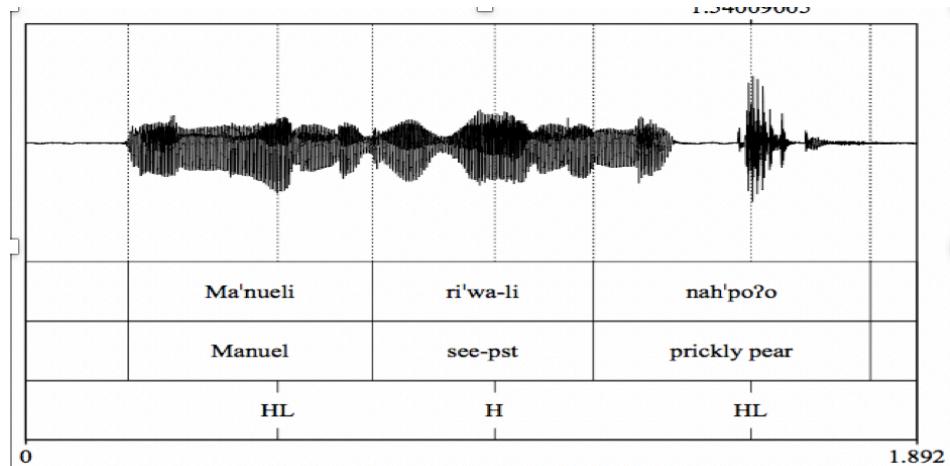


Figure 6.12: Rearticulation of HL tones in utterance-final position (Cabantuero et al. 2014)

The following examples show the contrast between rearticulated HL tones and non-rearticulated H and L tones of (near-)minimal pairs elicited in a frame sentence ('*Ma'nuèli ri'wàli o'kwâ/wa?lû* _ 'Manuel saw two/a big _').

(8) Rearticulated vs. non-rearticulated tones in phrase-final position

- a. [na^hpó?o] HL
 /na^hpô/
 'prickly pear'
 'tuna' < BFL 11-nahpo >
- b. [o^hkó] H
 /o^hkô/
 'pine tree'
 'pino' < BFL 12-ohko >

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- c. [na'ʔíʔí] HL
/na'ʔí/
'here'
'aqui' < BFL 11-naqi >
- d. [na'ʔí] L
/na'ʔí/
'fire'
'fuego' < BFL 12-naqi >

Rearticulation of HL tones is an effect robustly attested for participant female speakers and only optionally attested or marginal for participant male speakers. A systematic study controlling for demographic factors may reveal whether gender plays a role in inter-speaker variation. A follow up study of the role of phonation in tonal encoding in Choguita Rarámuri reported in Caballero et al. (2022) reveals that voice quality improves discrimination of lexical tones, though voice quality measures exhibit patterns that are speaker-dependent. Readers are referred to this reference for more details.

There is also evidence for significant intra-speaker variation in the non-tonal encoding of lexical tones in certain prosodic positions. As shown in the following examples, speakers may deploy additional strategies in utterance final position, including voiceless aspiration. In the example in Figure 6.13, a rearticulated HL tone exhibits modal phonation, followed by creaky phonation, followed by breathy phonation and then aspiration.

Finally, there is evidence to suggest that an additional non-tonal device in the encoding of Choguita Rarámuri intonation is lengthening: Caballero et al. (2014) and Aguilar et al. (2015) report that there is significant lengthening utterance-finally of L tones, where L tones have greater duration than HL and H tones at the right edge of the IP boundary for some speakers. It should be noted, however, that a follow up study did not find a significant role for duration in the encoding of lexical tones in the language using linear discriminant analysis (Caballero et al. 2022).

In sum, preliminary research shows Choguita Rarámuri exhibits the following phonation-lexical tone interactions: (i) rearticulation exclusive to HL tones, and (ii) increased lengthening of L tones. Fundamental frequency (f0) and voice quality interact in many languages in the realization of tonal contrasts (Kingston 2005, Kuang 2013) (e.g., glottalization in Dagbani (Gur; Hyman 1993), and Roman and Tuscan Italian (Di Napoli 2015); breathiness/creakiness in Chickasaw (Muskogee; Gordon 2005); lengthening in Bantu languages (Downing 2008;

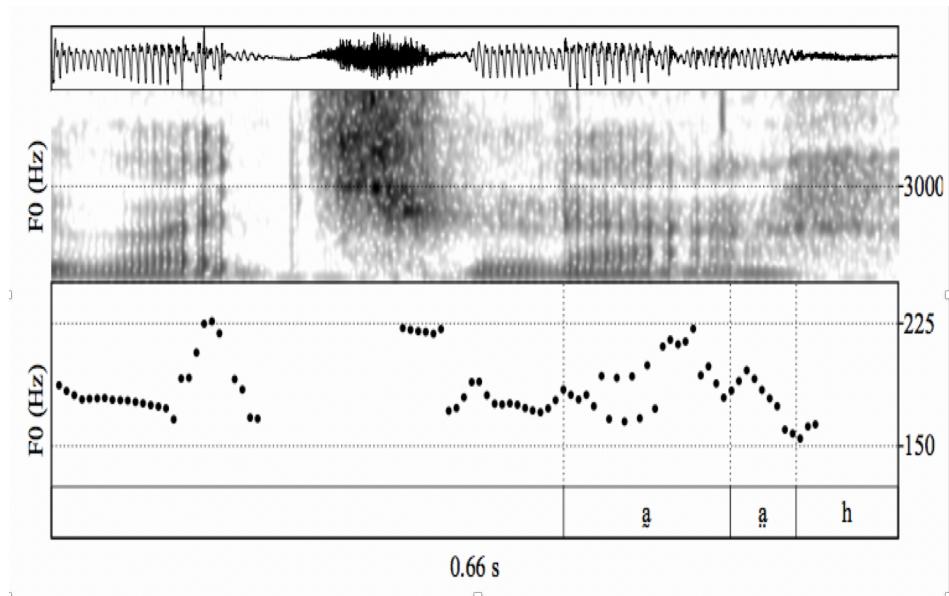


Figure 6.13: Voiceless aspiration utterance-final and phasing of the rearticulated vowel for BFL (female speaker) (Caballero et al. 2014).

2010; Hyman & Monaka 2011, among other effects). More detailed examination of the tone-phonation interaction in Choguita Rarámuri will inform a growing body of literature that seeks to understand the interaction of multiple phonetic dimensions in the implementation of prosodic contrasts in a range of typologically diverse languages.

6.2.5 Interrogative intonation

Choguita Rarámuri interrogative constructions are encoded through morphosyntactic and/or intonational devices. Chapter 14 provides a comprehensive description of the morphosyntactic and prosodic encoding of polar interrogatives (§14.2.1) and content questions (§14.2.2). This section summarizes the intonational properties of both types of constructions. As discussed here and in §11.4, the specific intonation patterns attested in interrogatives are shaped by the interaction between lexical tones and intonemes in utterance-final position.

6.2.5.1 Polar question intonation

Polar questions may be classified morphosyntactically into three types: (i) morphosyntactically unmarked polar questions; (ii) polar questions with interroga-

tive particles; and (iii) polar questions with interrogative tags.

In the first type, the interrogative clause is equivalent morphosyntactically to its declarative counterpart, differing only in intonation. A minimal pair between a declarative sentence and its morphosyntactically unmarked polar question counterpart in Choguita Rarámuri is provided in (9). Figure 6.14 and Figure 6.15 show the intonational difference between the declarative sentence in (9a) and the polar interrogative in (9b), respectively.

(9) Declarative vs. morphosyntactically unmarked polar question

- a. *'má 'tôlo*
'má *'tô-li*
 already bury-PST
 'S/he buried him/her.'¹⁵
 'Lo enterró.' < BFL el1170 >
- b. *'má 'tôli?*
'má *'tô-li*
 already bury-PST
 'Did s/he bury him/her?'
 '¿Lo enterró?' < BFL el1307 >

In the declarative sentence exemplified in Figure 6.14, there is a falling f0 contour of the lexical HL tone of the verb ('*tô* 'to bury'). As consistently attested in declarative sentences with HL lexical tones in utterance-final position, there is no evidence of a H% boundary tone, as the falling lexical tone in the stressed syllable overrides the boundary tone (see §6.2.1 above and §11.4 in Chapter 11). When compared to the declarative sentence in Figure 6.14, the interrogative sentence in Figure 6.15 exhibits raised f0 in the stressed syllable (396 Hz in this example vs. 289 Hz in the declarative in Figure 6.14 for the same female speaker (BFL)). As discussed in §14.2.1.1, this effect may be attributed to the interrogative H% intoneme aligning with the peak of the lexical HL tone in this stressed syllable.

A different intonation pattern is documented in interrogative sentences with a final stressed syllable specified for lexical L tone. This is shown in Figure 6.16.

As shown in the example in Figure 6.16, the lexical tone of the verb root is associated with the stressed syllable and the H% boundary tone docks on a follow-

¹⁵In this particular example, the suffix vowel surfaces as [o] given an optional round harmony process, where non-round vowels of certain suffixes may become round when preceded by a stressed back stem vowel. This optional process is only attested in the speech of younger speakers. For more details about this process, see §9.4.3.5.

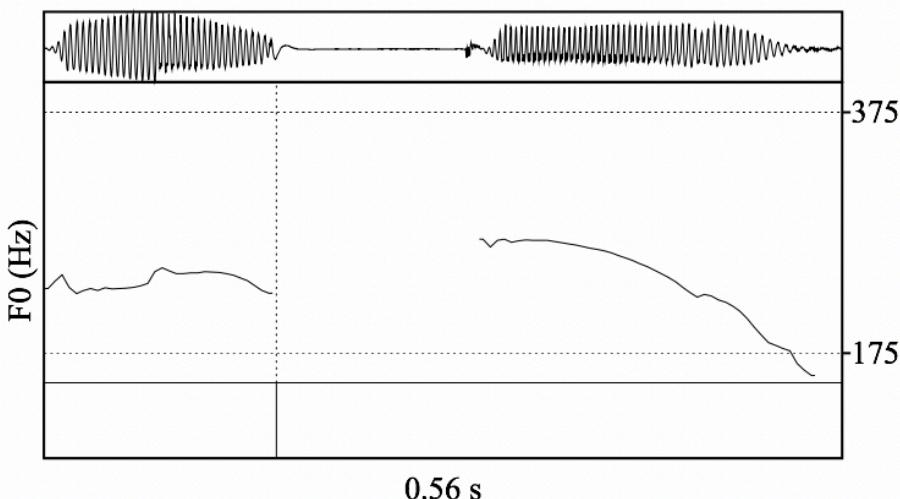


Figure 6.14: Declarative utterance: '*má tōlo* 'S/he buried him/her' (< BFL el1170 >)

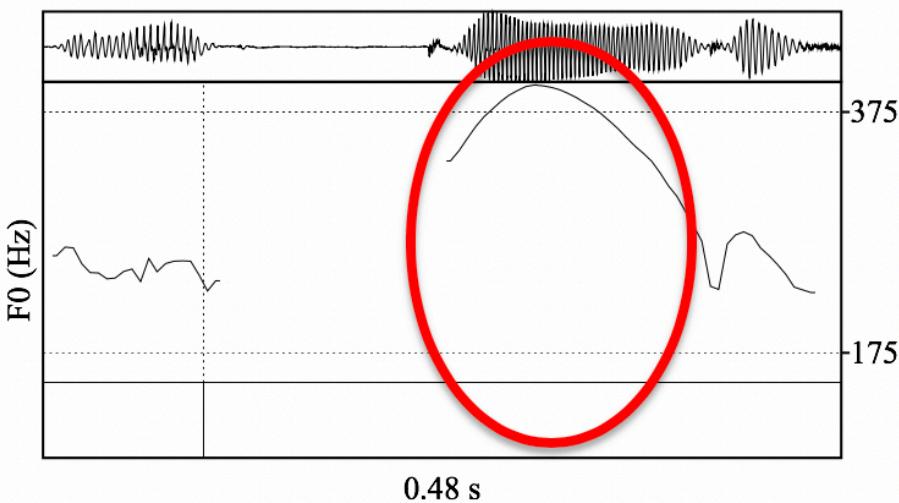


Figure 6.15: Morphosyntactically unmarked polar interrogative: '*má tōli?* 'Did s/he bury him/her?' (< BFL el1307 >)

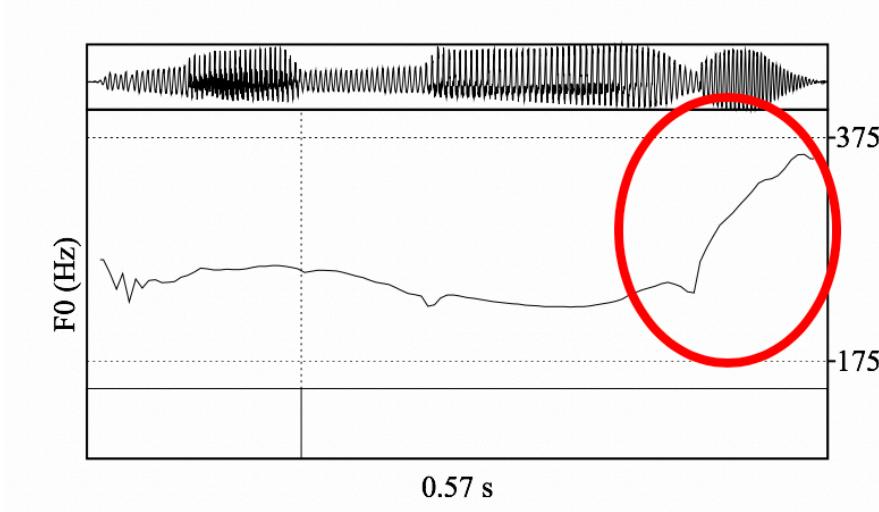


Figure 6.16: Accommodation of L tone and H% boundary tone in '*má 'nèli?* 'Did s/he see him/her?' (< BFL el1307 >)

ing, unstressed syllable. Lexical L tones are preserved in their interaction with intonemes, as attested in declarative sentences (see §11.4 for further discussion).

A second type of polar interrogative sentence is encoded through a polar interrogative particle ('átfé or its reduced form *a*), which occurs in clause initial position. The following minimal pair illustrates the intonational difference between a declarative with a lexical L tone in utterance-final position ((10a) in Figure 6.17) and its polar interrogative counterpart with an interrogative particle ((10b) in Figure 6.18).

- (10) Declarative vs. polar interrogative with 'átfé
- a. *'má na'wàli*
'má na'wà-li
 already arrive-PST
 'S/he already arrived.'
 'Ya llegó.' < SFH-nawa-arrive-L-minimal-sets >
 - b. *'átfé 'má na'wàli*
'átfé 'má na'wà-li
 Q already arrive-PST
 'Did s/he already arrive?'
 '¿Ya llegó?' < SFH-nawa-arrive-L-minimal-sets >

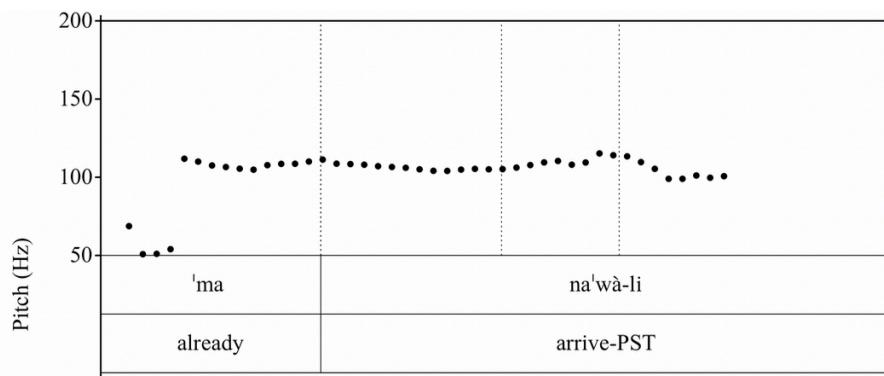


Figure 6.17: Declarative with utterance-final lexical L tone in '*má na'wàli* 'S/he already arrived.'

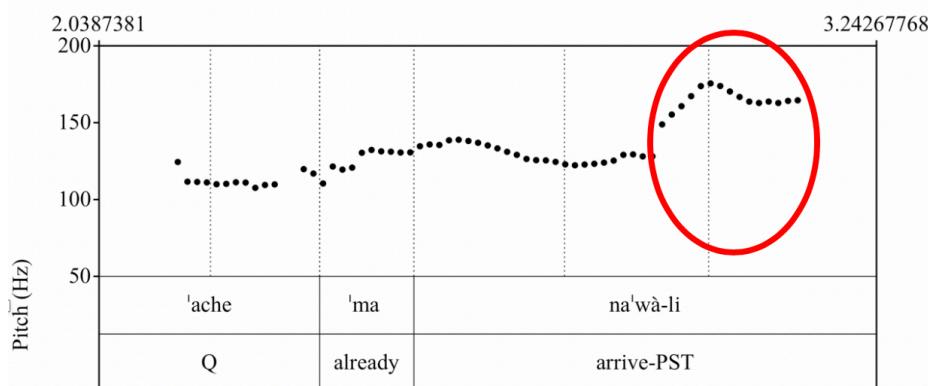


Figure 6.18: Polar interrogative with *átʃé* and utterance-final lexical L tone in *átʃé má na'wàli* 'Did s/he already arrive?'

As shown in these examples, the intonational encoding of polar questions with interrogative particles involves (i) presence of an obligatory H% boundary tone (recall from §6.2.1 above that declaratives generally end with a H% tone, but that sometimes declaratives end with a L% tone instead), and (ii) raised register across the utterance. As attested in other interrogative and declarative sentences, lexical L tones are preserved: as seen in Figure 6.18, the sharp rise and peak of the H% tone is aligned with the final, post-tonic syllable. Thus, while H% tones are optional in declaratives, these appear to be required in interrogatives. Furthermore, interrogatives exhibit raised register, as shown next, content questions are also characterized intonationally by raised register across the utterance.

6.2.5.2 Content question intonation

Content questions in Choguita Rarámuri have a question marker (which may be complex) that appears in clause initial position, as exemplified in (11).

(11) Content questions

- a. *'p̄iri iʔ'kili ko'tf̄i?*
'p̄iri iʔ'kî-li ko'tf̄i?
 what bite-PST dog
 'What did the dog bite?'
 '¿Qué mordió el perro?' < BFL 09 el725/el >
- b. *'hēpi 'kwāmi ?âbo ma'jēi wino'mî?*
'hēpi 'kwâ=mi ?â-bo ma'jê-i wino'mî?
 who who=2SG.NOM give-FUT.PL think-IMPF money
 'Who did you think they were going to give the money to?'
 '¿A quién creías que le iban a dar el dinero?' < BFL 09 1:12/el >

Content (or information) questions are not only morphosyntactically distinct from their declarative counterparts, but are also distinctive in terms of their intonational pattern: as shown in the contrast between a declarative sentence (shown in (12a), Figure 6.19) and a content question (shown in (12b), Figure 6.20).

(12) Declarative vs. content question

- a. *'má na'wâli*
'má na'wâ-li
 already arrive-PST
 'S/he already arrived.'
 'Ya llegó.' < SFH-nawa-arrive-L-minimal-sets >
- b. *'hēpi 'kwâ na'wâli*
'hēpi 'kwâ na'wâ-li
 who who arrive-PST
 'Who arrived?'
 '¿Quién llegó?' < SFH-nawa-arrive-L-minimal-sets >

The f0 contour of the content question in Figure 6.20 shows register raising across the utterance, as well as a H-toned target in utterance-final position, which can be attributed to a boundary H% tone in the last unstressed syllable of the utterance.

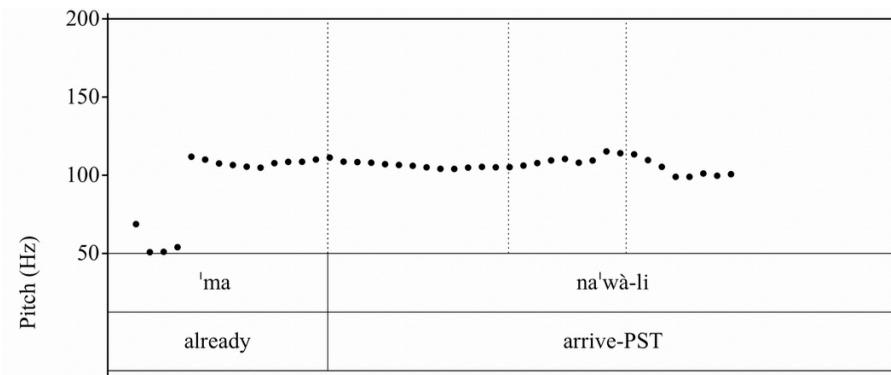


Figure 6.19: Declarative with utterance-final lexical L tone

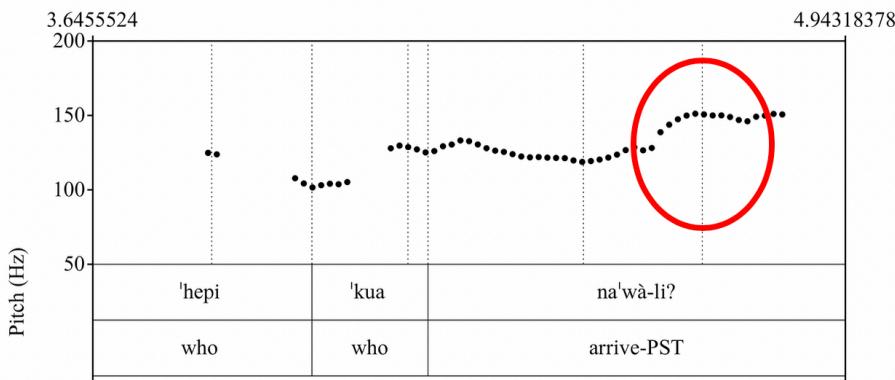


Figure 6.20: Content question with utterance-final lexical L tone

A H% boundary tone is also attested in content questions where a lexical H tone is associated with the final stressed syllable of the utterance. This is shown in (13), with a contrast between a declarative in (13a) (illustrated in Figure 6.21) and a content question in (13b) (illustrated in Figure 6.22).

- (13) Declarative vs. content question: utterance-final, lexical H tone

- a. *'má mu'rúli*
'má mu'rú-li
 already carry.in.arms-PST
 'S/he already carried it in their arms'
 'Ya lo cargó en brazos' < BFL-muru-carry-H-minimal-sets >

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- b. *'hêpi 'kwâ mu'rúli*
'hêpi 'kwâ mu'rú-li
 who who carry.in.arms-PST
 'Who carried it in their arms?'
 '¿Quién lo cargó en brazos?' < BFL-muru-carry-H-minimal-sets >

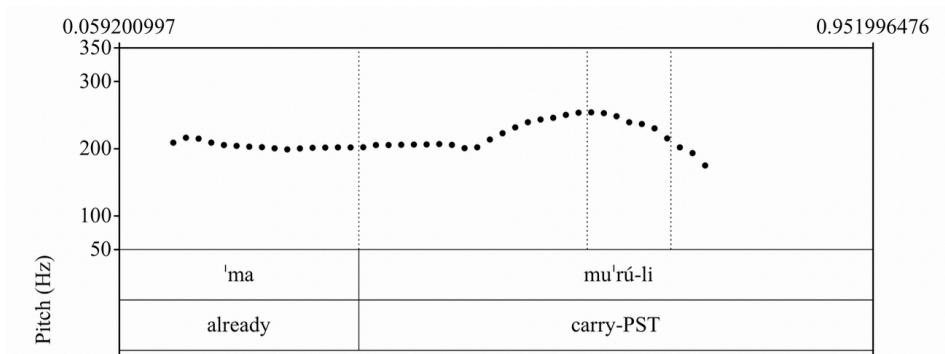


Figure 6.21: Declarative with utterance-final lexical H tone

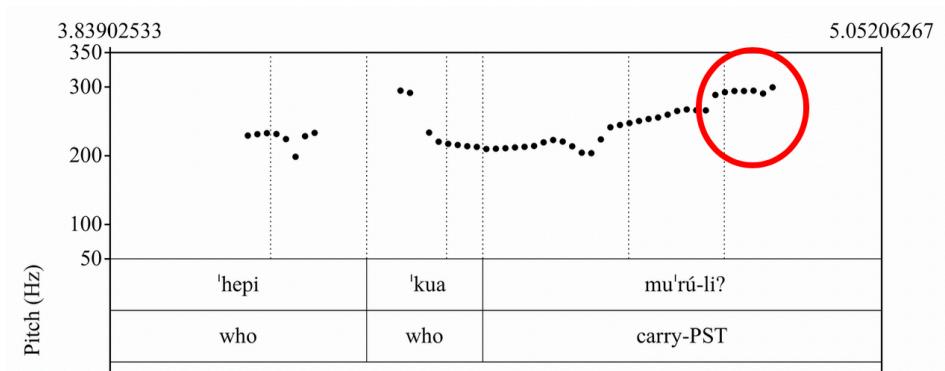


Figure 6.22: Content question with utterance-final lexical H tone

In the declarative sentence in Figure 6.21 there is no evidence of a H% boundary tone, which, as discussed in §6.2.1, is optional in declaratives. In the content question represented in Figure 6.22, on the other hand, there is a clear high pitch target in the final, unstressed syllable of the utterance. This high pitch target is higher than the one associated with the lexical H tone of the stressed syllable (a difference of almost 30Hz in this particular example).

Finally, in content interrogative sentences containing a lexical HL tone in utterance final position, there is no evidence of a H% boundary tone nor any register manipulation when the content question contains a lexical HL tone. This is shown in the contrast between the declarative sentence in (14a) (Figure 6.23) and its content question counterpart in (14b) (Figure 6.24).

(14) Declarative vs. content question: utterance-final, lexical HL tone

- a. *'má i'sili*
'má i'si-^âli
 already pee-PST
 'S/he already peed.'
 'Ya orinó.' < BFL-isi-pee-HL-minimal-set >
- b. *'hêpi 'kwâ i'sili*
'hêpi 'kwâ i'si-^âli
 who who pee-PST
 'Who peed?'
 '¿Quién orinó?' < BFL-isi-pee-HL-minimal-set >

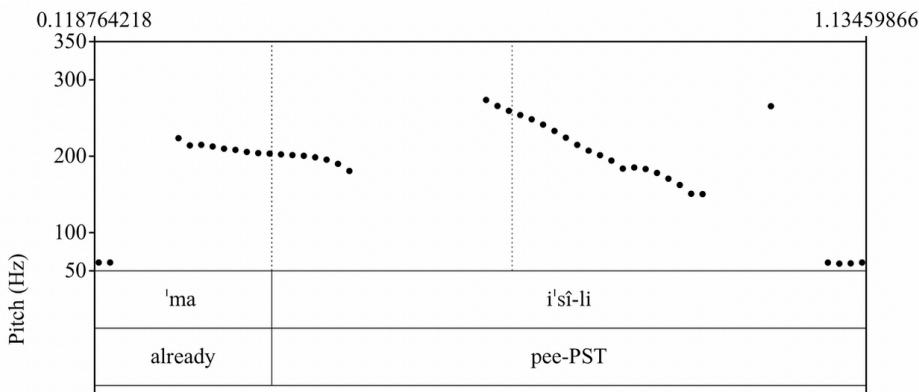


Figure 6.23: Declarative with utterance-final lexical HL tone

In these examples (produced by the same female speaker, BFL), the highest pitch peak associated with the lexical HL tone is comparable in both sentences (270Hz in the declarative in Figure 6.23 and 260Hz in the content question in Figure 6.24), and their pitch countours largely equivalent. Thus, the comparison between the intonational contours of these two sentences suggests that there is no distinctive intonational encoding of a content question where HL tones override

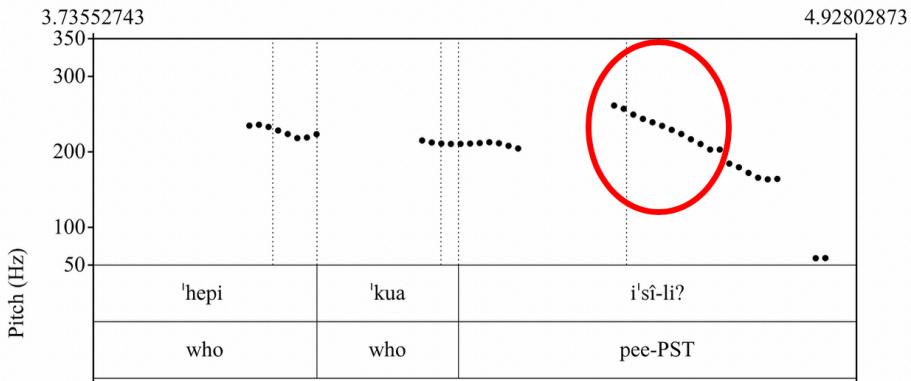


Figure 6.24: Content question with utterance-final lexical HL tone

the H% tone associated with interrogative constructions elsewhere. This stands in contrast to polar questions, where, as shown in Figure 6.15 above, there is significantly raised f0 in the final stressed syllable of the interrogative utterance.

6.2.5.3 Summary

In Choguita Rarámuri, interrogative sentences are characterized by the following intonational characteristics:

(15) Intonational properties of interrogative constructions

- A boundary H% tone targets the last stressed syllable of the utterance.
- There is raised register across the utterance.

As shown in this section, interrogative constructions that are morphosyntactically equivalent to declaratives are encoded exclusively through intonation, but prosody also plays a role in those interrogative constructions where there is a morphosyntactic device encoding the interrogative meaning. Cross-linguistically, the existence of morphosyntactic encoding of different utterance types may preclude the use of distinctive intonational structures for the same purposes in some languages (e.g., Navajo (Athabaskan; McDonough 2002)).

Miller (1996) reports that closely-related Mountain Guarajío (Taracahitan; Uto-Aztecán) also has polar questions that are morphosyntactically equivalent to

their declarative counterparts, with the interrogative meaning encoded through ascending intonation (“*[g]eneralmente tienen entonación ascendente*”) (1996: 112).¹⁶

While polar questions show some degree of variation in the realization of the boundary tone and the degree to which register is raised (discussed below and in Chapter 11), they consistently exhibit a high pitch target utterance-finally. As shown in this section, the magnitude of the peak is correlated with the presence/absence of an overt morphological device to encode a question, with the highest pitch excursions attested utterance-finally with morphosyntactically unmarked polar questions.

¹⁶To the best of my knowledge, no study has addressed the intonation of Mountain Guarajío through assessment of instrumental data.

7 Other word-level supra-segmental processes

In addition to stress and tone, Choguita Rarámuri features other word-level phonological phenomena that involve supra-segmental processes and/or prosodic domains (for further discussion of word-prosodic phenomena in the language, see Chapter 11). These phenomena are addressed in this chapter and include: (i) a disyllabic window for glottal stops (§7.1); (ii) minimality effects in verbs (§7.2); and (iii) loanword prosodic adaptation patterns (§7.3.2).

7.1 Glottal stop: an initial disyllabic window

As discussed in Chapter 4, Choguita Rarámuri syllables are underlyingly CV in shape, with no codas, except for glottal stop. This glottal stop displays strict restrictions on its distribution: glottal stop can only occur between the first and second syllable, either intervocally (1) or pre-consonantly (2).

- (1) Intervocalic glottal stop
 - a. *ko'Zá*
'eat'
'comer' {GFM tx905:0:54.0}
 - b. *ra'Zitʃa*
'speak'
'hablar' {JLG co1235:6:09.5}
 - c. *baZu'râ*
'brand livestock'
'marcar con fierro los animales' < SFH VDB/el >
 - d. *boZa'lâ*
boZa-'lâ
feather-POSS
'feathers, fur'
'plumas, pelaje' < LEL 5:127-142/el >

- e. *moʔè*
 ‘weave’
 ‘tejer’ < SFH 05 1:143/el >
- (2) Pre-consonantal glottal stop
- a. *raʔná*
 ‘explode’
 ‘tronar’ < SFH 04 1:81/el >
 - b. *aʔtá*
 ‘arch’
 ‘arco’ < SFH NDB/el >
 - c. *baʔt̪í wí*
 ‘sound of water dripping’
 ‘sonido de goteo’ < BFL 07 2:31/el >
 - d. *biʔri*
 ‘twist’
 ‘torcerse’ < SFH 04 1:114/el >
 - e. *baʔwí*
 ‘water’
 ‘agua’ {JLG co1234:6:04.4}
 - f. *raʔt̪áʃí*
 ‘hot/dry season’
 ‘tiempo de calor’ {GFM tx904:1:42.9}

The examples in (3) show that glottal stop is associated with the word-initial syllable, as opposed to being associated to the immediately pretonic position: each of the following examples involves forms with a CV¹V²C³ syllable structure with stress in the third syllable.

- (3) Glottal stop is not immediately pre-tonic
- a. *boʔo'bû*
boʔo-
 unpluck-TR.IMP.SG
 ‘Unpluck it!’
 ‘¡Desplúmalo!’ < SFH 08 1:51/el >
 - b. *raʔa'mâsima*
raʔa'mâ-
 give.advice-MOT-FUT.SG

- ‘S/he will go along giving advice.’
 ‘Va a ir aconsejándolos.’ {JMF tx816:0:39.9}
- c. *raʔi'tʃāsa*
raʔi'tʃā-sa
 speak-COND
 ‘if she speaks’
 ‘si habla’ {LEL tx221:5:04.8}

Finally, when verb roots bearing a glottal stop, incorporate a body-part nominal root, the glottal stop underlying to the verbal root is deleted in the surface form, as exemplified in (4) (in these forms, the compound form has stress in the first syllable of the verb, the head of the compound; for more details about the stress and tone properties of compounds, see §11.3.6).

(4) Glottal stop deletion in noun incorporation

- a. [kuta'bīri]
/ku'tā+biʔrī/
 neck+twist
 ‘to neck-twist’
 ‘torcer el cuello’ < BFL 07 1:163/el >
- b. [tʃoma'bīwa]
/tʃō'má+biʔ'wá/
 mucus+clean
 ‘to clean one’s nose’
 ‘limpiarse la nariz’ < SFH 07 VDB/el >
- c. [wita'bīwa]
/witá+biʔ'wá/
 excrement+clean
 ‘to clean excrement’
 ‘limpiar excremento’ < SFH 07 1:187/el >

As shown in these examples, the underlying glottal stop of the verbs *biʔrī* ‘twist’ (4a) and *biʔwá* ‘clean’ (4b–c) is lost in noun incorporation. This process suggests that glottal stop must not only emerge within an initial disyllabic window within the prosodic word (after the first vowel of this domain), but it must also emerge in the lexical root to which it is underlyingly associated.

Similar distributional restrictions of glottal stop in closely related Mountain Guarajío are analyzed in Caballero (2006) and Haugen (2014) as resulting from

surface glottal stops being underlyingly a floating constricted glottis ([+c.g.]) feature. Alternatively, these distributional facts can be analyzed as resulting from distributional restrictions of a glottal stop segment. Outside of the Uto-Aztecan language family, similar restrictions on laryngeal features have been documented in varieties of Basque, where the glottal fricative ([h]) and aspirated stops are restricted to occur within an initial disyllabic window (Hualde 2018).

Finally, the phonemic glottal stop should be distinguished from glottalization associated with HL tones in utterance final position, a tone-specific effect where a stressed vowel bearing a HL tone in the IP boundary may be rearticulated (/i/ → [í?í]), as described above in §6.2.4.

7.2 Minimality effects

There is evidence in Choguita Rarámuri for a minimal word size for verbs. Verbal inflectional categories like recent past, present and the imperative singular may be realized by the bare verbal stem. An impressionistic assessment of unsuffixed, monosyllabic verbs inflected for these categories reveals they involve significantly longer vocalic nuclei than their suffixed counterparts. In (5), I present examples of these monosyllabic verb roots when inflected for imperative singular (realized as the lengthened, bare stem), which contrast with suffixed forms that do not involve lengthening (shown in the second column).

(5) Vowel lengthening of monosyllabic roots

- a. ['páa]
/pá/
throw.IMP.SG
'Throw!'
'¡Tíralo!' {JLG co1234:3:19.8}
- b. ['páma]
/pá-ma/
throw-FUT.SG
'S/he will throw it.'
'Lo va a tirar.' {JLG co1234:16:35.6}
- c. ['màa]
/mà/
run.SG.IMP.SG
'Run!'
'¡Corre!'

- d. ['màma]
/mà-ma/
run.SG-FUT.SG
'S/he will run.'
'Va a correr' < BFL 06 el14/el >
- e. ['nóo]
/nó/
look.IMP.SG
'Look!'
'¡Mira!'
- f. ['nóma]
/nó-ma/
look-FUT.SG
'S/he will look.'
'Va a mirar.' < BFL 06 el38/el >
- g. ['àa]
/a/
find.IMP.SG
'Find it!'
'¡Encuéntralo!' < BFL 05 1:112/el >
- h. ['àma]
/à-m/a
find-FUT.SG
'S/he will find it.'
'Lo va a encontrar.' < BFL 05 1:112/el >

Precise measurements of vowel length of a small sample of monosyllabic roots in unsuffixed and suffixed contexts confirms there is a difference between the vowel durations of unsuffixed, monosyllabic (imperative or present inflected) words and their suffixed (disyllabic) counterparts. As exemplified in (6), the vowel duration of unsuffixed monosyllabic verbs ranges between 140–200ms, while the vowel duration of the suffixed counterpart ranges between 60–120ms.

(6) Vowel duration of monosyllabic verbal roots

<i>Form</i>	<i>V duration</i>	<i>Gloss</i>	<i>Translation</i>
a. 'mêe	170ms	win.IMP.SG	'Win!'
b. 'mê-ma	100ms	win-FUT.SG	'S/he will win.'
c. páa	140ms	throw.IMP.SG	'Throw it!'
d. 'pá-ma	60ms	throw-FUT.SG	'S/he will throw it.'
e. 'màa	200ms	run.IMP.SG	'Run!'
f. 'mà-sa	110ms	run-IMP.SG	'Run!'
g. 'aa	200ms	find.IMP.SG	'Find it!'
h. 'à-mi	120ms	find-MOT.IMP	'S/he will go find it.'
i. 'aa	170ms	give.IMP.SG	'Give it!'
j. 'à-ki	110ms	give-PST.EGO	'I gave it.'

Minimality constraints are asymmetrical in Choguita Rarámuri, as not all morphological classes of words show a minimality condition. As commonly found cross-linguistically, function words are canonically monosyllabic and do not undergo lengthening or undergo any prosodic augmentation process. Furthermore, other major word classes in Choguita Rarámuri are also exempt from minimality requirements. This is exemplified with monosyllabic nouns, which do not exhibit lengthening in unsuffixed contexts like verbal monosyllables do. Measurements of vocalic durations of monosyllabic nouns in unsuffixed and suffixed contexts shows that unsuffixed nouns have comparable durations to the vowels of monosyllabic verb roots when suffixed (7).

(7) Vowel duration of monosyllabic nominal roots

<i>Form</i>	<i>V duration</i>	<i>Gloss</i>	<i>Translation</i>
a. 'kú	90ms	wood	'wood'
b. 'kú-riri	60ms	wood-LOC	'in the wood'
c. lá	90ms	blood	'blood'
d. 'lá-riri	70ms	blood-LOC	'in the blood'
e. 'mè	100ms	agave	'agave'
f. 'mè-riri	60ms	mezcal-LOC	'in the agave'
g. 'wá	110ms	arrows	'arrows'
h. 'wá-ti	100ms	arrows-INST	'with the arrows'

Thus, there is a minimal word constraint which targets verbs. This constraint is defined in (8):

(8) Choguita Rarámuri minimal word constraint for verbs

Minimal word (X_0) = $[[\mu\mu]]_\Sigma$

According to this constraint, all verbs in Choguita Rarámuri are at least two moras, where consonants are non-moraic. While vowel length is not contrastive in Choguita Rarámuri, long vowels are derived to satisfy a minimal word constraint, as proposed in this section. Long vowel sequences can also be found after semi-vowel deletion (§4.4.1) and *h* deletion (§4.3), and in morphologically restricted contexts (addressed in Chapter 9, such as compensatory lengthening (§9.4.3.2), and lengthening triggered by a specific suffix (§9.4.3.3)). The role of vowel length and the minimality restriction of Choguita Rarámuri inflected verb stems is discussed further in Chapter 11.

7.3 Loanword prosody

This section presents an overview of prosodic adaptation of Spanish loanwords in Choguita Rarámuri (see also Caballero & Carroll 2013). As discussed in this section, Choguita Rarámuri retains the original prominence from Spanish, which features a stress-accent system, but deploys several repair strategies to make loanwords conform to prosodic restrictions on morphological structure. Specifically, repair strategies are sensitive to strong prosodic restrictions on morphological structure in Choguita Rarámuri, predominance of certain word/morpheme types and acoustic properties of Spanish prominence.

Speakers of Rarámuri varieties have been in contact with Spanish speakers since the seventeenth century (according to Alegre (1956)[1767], the first contact with Spanish speakers in the Sierra Tarahumara was in 1607).¹ As discussed in §1.3.1, while the Rarámuri have historically avoided contact with the *mestizo* (non-indigenous Mexican) population through the retreat to isolated, more mountainous areas (Merrill & Burgess 2014, Pintado Cortina 2012b), Rarámuri speakers in Choguita have had intense contact with Spanish speakers for almost the entirety of the 20th century (e.g., the first road in Choguita was built circa 1920 (Casaus 2008). This intense language contact across the Sierra Tarahumara has brought about a high level of bilingualism and language attrition (see also discussion in §1.3).

Prosodic loanword adaptation processes in Choguita Rarámuri have a bearing on the question of what may be possible patterns of loanword prosody adaptation in contact situations with languages with divergent word prosodic systems

¹While Rarámuri speakers have been in contact with speakers of other Uto-Aztecán languages (including speakers of Náhuatl (Aztecán)) and other North American Indian languages, before and after colonial times, the focus here is in Rarámuri-Spanish language contact phenomena.

(stress, tone, “pitch accent”) (Kubozono 2006; Kuang 2013). In contrast to Choguita Rarámuri, which features a ‘hybrid’ word prosodic system (with both stress and tone), Spanish has lexically contrastive stress, but no lexical tone. The main features of the Spanish stress systems are the following:

- (9) Spanish stress-accent system
 - a. Primary stress falls within a final three-syllable window (Hualde 2012)
 - b. Stress assignment involves trochaic feet (Lipski 1997: 560)
 - c. There is iterative stress assignment aligned to the right edge of the prosodic word, with a predominance of penultimate stress in the language
 - d. There is no phonological vowel length contrast (Chávez-Péón 2007; Hualde 2012)

The Spanish stress-accent system finds a direct correlate in the stress-accent system of Choguita Rarámuri, while the tonal properties of loanwords can be interpreted as arising from either a default grammatical tone process (as described in §6.1.4) or as a reinterpretation of Spanish post-lexical tonal phenomena.

The focus here is on loanwords that exhibit some degree of phonological adaptation, either segmentally or prosodically. No assumptions are made regarding the degree to which hypothesized loanwords which exhibit no adaptation constitute instead code-switching of bilingual speakers. Given the lack of sociolinguistic data, there are also no assumptions made here regarding the degree of adaptation as a diagnosis for sociolinguistic situation/level of bilingualism (see discussion in Sicoli 1999) nor the relative chronology of incorporation of loanwords. These questions are left for further research.

The Spanish loanword data examined are mostly penultimate stressed Spanish nouns. Some of the loanwords were likely introduced via Nahuatl, e.g., *basa'lówa* ‘stroll’ (from Spanish ‘pasear’ and the Náhuatl *-oa* impersonal suffix) and *ko'máare* ‘comadre’ and *kom'páare* ‘compadre’ (Nordell 1984).

7.3.1 Exceptionless prosodic loanword adaptation patterns

There are several prosodic loanword adaptation patterns that are exceptionless in Choguita Rarámuri. These are listed in (10).

- (10) Exceptionless prosodic loanword adaptation patterns
- Stressed syllables in Spanish are borrowed as the prominent syllables in Choguita Rarámuri via stress and a HL tone.
 - Stressed vowels in Spanish retain their original quality when incorporated into Choguita Rarámuri.
 - Consonant final source words from Spanish correspond to vowel final loanwords in Choguita Rarámuri.
 - Pre-tonic syllable truncation of sourcewords preserves prominence in loanwords within the Choguita Rarámuri initial three syllable stress window.
 - Compounds and phrases are borrowed with prominence in the second element.

As shown in (4) in §6.1.4 above, stressed syllables of Spanish source words are retained as the stressed syllables of loanwords in Choguita Rarámuri. Without exception, the stressed syllables of loanwords bear a HL tone. This is exemplified in (11) (stressed syllables in Spanish source words are highlighted in boldface).²

- (11) Stress and tone properties of Spanish loanwords

	<i>Loanword</i>	<i>Translation</i>	<i>Source word</i>	<i>Source</i>
a.	li'méta- ^{tfi}	'bottle'	limeta	
b.	ma'sána	'apple'	manzana	
c.	'sâbaru	'Saturday'	sábado	{MFH el1318:15:22.4}
d.	bo'téja- ^{tfi}	'bottle'	botella	{BFL tx191:0:29.9}
e.	es'kwêla	'school'	escuela	{SFH tx12:8:06.7}
f.	't̪iba	'goat'	chiva	{ME in484:5:02.6}
g.	sibi'ríko	'Federico'	Federico	{BFL el417:0:10.9}
h.	basa'lôa	'to stroll'	pasear	{LEL tx84:0:53.8}
i.	le'hîdot ^{tfi}	'ejido'	ejido	{JMF tx817:1:03.0}
j.	rupu'râni	'plane'	aeroplano	{SFH tx12:2:14.7}

As shown in these examples, while unstressed vowels of source words may undergo adaptation in Choguita Rarámuri (e.g. (11c)), stressed vowels in loanwords retain the original Spanish source word quality when incorporated into Choguita Rarámuri.

²*Limeta* in (11a) is an archaic word no longer in use in contemporary Northern Mexican Spanish. As for the loanword *le'hîdot^{tfi}* in (11i): as discussed in §1.2 above, *ejido* is a rural land plot for collective use by community members (ejidatarios) administered by the federal government.

Another exceptionless prosodic pattern attested in loanwords concerns syllable structure: consonant final source words correspond to vowel-final loanwords in Choguita Rarámuri, given the requirement of all Prosodic Words in Choguita Rarámuri to be vowel-final (see §11.1 for more details about this). This is shown in (12).

(12) Adaptation of consonant-final source words

	<i>Loanword</i>	<i>Translation</i>	<i>Source word</i>
a.	ra'niéli	'Daniel'	Daniel
b.	meho'râra	'acetaminophen'	mejoral
c.	a'sûkara	'sugar'	azúcar
d.	'ôso ~'ôsu	'sickle'	hoz

As shown in these examples, vowel epenthesis word finally repairs loanwords to satisfy the optimal prosodic structure of Choguita Rarámuri. The quality of the epenthesized vowel is either identical to the quality of the stressed vowel if the vowel is low (e.g., 12b–c), or may undergo optional reduction if it is a mid, back rounded vowel (e.g., 12d). If the final vowel is the front, mid vowel [e], the epenthesized vowel is [i] (12a).

Spanish loanwords with final or penultimate stress where stress would fall outside the Choguita Rarámuri initial three syllable stress window undergo pre-tonic syllable truncation in order to confirm to this strict prosodic requirement of the language. Relevant examples are shown in (13), where truncated syllables from the Spanish source words are highlighted in boldface.

(13) Pre-tonic syllable truncation in Spanish loanwords

- a. *naugu'rârpo* Sp. *inaugurar*
naugu'râr-po
inaugurate-FUT.PL
‘We will inaugurate.’
‘Vamos a inaugurar.’
- b. *sera'dêrofî* Sp. *aserradero*
sera'dêro-fî
sawmill-LOC
‘sawmill’
- c. *kiri'sâante* Sp. *fertilizante*
‘fertilizer’

Spanish compounds and phrases, including very commonly compound proper names, are borrowed into Choguita Rarámuri with the prosodic structure of compounds in Choguita Rarámuri (see §11.3.6), which without exception involves prominence in the second element. As seen in (14), compounds and phrases are incorporated with the original prominence of the second member of the construction.

(14) Loanword prosodic adaptation of compounds and phrases

	<i>Loanword</i>	<i>Source word</i>	<i>Source</i>
a.	mari'sûsi	María Jesusa	
b.	mari'nâsia	María Ignacia	{FLP in61:4:51.2}
c.	susma'ría	Jesús María	{ME in484:6:58.2}
d.	ſima'ría ~sema'ría	José María	
e.	ripi'râar-ſí	Día (del) Pilar-LOC	{SFH tx12:6:10.8}

These examples show that pre-tonic syllable truncation of the source word (e.g., *sus* from *Jesús* in (14c)) keeps stress in the original Spanish stress pattern without violating the strict requirement that stress is placed within the initial three-syllable stress window margin.

7.3.2 Optional prosodic loanword adaptation patterns

In addition to exceptionless loanword prosodic adaptation patterns, there are also patterns where adaptation does not involve repair of illicit prosodic sequences and patterns where an adaptation process applies only optionally. These processes, however, bring the prosodic form of loanwords in conformity with the canonical prosodic structures of Choguita Rarámuri (for discussion of canonical prosodic structures in the language, see §11.3.3 below).

One first case involves loanwords where pre-tonic truncation applies to the source word, despite that there is no violation of a prosodic constraint in Choguita Rarámuri. Relevant examples are given in (15), with the truncated syllable highlighted in boldface in the Spanish sourceword.

(15) Pre-tonic truncation with no violation of Choguita Rarámuri prosody

	<i>Loanword</i>	<i>Translation</i>	<i>Source word</i>
a.	ne'râali	'generals'	generales
b.	ma'nâke	'calendar'	almanaque
c.	ter'nâdo-ſí	'boarding house'	internado
d.	pros'tâante	'protestant'	protestante
e.	ni'sêta	'Aniseta'	Aniseta

Without syllable truncation, these forms would conform to the three-syllable stress window. However, syllable truncation in these cases renders these loanwords with the most frequent prosodic forms attested in the native vocabulary, namely stems with second syllable stress (see §11.3.3), which are represented both by forms with lexically specified stress as well as forms that receive stress by default in the second syllable of the root (see §5.3).

There is also optional consonant cluster repair, with pre-tonic consonant clusters being variably repaired by epenthesis (16a–b) or consonant deletion (16c–e). Post-tonic consonant clusters, on the other hand, are generally not repaired (16f–j) (Spanish consonant clusters that are adapted or fail to undergo adaptation are highlighted in boldface).

(16) Optional consonant cluster repair in loanwords

	<i>Loanword</i>	<i>Translation</i>	<i>Source word</i>
a.	ka'râsia	'thank you'	gracias
b.	piri'hîna	'Virginia'	Virginia
c.	apa'nêra	'wife'	compañera
d.	katî'râria- <i>ʃ̪i</i>	'day of the Candelaria'	Candelaria
e.	ma'sâna	'apple'	manzana
f.	βi'rînko	'American'	gringo
g.	ra'sîska ~ran'sîska	'Francisca'	Fransisca
h.	kapo'sâanto- <i>ʃ̪i</i>	'graveyard'	camposanto
i.	piri'nânto	'Fernando'	Fernando
j.	lo'βêrto	'Roberto'	Roberto

While the underlying syllable structure of Choguita Rarámuri is CV (with optional glottal stop codas in the first syllable of the Prosodic word), stress-based vowel deletion yields consonant clusters in the surface form (§5.2). However, the distribution of CC clusters in surface form is not homogeneous: being a suffixing language with predominance of disyllabic roots, a highly frequent pattern of morphologically complex words in Choguita Rarámuri is the existence of post-tonic consonant clusters at stem-suffix boundaries. Thus, the lower frequency of repaired consonant clusters in post-tonic position in Spanish loanwords is related to this asymmetric distribution of consonant clusters in native Choguita Rarámuri words.

Finally, some of the loanword examples above exhibit long vowel sequences (e.g., (13c), (14e) and (16d)). As discussed in Chapter 3, Chapter 11 and §4 above, there is no contrastive vowel length in Choguita Rarámuri, but there are phonological phenomena that are quantity-sensitive and surface long vowel sequences

that are derived through morpheme-specific effects (including suffix-triggered vowel lengthening, §9.4.3.3 and compensatory lengthening, §9.4.3.2). Further examples of loanwords with long vowels are provided in (17).^{3,4}

(17) Long vowel sequences in loanwords

	<i>Loanword</i>	<i>Translation</i>	<i>Source word</i>	<i>Source</i>
a.	ne'râali	'generals'	generales	
b.	awa'sîiri	'sheriffs'	alguaciles	
c.	ko'râara	'corrals'	corral	
d.	a'rîin- <i>ʃi</i>	'flour'	harina	
e.	mo'rîin- <i>ʃi</i>	'mill'	molino	{BFL tx60:1:21.2}
f.	mo'râal- <i>ʃi</i>	'woven bag'	morral	{BFL tx60:1:48.2}
g.	mo'nâarko	'monarch'	monarca	
h.	si'râantro	'cilantro'	cilantro	

Long vowels in Choguita Rarámuri loanwords are variably attested. This particular pattern may reflect durational properties of Spanish stressed vowels, as discussed in Chávez-Péón (2007). Specifically, long vowels in Choguita Rarámuri loanwords match “semi-long” Spanish stressed vowels, attested in words with penultimate stress before a voiced consonant and in words with final stress before [l]. The phonetic durational properties of Spanish stressed vowels and summarized in Table 7.1.

Most loanwords in Choguita Rarámuri with long vowel sequences also have a post-tonic consonant cluster, derived through post-tonic vowel deletion. As in the native vocabulary, deletion deletion of the post-tonic vowel triggers lengthening of a preceding syllable’s stressed vowel (for details about this process, see §9.4.3.2). Examples of this pattern in loanwords are shown in (17d–h). Examples of this pattern in native words is shown in (18) below.

(18) Long vowel sequences in native words and post-tonic consonant clusters

- a. [ra'páampo]
 /ra'pá-na-po/
 tear.APPL-TR-FUT.PL
 'We will tear it.'
 'Vamos a romperlo.'

³Some of these loanwords also exhibit additional segmental adaptation, including final V epenthesis in (17c).

⁴A ritual dancer.

Table 7.1: Phonetic duration properties of Spanish stressed syllables
(adapted from Chávez-Péón 2007)

Contexts		Examples
Long	Final stress (except in words with [n] or [l] coda)	<i>papá</i> /pa.'pa/ <i>matar</i> /ma.'tar/
Semi-ling	Final stress with final [n] or [l]; penultimate stress in open syllables	<i>corazón</i> /ko.ra.'son/ <i>pasa</i> /'pa.sa/
	Penultimate stress in open syllable with following voiced C	<i>bala</i> /'ba.la/
Short	Penultimate stress in closed syllable and antepenultimate stress	<i>alto</i> /'al.to/ <i>católico</i> /ka.'to.li.ko/
	Penultimate stress in open syllable with following voiceless C	<i>bote</i> /'bo.te/

- b. [ro'míinpo]
/romí-na-po/
fold-TR.FUT.PL
'We will fold it.'
'Vamos a doblarlo.'
- c. [ramu'wéeltsane]
/ramuwéli-tʃane/
play.with.in.laws-EV
'It sounds like they are playing with their in laws.'
'Se oye que están vacilando con sus cuñados.'

In sum, the following properties characterize loanword prosodic adaptation in Choguita Rarámuri:

- (19) a. The Spanish source word stressed syllable is incorporated as left aligned prominence with stress-accent and a single tonal melody, HL.
- b. There are exceptionless adaptation patterns that repair loanwords to comply with high ranked prosodic requirements (e.g., stress must be within a three-syllable stress window, prosodic words must be vowel final).

7.3 *Loanword prosody*

- c. There are variable adaptation processes related to frequent/canonical prosodic structures of Choguita Rarámuri (e.g., consonant cluster repairs depending on stress location).
- d. There are variable adaptation processes that reflect the acoustic properties of Spanish source words (e.g., stressed semi-long Spanish vowels that are interpreted as phonemically long).

8 Nouns

Nouns in Choguita Rarámuri can be broadly defined morphosyntactically as the class of words that may be case-marked. Case marking in this language includes instrumental, locative and oblique case markers (nominative and accusative case is encoded exclusively on pronominal forms, as discussed in Chapter 10). Some classes of nouns do not take all case markers available: kinship and body part terms, two closed classes of inalienable nouns, may only occur in possessive constructions and are not found with locative or instrumental case, but are instead obligatorily head-marked with a suffix encoding a possessive relation and indexing properties of the possessor. Possessive suffixes are also deployed with alienably possessed nouns, though this encoding is not obligatory.

This chapter is concerned with the morphological properties of Choguita Rarámuri nouns, their internal morphological structure, and the derivational and inflectional morphological constructions with which nouns may combine. This chapter begins with an overview of the morphotactic generalizations that hold across morphologically complex nouns §8.1; the following sections describe several nominal morphological constructions, including plural/pluractional marking (§8.2), case marking (§8.3), possessive marking (§8.4), and deverbal noun marking (§8.5). This chapter also addresses how Spanish noun loanwords are incorporated in the language (§8.6). The chapter concludes with a description of tone patterns in morphologically complex nouns (§8.7). The syntactic properties of noun phrases are addressed in Chapter 12.

8.1 Morphotactic generalizations

Productive nominal inflectional morphology in Choguita Rarámuri is mostly restricted to case marking, though core grammatical roles such as subject and objects are not marked in nominal phrases. Pluractional/plural formation is a category that is analyzed as derivational for verbs (a matter of lexical choice) (see Chapter 9, §9.3.1.2), but may be analyzed as inflectional when used with nouns. Nominal stems may be morphologically derived (most frequently, through deverbal processes) or monomorphemic. The bulk of nominal morphology in the

language is devoted to derivational processes, including several morphological constructions to derive nouns from verbal roots; such derivational processes are analyzed here as taking place within a nominal stem level which can then undergo inflectional affixation. Nominal morphology is, however, significantly less complex than verbal morphology, both in terms of agglutination possibilities as well as the sheer number of morphological processes available.

The order of inflectional affixes in nouns is illustrated in (1):

(1) Order of inflectional affixes in nouns

-1	0	+1	+2	+3
PL	STEM	POSS - <i>wa</i>	POSS - <i>lâ</i>	LOC, INSTR

As described below (in §8.4), this morphological structure includes two suffix positions for possessive suffixes, which are ordered sequentially in certain semantic configurations.

Like verbs, the morphological structure of nouns conforms to the general affix ordering principle of derivation ordered within inflection (Bybee 1985), with derivational processes applying within the stem level and inflectional affixes occupying peripheral slots of the morphological structure. There are no documented permutations of affixes in morphologically complex nouns.

The examples in (2) show that the possessive *-lâ* suffix is ordered before the locative case suffix (2a–b) and that the possessive *-wa* suffix is ordered before the possessive *-lâ* suffix (2c). In (2a), the quality of the vowel in the possessive suffix is reduced post-tonically (see §5.1 in Chapter 5).

(2) Relative ordering of possessive and locative suffixes

- a. *ni'he mo'ʔôlitʃi 'tʃó ba*
*ne'he mo'ʔô-**lâ-tfi** 'tʃó ba*
 1SG.NOM head-POSS-LOC also CL
 'in my head (memory)'
 'en mi cabeza (memoria)' < SFH in61(750)/in >
- b. *ta'mí bi'lé sio'rí i'kili ro'nôlatʃi*
*ta'mí bi'lé sio'rí i'kî-li ro'nô-**lâ-tfi***
 1SG.ACC one fly bite-PST foot-POSS-LOC
 'A fly bit me in the foot.'
 'Me picó un mosco en el pie.' < FMF 09 3:61/el >

- c. *'nè siko'ríwala*
'nè siko'rí-wa-lâ
 1sg.SUBJ pot-POSS-POSS
 'my pot'
 'mi olla' < BFL 06 4:187 >

Example (3a) shows the relative order between the nominalizer suffix *-li* (within the nominal stem) and the locative *-t̪i* suffix; example (3b) shows the relative order between other derivational suffixes in the nominal stem and the instrumental *-ti* suffix:

(3) Nominalizer-locative and instrumental suffix order

- a. *'pé roʔa'ká ko'ýá 'pé ba't̪ökilit̪i ba*
'pé roʔa-'ká ko'ýá 'pé ba't̪öka-li-t̪i ba
 just put.in-GER eat just build.with.mud-NMLZ-LOC CL
 'We eat putting on the bachókilichi.'
 'Comemos poniéndolos en los bachókilichi.' {FLP in61:3:16.8}
- b. *ro'néamti*
ronô-é-ame-ti
 foot-have-PTCP-INST
 'with an instrument with legs'
 'con un instrumento que tiene piernas' {BFL tx1:0:38.1}

Nominal morphological constructions may be either stress-shifting or stress-neutral, i.e., triggering stress shifts or causing no stress alternations. As in the rest of the word classes, all lexical tonal contrasts are realized in the stressed syllable of the word. The morphologically-conditioned phonological properties of morphologically complex words are addressed at length in Chapter 5, Chapter 9 and Chapter 11. There are no distinct morpho-phonological properties of nouns in derived environments, so the characterizations below will thus only specify the phonological properties of both roots and suffixes. Morpho-phonological alternations and semantic properties of nominal morphological constructions are addressed in detail in this chapter. Other morphosyntactic and semantic properties of nominal forms are addressed in Chapter 12.

8.2 Plural/pluractional marking

Nouns that refer to animate referents in Choguita Rarámuri are marked plural through a morphological construction that also combines with verbs.¹ With verbs, this construction marks either a plural subject or that an action occurs or is being performed by the same agent several times, or by several agents several times (see §9.3.4). With nouns, the construction exclusively marks plural number. These meanings are related in that they refer to event plurality or ‘pluractionality’. Pluractionals have been defined as encompassing meanings that range from iterative and frequentative to distributive and extensive action (Newman 1990, Newman 2012, Wood 2007).

Choguita Rarámuri pluractional/plural forms are marked through a prefixed element also documented in closely related Rarámuri varieties and Guarajío (Lionnet 1968, Lionnet & Miller 1985, Miller 1996).² In Mountain Guarajío, the cognate process (labelled “plural subject, iterative or durative”) is more clearly analyzed as reduplication, since the prefixed element is (C)V- (e.g. *sa'é*, *sa-sa'e* ‘smell’, *i'si*, *i-i'si* ‘walk’ (Miller 1996: 62)).

Plurals/pluractionals in Choguita Rarámuri are marked in one of three ways: (i) through a prefixed vowel (4a-e) (where the vowel quality of the prefix may be harmonized to the root’s first syllable vowel, as in (4d) (see also Lionnet 2001b);³ (ii) through consonant mutation (4f); or (iii) through both consonant mutation and vowel prefixation (4g-j).⁴

¹This construction deploys the same formal mechanisms of exponence with both nouns and verbs. Plural/pluractional marking in both nouns and verbs is thus treated as at least diachronically related in this grammar. Whether pluractionality as a verbal category and plural number with nouns are indeed part of a single morphosyntactic construction or should be treated as separate morphosyntactic devices is a question left for further research.

²Lionnet (2001b) labels the cognate forms of these constructions as “intensive” in Norogachi Rarámuri.

³And where plural/pluractional marking involves further phonological changes (as in *i'wé* ‘girls’ in (4b)).

⁴There is an example that shows an alternation between morphologically related nouns where the relation is not one of singular/plural, but rather of plural/collective: the deverbal noun *hâw-ami*, ‘authorities’, has a pluractional counterpart with prefixation and consonant mutation, *i-hâpifì*, which refers the totality of the individual named authorities. This pair is unusual in that it displays a correspondence between the bilabial voiceless stop *p* and the labio-velar glide *w*, a correspondence not found in any of the other plural/pluractional alternations. In addition, the form *hâw-ami* is a nominalization through the participial suffix *-ame*, while the pluractional form has an ending that does not correspond to any productive suffix in the language. Thus, we might conclude that this pair has been lexicalized.

(4) Plural/pluractional marking with nouns⁵

	<i>Singular</i>	<i>Plural/pluractional</i>	<i>Gloss</i>
a.	sí'ríame {MFH el1318:14:35.7}	i-'sérikame {JMF tx816:0:36.7}	'governor(s)'
b.	te'wé {SFH el1027:0:32.9}	i-'wé {LEL tx372:1:09.2}	'girl(s)'
c.	bi'lé {BFL tx60:1:31.9}	i-'bili {FLP in61:2:37.1}	'one/some'
d.	ko'tfí {LEL tx84:2:52.3}	o-ko'tfí < SFH NDB/el >	'dog(s)'
e.	mu'kí {LEL tx5:1:18.3}	o-mu'kí {GFP tx1009:1:03.3}	'woman/ women'
f.	rema'rí {SFH tx475:6:49.9}	'témuri < BFL 05 1:155/el >	'young man/ men'
g.	rema'rí {SFH tx475:6:49.9}	te'mári {LEL tx109:1:05.4}	'young man/ men'
h.	riku'rí < SFH NDB/el >	'tékiri {FLP in243:15:46.0}	'drunk(ards)'
i.	u'péami < BFL 09 4:74/el >	hu'béamti {JMF tx816:0:43.4}	'married man/ men'
j.	t̪a'böt̪í {SFH tx128:0:52.2}	i-t̪ʃapöt̪í < BFL 05 1:155/el >	'mestizo(s)'
k.	ra'nâra {MDH co1140:15:08.9}	ata'nâra {SFH tx152:10:44.6}	'offspring'
l.	'tôro < BFL 05 3:44/el >	i'rôoro < BFL 05 3:44/el >	'bull(s)'
m.	ba'tʃawala {SFH tx43:4:05.6}	a-pa'tʃawala {FLP in242:2:18.2}	'first one(s)'

As shown in these examples, consonant mutation involves a voicing toggle, since it produces voicing or lenition of a voiceless stop (4i, l), and devoicing or hardening of a voiced plosive and rhotic (4f-h, j-k, m) in paradigmatically related nominal forms. Plural forms, in addition, may also involve a change in stress placement with respect to the base (see, e.g., (4a, c, f-h)), although there is no phonological predictability as to the location of stress in the derived form.

⁵The form *'tôro* in (4l) is a loanword from Spanish and differs from the rest of the pluractional-marked nouns in that the correspondence is between an alveolar voiceless stop in the base stem and an alveolar trill, not an alveolar flap, in the pluractional form. This form also has a long vowel. See §7.3.2 for discussion and examples of Spanish loanwords with long vowels.

This is also attested in cases where the same lexical item will have more than one pluractional form: this is the case with the pluractional of *rema'ri* 'young man', which is *témuri* for some speakers (4f), with first syllable stress, but *te'mári* for others (4g), with second syllable stress. More details on the prosodic and other general phonological properties of plural/pluractional forms in Choguita Rarámuri are provided in §9.3.4.

8.3 Case marking

Case is defined here as a property of noun phrases. Choguita Rarámuri nominals may bear instrumental (§8.3.1) or locative (§8.3.2) case. As mentioned above, core grammatical relations (subject and object) are not encoded morphologically with nouns, though the pronominal system evidences a nominative/accusative system, and accusative markers are attested in other Taracahitan languages, e.g., Yaqui (Lindenfeld 1973, Escalante 1990, Dedrick & Casad 1999).

8.3.1 Instrumental case

Instrumental case is marked with the stress-neutral suffix *-ti*,⁶ and is found exclusively marking nouns that bear the semantic role of instruments, i.e., there are no recorded examples where this particular case marking is extended to other semantic roles. An example of instrumental marking on an instrumental NP is provided in (5).

- (5) a. *ro'nôti ri'kêka*
ro'nô-ti *ri'kê-ka*
 foot-INSTR step-GER
 'You step on it with the foot.'
 'Con el pie se pisa.' {MDH co1136:04:00.2}
- b. *ro'nô*
 'foot'
 'pie' < BFL 06 5:127/el >

Further examples of instrumental case marking are given in (6).

⁶As discussed in §5.3, stress neutral suffixes are never stressed and do not trigger any stress changes to the stems they attach to.

(6) Instrumental case

- a. *si'kâti*
si'kâ-ti
 hand-INSTR
 'with the hand'
 'con la mano' < BFL 06 5:128/el >
- b. *tʃu'míti*
tʃu'mí-ti
 snout-INSTR
 'with the snout'
 'con el pico' < SFH 06 6:84/el >
- c. *ko'bísiti*
ko'bísí-ti
 pinole-INSTR
 'with the pinole'
 'con el pinole' < BFL 06 5:128/el >
- d. *ki'máti*
ki'má-ti
 ki'má-INSTR
 'with the blanket'
 'con la cobija' < BFL 06 5:128/el >
- e. *ku'siti*
ku'sí-ti
 stick-INSTR
 'with the stick'
 'con el palo' {BFL tx1:0:24.9}
- f. *tʃi'níti*
tʃi'ní-ti
 cloth-INSTR
 'with the cloth'
 'con la tela' < SFH 06 6:84/el >
- g. *'wàsti*
'wàsi-ti
 cows-INSTR
 'with the cows'
 'con las vacas' {ME in484:1:14.8}

- h. *re^htēti*
re^htē-ti
 stone-INSTR
 'with stone'
 'con piedra' {FLP in61:5:51.9}
- i. *ba'rīkati*
ba'rīka-ti
 bucket-INSTR
 'with a bucket'
 'con barrica' {BFL tx60:1:12.3}
- j. *wa'rīti*
wa'rī-ti
 basket-INSTR
 'with a basket'
 'con canasta' {BFL tx60:1:48.2}
- k. *tīna^hfīti*
tīna^hfī-ti
 bucket-INSTR
 'with a bucket'
 'con tina'⁷ < SFH 06 6:84-ff/el >
- l. *ripu'rāti*
ripu'rā-ti
 axe-INSTR
 'with an axe'
 'con hacha' < SFH 06 6:84/el >
- m. *busu^hfīti*
busu^hfī-ti
 eyes-INSTR
 'with the eyes'
 'con los ojos' {BFL tx_muerto:1:39.1}

As the examples in (6) show, this construction does not involve any allomorphy or trigger any phonological effects in the bases with which it combines. In-

⁷This example involves a loanword from Spanish. As described in §8.6 below, relatively recent loan nouns from Spanish are adapted with the *-tīfi* suffix, which is homophonous with the locative suffix.

strumental case marking is very productive,⁸ and there seem to be no semantic restrictions of the bases that can combine with this construction (i.e., instrumental case marking is not exclusive to a closed class of nouns).

With inalienably possessed nouns, the base for affixation of the instrumental is the non-possessed, bare root (e.g., (6)). The instrumental suffix may also be added to morphologically complex bases: in (7), for instance, an instrumental suffix is added to a nominal base with the participial *-ame* suffix (the participial suffix is analyzed here as being part of the nominal stem level).

- (7) *ro'nêamti*
ronô-ê-ame-ti
 foot-have-PTCP-INST
 ‘with an instrument with legs’
 ‘con un instrumento con piernas’ {BFL tx1:0:38.1}

Though instrumental markers commonly display syncretism with comitative markers cross-linguistically (Stassen 2000, Stolz 2001), Choguita Rarámuri comitatives are generally expressed through a different construction, a postpositional phrase, exemplified in (8):

- (8) *'nè ko 'hê ri'ká wi'lí 'kûrisi 'jûa*
'nè=ko 'hê ri'ká wi'lí 'kûrisi 'jûa
 1SG.NOM=EMPH DEM like.that stand.SG.PRS cross with
 ‘I was standing like that with the cross.’
 ‘Yo estaba parado aquí por este lado con la cruz’ < FLP 06 in61(470)/in >

The suffix *-ti* is thus a dedicated instrumental marker in the language.

8.3.2 Locative case

There are two productive locative case markers in Choguita Rarámuri: the stress-shifting suffix *-t̪i* and the stress-neutral suffix *-rare*.⁹ The locative suffix *-t̪i* means ‘on, at’ (and may be classified as adessive), while the suffix *-rare* means ‘at’, and ‘among, between’ (with an inessive reading). The locative *-t̪i* suffix is

⁸Many Uto-Aztecan languages have a set of instrumental prefixes that, attached to verbs, indicate the instrument with which an activity is carried out. While still synchronically active in the Tepiman and Numic branches of Uto-Aztecan (Dayley 1989), instrumental prefixes only have lexicalized remnants in Choguita Rarámuri (for a discussion of instrumental prefixes in Choguita Rarámuri, see §9.3.2).

⁹Post-tonic vowel reduction yields the surface form *-riri*, as described in §5.2.

exemplified in (9) and the locative *-rare* suffix in (10) (the latter suffix has the surface form *-riri* due to regular rules of post-tonic vowel reduction (see Chapter 3, §5.2)).

(9) Locative (adessive) *-t̪í*

- a. *wasa't̪í*
wasa-t̪í
 land-LOC
 'on the land'
 'en la tierra' {SFH tx43:7:44.3}
- b. *kawi't̪í*
kawi-t̪í
 hill-LOC
 'on the hill'
 'en el cerro' {SFH tx977:1:26.6}
- c. *ko'bísit̪í*
ko'bísi-t̪í
 corn.meal-LOC
 'on the corn meal'
 'en el pinole' < BFL 06 5:128/el >
- d. *sipu't̪ât̪í*
sipu't̪â-t̪í
 skirt-LOC
 'on the skirt'
 'en la falda' < BFL 06 5:128/el >
- e. *'púrat̪í*
'púra-t̪í
 knitted.belt-LOC
 'on the knitted belt'
 'en la faja' < BFL 06 5:128/el >
- f. *i'wákat̪í*
i'wáka-t̪í
 hole-LOC
 'in the hole'
 'en el hoyo' {LEL tx177:4:26.3}

- g. *ti'jôpitfi*
ti'jôpa-tfi
 church-LOC
 'at the church'
 'en la iglesia' {JLG el1275:0:11.8}
- h. *ba'tfôkilitfi*
ba'tfôki-li-tfi
 fix.with.mud-NMLZ-LOC
 'on the mud'
 'en el barro' {FLP in61:3:16.8}
- i. *sikorítfi*
seko'ri-tfi
 olla-LOC
 'in the pot'
 'en la olla' {LEL tx130:5:26.5}
- j. *sa?pa'tfi*
sa?pa-tfi
 meat-LOC
 'on the meat'
 'en la carne' < SFH in61(490)/in >
- k. *osi'rítfi*
osi'ri-tfi
 paper-LOC
 'on the paper'
 'en el papel' < FLP in61(739)/in >
- l. *be'tôlitfi*
be'tôli-tfi
 plate-LOC
 'on the plate'
 'en el cajete' {LEL tx130:5:41.2}
- m. *ba'rîkatfi*
ba'rîka-tfi
 bucket-LOC
 'on the bucket'
 'en la barrica' {JLG co1234:6:23.3}

- n. *kos'tâaltfî*¹⁰
kos'tâal-tfî
 sack-LOC
 'on the sack'
 'en el costal' {BFL tx60:1:02.6}
- o. *sa'râpitfî*
sa'râpi-tfî
 blanket-LOC
 'on the blanket'
 'en la cobija' {BFL tx60:1:06.5}
- p. *mo'rîintfî*¹¹
mo'rîin-tfî
 grinder-LOC
 'on the grinder'
 'en el molino' {BFL tx60:1:21.2}
- q. *rono'tfî*
rono-'tfî
 foot-LOC
 'on the foot'
 'en el pie' {MDH co1140:17:52.7}

(10) Locative (inessive) *-rare* ([-riri])

- a. *wino'mîriri*
wino'mî-riri
 money-LOC
 'in the money'
 'en el dinero' < BFL 06 5:127/el >
- b. *mu'nîriri*
mu'nî-riri
 beans-LOC
 'in the beans'
 'en los frijoles' < BFL 06 5:127/el >

¹⁰In this form, the long stressed vowel is due to compensatory lengthening triggered by post-tonic vowel deletion. More details about compensatory lengthening are provided in §9.4.3.2.

¹¹This form also undergoes compensatory lengthening of the stressed vowel triggered by post-tonic vowel deletion.

- c. *ki'má-riri*
ki'má-riri
 blanket-LOC
 'in the blanket'
 'en la cobija' < LEL 06 5:127-9/el >
- d. *wi'tjí-riri*
wi'tjí-riri
 skin-LOC
 'in the skin'
 'en la piel' < BFL 06 5:128/el >
- e. *ku'sí-riri*
ku'sí-riri
 sticks-LOC
 'in the sticks'
 'en los palos' {BFL tx1:0:31.2}
- f. *re^htériri*
re^htê-riri
 stone-LOC
 'in the stones'
 'en la piedra' {LEL tx5:2:06.9}
- g. *ka'wí-riri*
ka'wí-riri
 hill-LOC
 'in the hill'
 'en el cerro' {LEL tx109:1:17.4}
- h. *ro'hà-riri*
ro'hà-riri
 oak-LOC
 'in the oak tree'
 'en el encino' {SFH tx152:5:57.2}
- i. *o^hkóriri*
o^hkó-riri
 pino-LOC
 'in the pine tree'
 'en el pino' {FLP in61:4:07.4}

- j. *ka'líriri*
ka'lí-riri
 house-LOC
 'in the house'
 'en la casa' {BFL tx_muerto:0:23.4}
- k. *ki?o'ríriri*
ki?o'rí-riri
 toasted.corn-LOC
 'in the toasted corn (esquiate)'
 'in the toasted corn' < LEL 06 5:127-9/el >
- l. *sa?páriri*
sa?pá-rare
 meat-LOC
 'in the meat'
 'en la carne' < LEL 06 5:127-9/el >

Miller (1996) describes the cognates of these suffixes in Mountain Guarijío as possessing a similar semantic difference: the Mountain Guarijío locative *-t̪í/át̪í*, cognate of the Choguita Rarámuri *-t̪í* suffix, is glossed as 'where' and 'at' (1996: 192–193), while the Mountain Guarijío *-tére/-rere* suffix, with the short allomorph *-te/-re*, the cognate of the Choguita Rarámuri *-rare* suffix, is glossed as 'below/among' (Spanish *abajo* and *entre*) (1996: 287). In Choguita Rarámuri, however, the choice of suffix in many cases seems to be lexically conditioned. I have recorded alternative forms of the same bases with the two locative suffixes, and speakers have produced them both spontaneously and when prompted during elicitation. Some examples are provided in (11):

(11) Nouns with two locative forms

	<i>Locative 1</i>	<i>Locative 2</i>	<i>Gloss</i>
a.	<i>ma'tá-riri</i> {GFM tx904:0:07.5}	<i>mata-^{t̪í}</i> {LEL tx68:0:58.8}	'in the metate'
b.	<i>ku'pá-riri</i> < LEL 06 5:127-9/el >	<i>kupa-^{t̪í}</i> < LEL 06 5:127-9/el >	'in the hair'
c.	<i>ki'má-riri</i> < LEL 06 5:127-9/el >	<i>kima-^{t̪í}</i> < LEL 06 5:127-9/el >	'in the blanket'
d.	<i>ki?o'rí-riri</i> (pr.) < LEL 06 5:127/el >	<i>ki?o'rí-^{t̪í}</i> < LEL 06 5:127-9/el >	'in the toasted corn (esquiate)'
e.	<i>wa'rí-riri</i> (pr.) < LEL 06 5:127/el >	<i>wa'rí-^{t̪í}</i> < LEL 06 5:127-9/el >	'in the basket'

In the following pair, however, the choice of locative suffix reflects a semantic distinction between the two suffixes an alienable/inalienable distinction: the noun *saʔpá* ‘meat’ means live flesh in (12a) with the locative *-tʃi* suffix and meat severed from the body in (12b) with the locative *-rare* suffix; that is, the locative *-tʃi* suffix is used when the figure is located on the surface of the ground, while *-rare* is used when the figure is located inside, or within a space defined by the ground, consistent with the description of these suffixes as adessive and inessive, respectively:

(12) Contrast between adessive and inessive locative forms

- a. *ta'mí na'mûti i'kîli sa?pa'tfí*
ta'mí na'mûti i'kî-li sa?pá-tfí
 1SG.ACC something bite-PST flesh-LOC
 'Something bit me in the flesh.' (where *sapa-tfí* = in the live, human flesh)
 'Algo me picó en la carne.' (donde *sapa-tfí* = *en la carne del cuerpo*) < FMF 09 3:60/el >

b. *bi'lé sio'rí tfu'kú sa?pá-riri*
bi'lé sio'rí tfu'kú sa?pá-rare
 one fly stand.four.legs.PRS meat-LOC
 'There is a fly in the meat.' (where *sa?pá-riri* = in the severed cow's meat)
 'Hay una mosca en la carne.' (donde *sa?pá-riri* = en el pedazo de carne de vaca) < FMF 09 3:60/el >

In this case, the different locative suffixes seem to have been lexicalized with specific meanings. There are no other documented examples where other bases display a comparable semantic contrast.¹²

In sum, there are some semantic differences between locative *-tʃi* and locative *-rare*, and each construction might be selected depending on the semantic characteristics of each base in some cases ('to be among the trees' vs. 'to be on a rock'), but affix distribution seems to be largely a matter of lexical choice in most cases

¹²A similar difference where the same root has an inalienable meaning with one morphological construction and an alienable meaning with another morphological construction has been reported in other Uto-Aztecán languages: in Cora (Corachol), there is a contrast between *n^yi-we* ‘my flesh’, and *n^yi-we?-ra?*, with possessive suffix *-ra?*, ‘my meat (that I bought)’ (Dakin 1991: 302). See §8.4 for details of the behavior of alienable and inalienable nouns in possessive constructions in Choguita Rarámuri.

(i.e., there is no clear semantic property of the referent that requires one locative construction versus the other).

In addition to the basic locative meaning exemplified above, the suffix *-rare* appears on a base where the locative construction seems to involve a collective meaning: in (13), the nominal base *o^hkó* ‘pine tree’ plus the suffix *-rare* encodes a group of pine trees.¹³

- (13) *o^hkó-riri ke mi ko'rína oʔná*
o^hkó-rare ke mi ko'rí-na oʔná
 pine.tree-LOC COP.IMPF DIST around-ALL there
 ‘There were many pine trees over there.’
 ‘Había muchos pinos allá.’ {FLP in61:4:07.4}

Consider, in contrast, two examples where the same root *o^hkó* ‘pine tree’ plus the locative *-rare* refers to a single tree; the difference between this form and the ‘collective’ one in (13) is that *o^hkó* ‘pine tree’ is the deictic centre in (14) below, but the figure in (13) above:

- (14) Collective reading of *-rare*
- aʔlì es ta ko^hfi ko 'nà ri'wáli tʃo bi'lé na'múti tʃuku'ká o'ná ri'pá o^hkó-riri wi'há*
aʔlì 'étfi tá ko^hfi=ko 'nà ri'wá-li tʃo bi'lé na'múti tʃuku'ká
 and DEM DET dog=EMPH PROX see-PST also one thing be.bent-GER
o'ná re'pá o^hkó-rare wi'há-a
 DIST up pine-LOC hang-PROG
 ‘Then the dog saw something up there in the pine tree hanging.’
 ‘Entonces el perro vió algo arriba en el pino colgando.’ {LEL
 tx177:3:23.5}
 - we soʔéka u tʃáli tʃi'ná pa tʃána 'nà o^hkó-riri*
we soʔé-ka u tʃá-li tʃi'ná pa tʃá-na 'nà o^hkó-rare
 INT get.stuck-GER put-PST PROX inside-at PROX pine-LOC
 ‘He left it stuck over there, inside of the pine tree.’
 ‘Lo dejó muy bien atorado adentro en el pino.’ {LEL tx84:05:05.3}

In example (15) below, *o^hkó-riri* ‘pine-LOC’ might be interpreted as either meaning that the pine trees are the figure in a deictic center and that the speaker is

¹³This construction is an example of a copular clause headed by a nominal predicate. More information about this type of clause is provided in §13.2.2.

located at a different place ('behind the trees'), or that the speaker is in fact the figure located 'among, between' the trees, the deictic centre.

- (15) *aʔli ko 'nè 'má bi'lá 'nápa 'nìi o^hkóriri 'nè wi'lí 'nà i^htipika ba ne'ká ba*
aʔli=ko 'nè 'má bi'lá 'nápa 'nì o^hkóriri 'nè wi'lí
 and=EMPH 1SG.NOM already really SUB EMPH pine-LOC 1SG.NOM stand.SG
'nà i^htipika ba ne'ká ba
 PROX hide-GER CL see-GER CL
 'So then I stood behind/between the trees, hiding, watching.'
 'Entonces ya me paré entre/atrás de los pinos, escondida, viendo.' {LEL
 tx223:1:29.3}

Locative case also encodes spatial relations relative to specific referents. In these cases, exemplified in (16), locative case is marked on the head noun of the nominal phrase:

- (16) a. *na'sípa i^hétfi*
na'sípa i^hé-tfí
 middle door-LOC
 'in the middle of the door'
 'en medio de la puerta' < FMF 09 3:27/el >
- b. *su'wé t^hí'nírari*
su'wé t^hí'ní-rari
 edge cloth-LOC
 'on the edge of the cloth'
 'por la orilla de la tela' < FMF 09 3:27/el >

Finally, locatives are found in many Choguita Rarámuri toponyms. Place names are derived from combining locative suffixes with nominal roots. Some examples of toponyms derived with these suffixes are provided in (17) (all examples are also documented in Brambila (1976), and the source information from this reference is indicated under each example with the initial "B", year (1976) and page where the data was found).

(17) Locatives in toponyms

	<i>Toponym</i>	<i>Gloss</i>	<i>Base form</i>	<i>Gloss</i>
a.	wi ^{tʃ} atʃi	'town of Guichachi'	wi ^{tʃ} ʃa	'thorny bush' [B 1976:59]
b.	wa ^{tʃ} otʃi	'town of Guachochi'	wa ^{tʃ} ʃo	'heron'
c.	ku'sarare	'town of Cusárate'	ku'sa	'eagle'
d.	gu'misatʃi	'town of Gumísachi'	gu'misari	'crest' [B 1976:191]
e.	abo'reatʃi	'town of Aboréachi'	abo'ri	'juniper tree' (Sp. <i>táscate</i>) [B 1976:2]
f.	'tonatʃi	'town of Tónachi'	'tona	'pillar' [B 1976:557]
g.	oko ^{tʃ} itʃi	'town of Okochichi'	o-ko ^{tʃ} i	'PL-dog' [B 1976:39]
h.	oko'witsi	'town of Okowíchi'	oko'wi	'kind of owl' [B 1976:401]
i.	na'raratʃi	'town of Narárachi'	na'là-ra	cry-NMLZ
j.	so'gitʃi	'town of Sisoguichi'	so'gi	'a type of plant' [B 1976:531]
k.	u'reatʃi	'town of Uréachi'	u're	'ash tree' (Sp. <i>fresno</i>) [B 1976:573]
l.	ka'notʃi	'town of Ganochi'	ka'no	'giant'
m.	wisa'rotʃi	'town of Guisaróchi'	wisa'ro	'poplar'

8.4 Possessive marking

Possessive marking in Choguita Rarámuri nouns encodes possessors and meronymic (or part-whole) relationships. Other semantically related relations, such as the relation 'made of', are encoded through analytic constructions in the language. The function and syntactic properties of possessive constructions are addressed in §12.2.

8.4.1 Alienable and inalienable possession

Both inalienable (kinship and body-part terms) and alienable nouns may register a possessor with the stress-shifting possessive *-lâ* suffix.¹⁴

Following the head-marking pattern of the language, the suffix *-lâ* attaches to the head noun in a possessive nominal phrase, as shown in (18):

(18) Possessive marking

- 'nè wa'sála
 'nè wasá-lâ
 1SG.NOM cultivation.land-POSS
 'my cultivation land'
 'mi tierra de cultivo' < BFL 09 1:61/el >

Further examples of possessive constructions are provided in (19) (as other stress-shifting suffixes, the lexical tone of the suffix surfaces when stressed, (19f)):

(19) Possessive marking

- a. *wa'síla*
wa'sí-la
 mother.in.law-POSS
 'their mother in law'
 'su suegra' < BFL 06 5:127/el >
- b. *kútſala*
kútſa-la
 children-POSS
 'their little ones, children'
 'sus hijos' {SFH tx43:12:39.8}
- c. *i'jéla*
i'jé-la
 mother-POSS
 'their mother'
 'su mamá' {SFH tx475:7:11.4}

¹⁴A suffix **-ra, reconstructed for Proto-Sonoran and possibly for Proto-Uto-Aztecán (Dakin 1991: 299), has cognate forms in Tubar (Lionnet 1978), Lowland (River) Guarajío (Barreras 1988), Highland (Mountain) Guarajío (Miller 1996), Cora (Dakin 1991), and other Tarahumara varieties (Norogachi Rarámuri (Brambila 1953, Lionnet 1972)). Lionnet (1972) describes the suffix *-ra* as a 'determiner' ("determinado"), though no definitions of this suffix is provided (1972:18).

- d. *ali'wâla*
ali'wâ-la
 soul-POSS
 'their soul'
 'su alma' {LEL tx5:0:30.7}
- e. *apa'nêrala*
apa'nêra-la
 wife-POSS
 'their wife'
 'su esposa' {LEL tx5:0:40.9}
- f. *ono'lâ*
ono-'lâ
 father.male.ego-POSS
 'their father (male ego)'
 'su papá de él' {SFH tx12:2:18.0}
- g. *ku'rít̪ala*
ku'rít̪a-la
 uncle-POSS
 'their uncle (husband of father's sister)'
 'su tío (esposo de la hermana del papá)' < FLP in61(510)/in >
- h. *ku'mût̪ala*
ku'mût̪a-la
 paternal.older.uncle-POSS
 'their paternal older uncle'
 'su tío paterno mayor (que el papá)' {SFH in485:0:00.2}
- i. *mo?o'lila*
mo?o'lî-la
 daughter.in.law-POSS
 'their daughter in law'
 'su nuera' {LEL tx19:5:29.8}
- j. *a?ka'lâ*
a?ka-'lâ
 sandal-POSS
 'their sandals'
 'sus huaraches' < BFL 09 1:60/el >
- k. *bo?e'lâ*
bo?e-'lâ
 road-POSS
 'their road'
 'su camino' < BFL 06 5:128/el >

- l. *si'pútʃala*
si'pútʃa-la
skirt-POSS
‘their skirt’
‘su falda’ < BFL 09 1:60/el >
- m. *na'pátʃala*
na'pátʃa-la
shirt-POSS
‘their shirt’
‘su blusa’ < FMF 09 3:32/el >
- n. *baʔ'wila*
baʔ'wí-la
water-POSS
‘their water’
‘su agua’ {LEL tx68:0:40.4}
- o. *ka'líla*
ka'lí-la
house-POSS
‘their house’
‘su casa’ < SFH in61(695)/in >
- p. *'téla*
'té-la
lice-POSS
‘their lice’
‘sus piojos’ < FMF 09 3:32/el >

The examples above show that the suffix *-lâ* attaches to inalienable nouns (19a–i) as well as alienable nouns (19j–p). Alienable nouns are characterized by being able to appear in non-possessive constructions, while inalienable nouns are exclusively found with possessive marking.

Choguita Rarámuri has a second possessive construction in which nominal roots are marked by a stress-neutral suffix *-wa* followed by *-lâ* (schematically, V-*wa-lâ*). Haugen (2017) reconstructs *-*wa* for Proto-Uto-Aztecán as a nominal suffix of attributive possession (“possessed thing”) (2017: 172) (see also Langacker 1977 for an alternative proposal).¹⁵ Reflexes of this reconstructed suffix are found

¹⁵Haugen (2017) makes a distinction between possession in the nominal domain and possession in the verbal domain, a distinction largely equivalent to one of attributive possession and predicative possession, respectively. Both types of possession constructions are documented across the Uto-Aztecán language family. Langacker (1977) reconstructs *-*wa* as a denominal verb suffix.

in the Numic, Takic, Tepiman, Taracahitan, and Aztecan branches of Uto-Aztecán (Haugen 2017: 186).

Examples of these “double possessive” constructions are given in (20):¹⁶

(20) Double possessive constructions

<i>Double possessive</i>	<i>Stem</i>	<i>Gloss</i>	<i>Source</i>
a. <i>wa'sá-wa-la</i>	<i>wa'sá</i>	‘sowing field’	< BFL 06 5:127/el >
b. <i>ka'wì-wa-la</i>	<i>ka'wì</i>	‘hill’	< BFL 06 5:127/el >
c. <i>su'nù-wa-la</i>	<i>su'nù</i>	‘corn’	< BFL 06 5:127/el >
d. <i>ripu'tʃí-wa-la</i>	<i>ripu'tʃí</i>	‘flea’	< FMF 09 3:32/el >
e. <i>koro'ká-wa-la</i>	<i>koro'ká</i>	‘necklace’	< BFL 09 1:61/el >
f. <i>ri'mê-wa-la</i>	<i>ri'mê</i>	‘tortilla’	< SFH 06 6:73-75/el >
g. <i>pa'pâ-wa-la</i>	<i>pa'pâ</i>	‘father’	< LEL tx84(7)/tx >
h. <i>ba'tʃâ-wa-la</i>	<i>ba'tʃâ</i>	‘first’	{SFH tx43:4:05.6}
i. <i>ripu'râ-wa-la</i>	<i>ripu'râ</i>	‘axe’	< LEL 2006.11.17/el >
j. <i>kiri'bá-wa-la</i>	<i>kiri'bá</i>	‘quelites’	< SFH 09 3:86/el >
k. <i>sa'té-wa-la</i>	<i>sa'té</i>	‘field’	< BFL 09 3:70/el >

Miller (1996) describes the cognate forms of both the *-wa* and *-lâ* suffixes in Mountain Guaríjío as ‘possessive’ and ‘absolutive’ (non-possessed), respectively (1996: 250–251). The Mountain Guaríjío possessive *-wa* suffix is described as being stress-shifting (causing a change of stress in the base), and the Mountain Guaríjío absolutive *-la* suffix as stress-neutral, in contrast to the prosodic properties of the cognate forms in Choguita Rarámuri. While the suffix *-wa* is used exclusively in possessive constructions in Mountain Guaríjío, the suffix *-la* is also used in this language in partitive and what Miller labels ‘determinative’ constructions. While in Mountain Guaríjío *-wa* may be used as the sole marker of possessors, in Choguita Rarámuri this formative is always followed by *-la* as in the examples shown above.

For some speakers of Choguita Rarámuri the double possessive construction alternates with the *-lâ* possessive construction to mark a plural-singular distinction, respectively, with count nouns. This is exemplified in (21) (all data from < BFL 11/07/09/el >):¹⁷

¹⁶The meaning of the possessed forms is compositional, except for the form *wa'sá-wa-la* in (20b) which can be interpreted as ‘someone’s hill’, but is more generally interpreted as ‘someone’s homeland’. In the case of *ba'tʃâ-wa-la* in (20h), the meaning is ‘someone’s ancestors’ (lit. ‘their first ones’).

¹⁷In these examples, the pronominal forms exhibit variation between the full and reduced forms with no apparent grammatical conditioning, e.g., *ne'hé i'jê-la* {SFH tx475:06:17.3} vs. *'nè i'jê-la* {BFL tx1:00:55.5} ‘my mother’. This kind of variation is, to the best of my knowledge, not reported in other Rarámuri varieties.

- (21) A singular-plural distinction of possessed nouns

	<i>Form</i>	<i>Gloss</i>
a.	'nè wa'ři-la	'my basket'
b.	'nè wa'ři-wa-la	'my baskets'
c.	'nè siko'ři-la	'my pot'
d.	'nè siko'ři-wa-la	'my pots'
e.	'nè si'pútřa-la	'my skirt'
f.	'nè si'pútřa-wa-la	'my skirts'
g.	'nè na'pářa-la	'my shirt'
h.	'nè na'pářa-wa-la	'my shirts'

It is not clear, however, that this singular-plural distinction is found with all count nouns. In (22), the possessive construction is ambiguous between a singular and a plural possessum. The base in (22a) lacks a possessive form with possessive *-la*. In (22b–c), on the other hand, the *-wa-lâ*, 'double possessive', construction in Choguita Rarámuri stands in variation with single-marked possessive nouns in certain forms. In this case, there are no semantic differences between the two alternative constructions.

- (22) Optionality between single and double possessive constructions

- a. *'nè ri'mêwala*
'nè re'mê-wa-lâ
 1SG.NOM tortillas-POSS-POSS
 'my tortillas'
 'mis tortillas' < BFL 11/07/09/el >
- b. *'nè wa'sála*
'nè wa'sá-lâ
 1SG.NOM sowing.field-POSS
 'my sowing fields'
 'mis tierras de cultivo' < LEL 06 5:127-9/el, BFL 09 1:60/el >
- c. *'nè wa'sáwala*
'nè wa'sá-wa-lâ
 1SG.NOM sowing.field-POSS-POSS
 'my sowing fields'
 'mis tierras de cultivo' < LEL 06 5:127-9/el, BFL 09 1:60/el >

For some nouns the only available possessive construction is the double possessive *-wa-lâ*. This is exemplified in (23): these nouns, spontaneously given with

the *-wa-lâ* ‘double possessive’ sequence, were rejected when prompted with the *-lâ* possessive construction (< BFL 09 1:61/el >).

(23) Nouns with obligatory double possessive constructions

<i>Form</i>	<i>Ungrammatical</i>	<i>Gloss</i>
a. 'sa'té-wa-la	*sa'té-la	‘their land’
b. ka'wì-wa-la	*ka'wì-la	‘their hill, homeland’
c. bah'tâlu-wa-la	*bah'tâli-la	‘their corn beer’
d. su'nù-wa-la	*su'nù-la	‘their corn’

For other nouns, the only available possessive construction is the one involving a single possessive marker (*-lâ*), with the ‘double possessive’ construction *-wa-lâ* being unavailable. All documented cases of nouns lacking a ‘double possessive’ construction are body-part terms, a closed class of inalienable nouns. Relevant examples are shown in (24),¹⁸ with their spontaneously produced possessive form, as well as the ungrammatical double possessive construction.

(24) Possessive forms of body-part nouns

<i>Form</i>	<i>Ungrammatical</i>	<i>Gloss</i>	<i>Source</i>
a. ro'nô-la	*ro'nô-wa-la	‘their foot’	< BFL 09 1:60/el >
b. ka'sî-la	*ka'sî-wa-la	‘their leg’	< BFL 09 1:60/el >
c. si'kâ-la	*si'kâ-wa-la	‘their arm/hand’	< BFL 09 1:60/el >
d. ku'pâ-la	*ku'pâ-wa-la	‘their hair’	< BFL 11/07/09/el >
e. bu'sî-la	*bu'sî-wa-la	‘their eye’	< BFL 11/07/09/el >
f. <i>tʃo'kówa</i> -la	* <i>tʃo'kówa</i> -wa-la	‘their knee’	< BFL 11/09/el >
g. <i>waʃfíka</i> -la	* <i>waʃfíka</i> -wa-la	‘their rib’	< BFL 11/09/el >

The exception to this pattern is found with body part nouns that may have alternative readings as either a collection of entities with similar properties (e.g., teeth) or as discrete entities (e.g., a single tooth). For these nouns, the *-lâ* construction refers to the possession of a single, discrete entity (e.g., a single finger, tooth, finger nail, etc.), and the double possessive construction is used when making reference to the possession of multiple fingers, teeth, etc.¹⁹ These forms are exemplified in (25) (all data from < BFL 11/07/09/el >):

¹⁸I represent body part roots as bound, since they require possessive marking as inalienable nouns.

¹⁹Body part terms referring to body parts that come in pairs, such as *bu'sî-* ‘eye’, *ka'sî-* ‘leg’, *ro'nô-* ‘foot’, *tʃo'kówa-* ‘knee’, or *si'kâ-* ‘hand’, do not have a singular-plural (dual) possessive form alternation as found in (25). Similarly, the term for ‘ribs’, *waʃfíka-*, while composed of multiple, discrete parts, does not have a singular-plural alternation in the possessive (though this might be due to the fact that ribs are all linked or that they are internal (K. Dakin, p.c.)).

- (25) Singular vs. plural distinction in possessed body-part terms

Form	Gloss
a. 'nè ma'kúsa-la	'my finger'
b. 'nè ma'kúsu-a-la	'my fingers'
c. 'nè ma'táka-la	'my molar'
d. 'nè ma'ták-wa-la	'my molars'
e. 'nè su'tú-la	'my finger nail'
f. 'nè su'tú-wa-la	'my finger nails'

Some kinship terms are also found with the single vs. double possessive construction encoding a singular-plural distinction. These are exemplified in (26):

- (26) Singular vs. plural distinction in possessed kinship terms

a.	<i>'nè ku'ritʃala</i> 'nè <i>ku'ritʃa-la</i> 1SG.NOM uncle-POSS 'my uncle (husband of father's sister)' 'mi tío (esposo de la hermana de mi papá)'
b.	<i>ja'díra ku'ritʃuwala</i> <i>ja'díra ku'ritʃa-wa-la</i> Yadira uncle-POSS-POSS 'Yadira's uncles ('husband of father's sisters)' 'los tíos de Yadira (esposo de la hermana del papá)'
c.	<i>'nè ku'mütʃala</i> 'nè <i>ku'mütʃa-la</i> 1SG.NOM paternal.uncle-POSS 'my paternal uncle' 'mi tío paterno'
d.	<i>ne'hé ku'mütʃu-wa-la</i> <i>ne'hé <i>ku'mütʃi-wa-la</i></i> 1SG.NOM paternal.uncle-POSS-POSS 'my paternal uncles' 'mis tíos paternos'

Other kinship terms, however, do not display this alternation, e.g., *u'müt-a-la* ambiguously means 'his/her great grandfather' or 'his/her great grandfathers' <

FLP in61(116)/in, BFL 11/07/09/el >²⁰ Thus, the distinction between singular vs. plural possessum associated to a single possessive marker vs. two, respectively, seems to be a matter of lexical choice.²¹

Similar to the pattern attested in Choguita Rarámuri, in Lowland (River) Guarajío, the cognate of the *-la* suffix (also *-la*) is found in possessive and non-possessive constructions, and the cognate of the *-wa* suffix is used in addition to *-la* to mark optional possession (“mediated possession”) with nouns that are not body part terms, kinship terms or abstract terms (Barreras 1988, cited in Dakin 1991: 301. For Mountain Guarajío, Miller (1996) describes that possessed nouns marked with the *-wa-la* suffix sequence are generally interpreted as plural, though he notes singular readings are also available with this marking pattern (but no examples are provided).

There are inalienable nouns in possessive constructions that are marked with a *-t̪í* suffix, homophonous to the locative *-t̪í* suffix described in §8.3.2, which are added in non-locative contexts. The body-part terms exemplified below are either directly marked with suffix *-t̪í* (27a) or attach this suffix to a base with suffix *-lâ* (27b–c):

(27) Possessive constructions with suffix *-t̪í*

- a. 'nè t̪a t̪o'kóbit̪í o?kô
'nè t̪a t̪o'kówa-t̪í o?kô
1SG.NOM ugly knees-LOC hurt
'My knees hurt.'
'Me dueLEN mis rodillas.' < BFL 09 1:60/el >
- b. ni'hê ka'wìwalat̪í
'nè'hê ka'wì-wa-la-t̪í
1SG.NOM hill-POSS-POSS-LOC
'my hill'
'mi tierra' < BFL 09 1:60/el >

²⁰ Another kinship term, *pa'pâ-wa-la* ‘parents’, in (20i), is a borrowed term (from Spanish *papá* ‘father’) that refers to the two parents.

²¹ There is at least one example where a singular/plural distinction in terms of possessors and/or possessed referents is encoded through two possessive constructions involving a concatenation of two distinct formatives: the noun *mu'kî*, ‘woman’, can be marked as possessed with a *-a-lâ* suffix sequence (*mu'kî-a-la*) or with a *-wa-lâ* suffix sequence (*mu'kî-wa-la*). The two forms were given with different interpretations, with either a singular possessor and possessum in the former case (*mu'kî-a-la* ‘his wife’) and a plural possessor and possessum in the latter (*mu'kî-wa-la* ‘their wives’) (<BFL 09 4:69/el>). This case also suggests a lexicalization process, given that these possessed forms are exclusively used when the interpretation of the noun *mu'kî* is ‘wife’.

- c. 'nè *tfá tʃa'mékalatʃi*²² oʔkō
 'nè *tfá tʃa'méka-la-tʃi* oʔkō
 1SG.NOM ugly tongue-POSS-LOC hurt
 'My tongue hurts.'
 'Me duele mi lengua.' < BFL 09 1:60/el >

There are only a few examples with the *-tʃi* suffix with the possessive meaning, suggesting this construction is unproductive. Some of the nouns modified with this suffix in these contexts refer to space or body-parts as possible locations (e.g., for pain), suggesting that these constructions involve a frozen and reanalyzed locative (as in French noun phrases with *chez* and *à*), as suggested by Johanna Nichols (p.c.).

The possessive construction induces truncation of the base noun in at least one construction. In (28), the root *koro'ká*, 'necklace', is shortened to *ko'ro* when marked with the possessive:²³

- (28) Truncation in possessive construction
 'nè *ko'róala*
 'nè *koro'ká-wa-la*
 1SG.NOM necklace-POSS-POSS
 'my necklace'
 'mi collar' < BFL 09 1:61/el >

Finally, in addition to the head-marking strategy for marking possession, Choguita Rarámuri has an alternative way of expressing a possession relationship through an appositional construction with *'níwa*, which may be used predicatively as a verb meaning 'to have', but which behaves as a grammatically specialized possessive noun in possessive constructions (glossed below as 'have'). More details of this syntactic construction are provided in §12.2.3.

8.4.2 Meronymic (part-whole) relationships

Meronymic or part-whole relationships are also expressed morphologically with the possessive *-la* suffix marked on the possesum. The forms in (29) exemplify the meronymic construction, where the possessor precedes the possessed noun:

²²The prompted form **tʃa'meka-wa-la* was rejected, but *tʃa'mék-wa-la*, with root-final vowel deletion, was accepted as grammatical (< BFL 09 1:61/el >).

²³This resembles a noun truncation process in body part noun incorporation constructions, described in detail in §9.3.3.

(29) Meronymic relations

- a. *tʃoma tʃí boʔ'wâla*
tʃoma- tʃí boʔ'wâ-la
 nose-LOC fur/hair-POSS
 'the hairs of the nose'
 'los pelos de la nariz' < BFL 09 1:33/el >
- b. *kua'dêrno ôhala*
kua'dêrno ôha-la
 notebook sheet-POSS
 'the sheets of the notebook'
 'las hojas del cuaderno' < BFL 09 1:33/el >

Further examples of the meronymic construction are given in (30).

(30) Meronymic possessive marking

<i>Form</i>	<i>Gloss</i>	<i>Source</i>
a. <i>ro'ñô-la</i>	'X's feet'	< BFL 06 5:127/el >
b. <i>'ka'sí-la</i>	'X's legs'	< BFL 06 5:127/el >
c. <i>sí'kâ-la</i>	'X's hand/arms'	< BFL 06 5:128/el >
d. <i>ali'wâ-la</i>	'X's soul'	< BFL muerto(6)/tx >
e. <i>saʔ'pá-la</i>	'X's flesh'	< MGD 06 6:73/el >
f. <i>ku'pá-la</i>	'X's hair'	< LEL 06 5:127-7/el >
g. <i>boʔ'â-la</i>	'X's feathers/fur'	< LEL 06 5:127-56/el >
h. <i>sono'-lâ</i>	'X's lungs'	< MGD 06 1:107/el >
i. <i>su'rá-la</i>	'X's heart/chest'	< MGD 06 1:107/el >
j. <i>tʃó'kóba-la</i>	'X's knees'	< MGD 06 1:107/el >
k. <i>sito'kâ-la</i>	'X's elbow/arm'	< MGD 06 1:107/el >
l. <i>na'kâ-la</i>	'X's ears'	< MGD 06 1:107/el >
m. <i>ra'níka-la</i>	'X's heel'	< MGD 06 1:107/el >
n. <i>no'kâ-la</i>	'X's temples'	< MGD 06 1:107/el >
o. <i>koá'-lâ</i>	'X's forehead'	< MGD 06 1:107/el >
p. <i>rini'bá-la</i>	'X's jaw'	< MGD 06 1:107/el >

As examples (30b) above and (31) below show, the meronymic construction is found with body-part terms used to refer to constituent parts of inanimate nouns:

(31) Meronymic construction with inanimate noun
'mêsa ro'ñôla ko ka'pôlo

'mësa ro'nô-la=ko ka'pò-li
table leg-POSS=EMPH break-PST
'The table's leg broke.'
'La pata de la mesa se rompió.' < BFL 09 1:33/el >

In (32a–b), both nouns are marked with the possessive suffix, since the whole is a body part term, in turn the part of another whole.

(32) Recursive possessive marking

- a. *tʃu?*^l*á sa?*^p*ála*
tʃu?^l*á-^lá sa?*^p*á-la*
 face-POSS flesh-POSS
 'the flesh from the face'
 'la carne de la cara' < BFL 09 1:33/el >

b. *ana?*^l*á bu?*^l*ála*
ana-^l*á bu?*^l*á-la*
 wing-POSS hair/fuzz/feather-POSS
 'the feathers of the wings'
 'las plumas de las alas' < BFL 09 1:33/el >

c. *'nè sika?*^t*ʃí bu?*^l*ála wi?*^k*ótu*_{ko}
'nè sika-^t*ʃí bu?*^l*á-la wi?*^k*óti-ki*
 1SG.NOM arm-LOC hair/fuzz/feather-POSS burn-PST.EGO
 'I burned the hairs of my arm.'
 'Me quemé los pelos del brazo.' < BFL 09 1:33/el >

There are no documented examples where this construction would encode other semantic roles (such as beneficiaries). Also, there are no documented meronymic constructions with the *-wa-lâ* sequence found in forms marking a possessor.

8.5 Deverbal nouns

Choguita Rarámuri possesses several morphological means for deriving nominal stems from verbal and other roots. This section is devoted to describing in detail each of these devices.

8.5.1 Agentive, patientive and experiencer nominalizations

Agentive nominalizations, achieved through the affixation of the participial suffix *-ame* to a transitive base or an intransitive base with an unergative argument, are nominalizations that derive a noun with a meaning ‘the one who performs V’. The examples in (33) illustrate agentive derivations, both from bare roots (33a–b) and morphologically complex bases (33c).

(33) Agentive nominalizations

- a. *mi'ñàami*
mi'ñà-ame
kill.SG-PTCP
‘one who kills’
‘el que mata’ < BFL 09 1:43/el >
- b. *a'wíami*
a'wí-ame
dance-PTCP
‘one who dances’
‘el que baila’ < BFL 09 1:43/el >
- c. *bi'nèrami*²⁴
bi'nè-ri-ame
learn-CAUS-PTCP
‘one who teaches’
‘el que enseña’ < BFL 09 1:43/el >

Verbs that have been nominalized with the participial *-ame* suffix do not take any TAM markers before the participial suffix, a fact that has also been observed for Mountain Guarajío (Miller 1996: 180). There are, however, agentive nominalization constructions with a meaning that involves past tense, i.e. ‘the one who has performed V (but no longer does)’. These past agentive nominalizations attach the suffix *-kame*, the cognate of which Miller (1996) analyzes as composed diachronically of a past tense *-ka/-ga* suffix and the participial *-ame* suffix (note that the Mountain Guarajío *-ka/-ga* past tense suffix has no attested cognate in Choguita Rarámuri as a synchronically active past tense marker). Relevant examples are shown in (34):

²⁴The example in (33c) also shows how the participial suffix may induce deletion of the previous suffix vowel. There are no recorded examples where the participial suffix deletes vowels of immediately preceding roots (see Chapter 9 for other inflectional suffixes that induce vowel deletion in their bases).

(34) Past agentive nominalizations

- a. *bi'nèkami*
be'nè-kame
learn-PST.PTCP
'one who has studied'
'el estudiado' < BFL 09 1:43/el >
- b. *'nè 'pé 'sèstobi kú ma^{tf}ínikami ka ^{tf}ó ba*
'nè 'pé 'sèsto=bi ku ma^{tf}ína-kame ka ^{tf}ó ba
1SG.NOM just sixth=just REV go.out-PST.PTCP COP.IRR also CL
'I also just finished sixth grade'
'yo nomás soy salido de sexto también' {SFH tx12:11:17.2}
- c. *mi'?*kami
*mi'?*kame
kill-PST.PTCP
'someone who used to murder, former killer'
'alguien que mataba, antiguo asesino' < BFL 06 el41/el >

Participial suffixes are also involved in deriving adjectives and forming relative clauses, and this is discussed in detail in §10.3 and §15.3, respectively. As discussed in §10.3, the participial suffixes *-ame* and *-kame* do not exhibit tense distinctions and are treated there as suppletive allomorphs.

Nominalizations involving other tense/aspect contrasts (e.g., future, as in 'the one who will become a ritual singer') are expressed through copular predicate constructions. In examples (35a–b), tense distinctions are marked in the copula. In the past tense nominalization, however, there is no copula available; the past tense of the nominalization is encoded by the *-kame* suffix (35c). The nominalization in (35a) encodes imperfective aspect.

(35) Tense/aspect distinctions with participial forms

- a. *wika'râame 'nílo*
wika'râ-ame 'ní-li-o
sing-PTCP COP-PST-EP
'He used to be a ritual singer.'
'Era cantador.' < BFL 06 4:168-171/el >
- b. *wika'râame 'níma ri'kó*
wika'râ-ame 'ní-ma ri'kó
sing-PTCP COP-FUT.SG DUB
'He will be a ritual singer '
'Va a ser cantador.' < BFL 06 4:168-171/el >

- c. *'étfi ko 'má mi'?*ákami *ko*
*'étfi=ko 'má mi'?*á-kame=ko
 DEM=EMPH already kill-PST.PTCP=EMPH
 'That one has already killed'
 'Ese ya ha matado.' < BFL 06 4:168-171/el >
- d. *su'wíkame*
su'wí-kame
 finish.off.INTR-PST.PTCP
 'dead ones'
 'muertos' < SFH 06 11.06/el >

Further examples of agentive nominalizations are given in (36):

- (36) a. *si'pâame*
si'pâ-ame
 raspar.peyote-PTCP
 'peyote shaman'
 'raspador' < SFH 06 11.06/el >
- b. *a'wíami*
a'wí-ame
 dance-PTCP
 'dancer'
 'bailador' < SFH 06 11.06/el >
- c. *ka'réami*
ka'ré-ame
 lie-PTCP
 'liar'
 'mentiroso' < SFH 06 11.06/el >
- d. *'wáami*
'wá-ame
 be.strong-PTCP
 'strong'
 'fuerte' < SFH 06 11.06/el >
- e. *'hóami*
'hó-ame
 make.hole-PTCP
 'the one who makes holes'
 'el que hace hoyos' < SFH 06 11.06/el >

- f. *rara'hipami*
rara'hip-ame
 ball.race-PTCP
 'ball race runner'
 'corredor de bola (rarajipa)' < SFH 06 11.06/el >

Patientive nominalizations, on the other hand, are formed in Choguita Rará-muri through the participial suffix *-ame* which attaches to a verbal passive base (37a–e) or to an intransitive verb with a theme as subject argument (37f):²⁵

(37) Patientive nominalizations

- a. *mi'ʔàaruami*
mi'ʔà-ru-ame
 kill.SG-PST.PASS-PTCP
 'one who gets killed'
 'al que matan' < BFL 09 1:43/el >
- b. *a'wèrami*
a'wí-è-ru-ame
 dance-APPL-PST.PASS-PTCP
 'one who gets danced for'
 'al que le bailan' < BFL 09 1:43/el >
- c. *sa'wèrami*
sa'wí-è-ru-ame
 cure-APPL-PST.PASS-PTCP
 'the healed one'
 'el curado' < BFL 06 el41(15)/el >
- d. *mi'ʔàrami*
mi'ʔà-ru-ame
 kill.SG-PST.PASS-PTCP
 'murdered one'
 'el matado, asesinado' < BFL 06 el41/el >
- e. *ba'tfàrami*
ba'tfà-ru-ame
 put.inside.SG-PST.PASS-PTCP
 'imprisoned one'
 'encarcelado' < SFH 06 11.06/el >

²⁵In these cases, the participial suffix undergoes optional post-tonic vowel reduction in word final position (with raising of [e] to [i]).

- f. *ba'kíami*
ba'kí-ame
 go.in.SG-PTCP
 'thing that has been put inside somewhere'
 'metido' < SFH 06 11.06/el >

Further examples of patientive nominalizations are provided in (38):

- (38) a. *ma'hârami*
ma'hâ-r-ame
 be.affraid-PST.PASS-PTCP
 'fearful'
 'temeroso'
- b. *o'hòrami*
o'hò-r-ame
 dekernel-PST.PASS-PTCP
 'dekerneled'
 'desgranado' < SFH 06 11.06/el >
- c. *'èrami*
'è-r-ame
 take-PST.PASS-PTCP
 'the thing taken away'
 'lo llevado' < SFH 06 11.06/el >
- d. *pa'kórami*
pa'kó-r-ame
 wash-PST.PASS-PTCP
 'baptized one'
 'bautizado' < SFH 06 11.06/el >
- e. *ri'wètami*
ri'wè-t-ame
 leave-PST.PASS-PTCP
 'abandoned one'
 'abandonado' < SFH 06 11.06/el >
- f. *bini'hîrami*
bini'hî-r-ame
 denounce-PST.PASS-PTCP
 'denounced one'
 'denunciado' < SFH 06 11.06/el >

- g. *sa'wèrami*
sa'w-è-r-ame
 cure-APPL-PST.PASS-PTCP
 'cured one'
 'curado' < BFL 06 4:168/el >
- h. *tʃoʔnárami*
tʃoʔná-r-ame
 hit.with.fist-PST.PASS-PTCP
 'beaten up one'
 'golpeado' < BFL 06 4:168/el >
- i. *mi'ʔárami*
mi'ʔá-r-ame
 kill.SG-PST.PASS-PTCP
 'killed one'
 'asesinado' < BFL 06 4:168/el >
- j. *ko'ʔírame*
ko'ʔí-r-ame
 kill.PL-PST.PASS-PTCP
 'killed ones'
 'asesinados' < BFL 06 4:168/el >
- k. *iʔfirame*
iʔf-i-r-ame
 sow-APPL-PST.PASS-PTCP
 'thing sown'
 'lo plantado' < BFL 06 4:168/el >
- l. *'wírami*
'wí-r-ame
 harvest-PST.PASS-PTCP
 'thing harvested'
 'lo cosechado' < BFL 06 4:168/el >
- m. *wiʔfórami*
wiʔfó-r-ame
 wash-PST.PASS-PTCP
 'washed clothes'
 'lo lavado' < SFH 06 4:168/el >

- n. *tòorami*
tò-r-ame
 take-PST.PASS-PTCP
 'one who was taken away'
 'el llevado' {SFH tx12:0:48.2}
- o. *roho'nârami*
roho-’nâ-r-ame
 separate-TR-PST.PASS-PTCP
 'ones who have been separated'
 'los separados' {JMF tx817:1:00.1}

There is variation among speakers in the prosodic make up of agentive and patientive nominalizations. Variation is mostly linked to stress placement in the base, but is also apparent when a given base includes a construction that has more than one possible morphological exponent for a given category. This variation is not exclusively found in nominalization constructions (see further discussion in Chapter 9). Examples of prosodic variation are provided in (39), where both vocalic and stress placement differences are attested.

(39) Prosodic variation of nominalized forms

- a. *tjоʔ'nárami*
tjоʔ'ná-r-ame
 hit.with.fist-PST.PASS-PTCP
 'the ones that were hit with the first'
 'los golpeados con el puño' < BFL 06 4:168-71/el >
- b. *tjоʔ'níirami*
tjоʔ'níi-r-ame
 hit.with.fist-PST.PASS-PTCP
 'the ones that were hit with the first'
 'los golpeados con el puño' < BFL 06 4:168-71/el >
- c. *tjоʔni'rúami*
tjоʔni-’rú-ame
 hit.with.fist-PST.PASS-PTCP
 'the ones that were hit with the first'
 'los golpeados con el puño' < SFH 06 4:168-71/el >

- d. *miʔri'rúami*
miʔri-’rú-ame
kill.SG-PST.PASS-PTCP
‘murdered one’
‘asesinado’ < SFH 06 4:168-71/el >
- e. *miʔríirami*
miʔríi-r-ame
kill.SG-PST.PASS-PTCP
‘murdered one’
‘asesinado’ < SFH 06 4:168-71/el >
- f. *iʔfiirami*
iʔfi-i-r-ame
plant-PST.PASS-PTCP
‘what has been planted’
‘lo plantado’ < BFL 06 4:168-71/el >
- g. *iʔfi'rúami*
iʔfi-’rú-ame
plant-PST.PASS-PTCP
‘what has been planted’
‘lo plantado’ < SFH 06 4:168-71/el >
- h. *niʔokirami*
niʔo-ki-r-ame
speak.badly-APPL-PST.PASS-PTCP
‘what has been written’
‘lo escrito’ < BFL 06 4:168-71/el >
- i. *o'sírami*
o'sí-r-ame
write-PST.PASS-PTCP
‘what has been written’
‘lo escrito’ < BFL 06 4:168-71/el >
- j. *osi'rúami*
osi-’rú-ame
write-PST.PASS-PTCP
‘what has been written’
‘lo escrito’ < SFH 06 4:168-71/el >

There is another class of nominalizations, what I will call “theme nominalizations”, where the participial marker attaches to a medio-passive base, and the nominalization refers to an inanimate referent that has undergone a change of state. Theme nominalizations are exemplified in (40):

- (40) Theme nominalizations

atf̄ewami
atf̄e-wa-ame
 throw.in-MPASS-PTCP
 ‘the thing that is being thrown in’
 ‘lo que le echan’ < BFL 09 1:37/el >

The example in (41) shows a comparison between an agentive and a patientive nominalization; in this case, there is a gap in the theme nominalization, since a clause with the complementizer *nápi* was given instead of a morphologically derived word in (41c) (i.e. the theme nominalization does not contain the participial marker).

- (41) Agentive vs. patientive nominalization

- a. *na'mûti ni'hâmi*
na'mûti ni'hî-ame
 thing gift-PTCP
 ‘the one who gifts things’
 ‘el que regala’ < BFL 09 1:43/el >
- b. *na'mûti a'rîwami*
na'mûti a-rîwa-ame
 thing give-MPASS-PTCP
 ‘the one who is given things’
 ‘al que le dan cosas’ < BFL 09 1:43/el >
- c. *nápu ni'híruwa*
nápi nihí-riwa
 SUB give-MPASS
 ‘what is being given away’
 ‘lo que se regala’ < BFL 09 1:43/el >

In this case the patientive nominalization is formed from a habitual passive base, instead of a past passive base.²⁶

The participial construction also appears in nominalizations that are neither agentive nor patientive. In (42) below, the resulting derivation yields ‘experiencer’ nominalizations:

(42) Experiencer nominalizations

- a. *'tû pi'rêami*
'tû pe'rê-ame
 down.river inhabit.PL-PTCP
 ‘the inhabitants down river’
 ‘los que viven río abajo’ < SFH 06 11.06/el >
- b. *ku'nêami*
ku'nâ-ê-ame
 husband-HAVE-PTCP
 ‘the ones who have husbands’
 ‘las que tienen marido’ < SFH 06 11.06/el >

8.5.2 Deverbal nouns with *-ri*

There are nouns derived from verbal bases through the nominalizing suffix *-ri*. Examples of this suffixes are shown in (43).²⁷

(43) Deverbal nouns in *-ri*

	Deverbal noun	Gloss	Stem	Gloss
a.	<i>ra'ítʃi-ri</i>	‘words, speech’ < GFM 09 tx905(27)/tx >	<i>ra'ít̪a</i>	‘to speak’
b.	<i>'nâti-ri</i>	‘thoughts, memories’ < SFH 06 in61(8)/in >	<i>'nâta</i>	‘to think’
c.	<i>i'wéri-ri</i>	‘strength’ < SFH 06 tx12(71)/tx >	<i>i'wéri</i>	‘to be strong’

²⁶One possibility is that this particular base may derive a patientive nominalization from the habitual passive since the verb in question is *à* ‘give’, a ditransitive verb with a theme argument encoded as a secondary object and a recipient argument encoded as a primary object (Chapter 13 provides an overview of different clause types, including ditransitive clauses (§13.1.4)).

²⁷In these examples, the final vowel of the base undergoes post-tonic reduction (raising to [i]). More details about post-tonic vowel reduction are provided in §5.2.

d.	'nòt̪i-ri	'job'	'nòta	'to work'
		< SFH 06 yx12(177)/tx >		
e.	o'máwi-ri	'ceremony'	o'máwa	'to make party'
		< SFH 06 tx12(87)/tx >		
f.	hi'râ-ri	'things for betting'	hi'râ	'to bet'
		< LEL 06 tx19(49)/tx >		
g.	ba't̪ôki-ri	'adobe'	ba't̪ôka	'to fix walls with mud'
		< SFH in61(70)/in >		
h.	a?pé-ri	'lump of things'	a?pe	'to carry in back'
		< LEL 06 tx 19(33)/tx >		

The form in (44) is an example of a phonologically non-transparent nominalization (where the vowel of the nominalizing suffix undergoes anticipatory assimilation with the following particle).

- (44) *'pé a?lá ami'nábi 'àa busu'rêro t̪so 'lé*
'pé a?lá ami'ná-bi 'à busu'rê-ri t̪so a'lé
 just well more=just give.PRS wake.up-NMLZ also DUB
 'but we must also give more advice (to our children)'
 'pero hay que darle más consejo (a nuestros hijos)' < SFH 06 in61(713)/in >

8.6 Spanish noun loanwords

The prosodic properties of loanwords from Spanish are addressed in Chapter 3 and Chapter 7. This subsection addresses the morphological strategies with which borrowed nouns from Spanish are incorporated into the Choguita Rarámuri lexicon. Specifically, relatively recent loan nouns from Spanish appear in constructions with the *-t̪i* suffix. This marker is homophonous with the locative suffix, but in none of the examples below is there any evidence for locative semantics. The formative's sole function in these cases is to nativize the loanwords. This is exemplified in (45).

- (45) Nativization of Spanish noun loanwords

	<i>Loanword</i>	<i>Gloss</i>	<i>Spanish source</i>
a.	es'pêhot̪i	'mirror'	espejo
b.	'trênt̪i	'train'	tren
c.	ka'miônt̪i	'bus'	camión
d.	li'mêtat̪i	'bottle'	limeta
e.	ala'kûunt̪i	'lake, lagoon'	laguna

As described in §7.3, there are a few loan nouns from Spanish that do not bear any morphological marking, but display varying degrees of phonological adaptation. Some examples are given in (46):

(46) Varying degrees of adaptation in Spanish loanwords

	<i>Loanword</i>	<i>Gloss</i>	<i>Spanish source</i>
a.	'ûli	'rubber'	<i>hule</i>
b.	ko'mâare	'co-mother'	<i>comadre</i>
c.	kom'pâare	'co-father'	<i>compadre</i>
d.	'tîna	'bucket'	<i>tina</i>
e.	'sôru	'soda'	<i>soda</i>
f.	'wâsi	'cow'	<i>vaca</i>

Finally, there are a few nouns where newer loans coexist with older loanwords, as exemplified in (47). In these pairs, older loans display more phonological adaptation (e.g., *kâwi*) than the newer loanword or are based in an archaic form of Spanish (e.g., *limeta*, a noun no longer in use in contemporary Northern Mexican Spanish).

(47) Coexistence of recent and archaic loanwords

	<i>Archaic loanword</i>	<i>Recent loanword</i>	<i>Gloss</i>	<i>Spanish source</i>
a.	'kâwi	ka'bâjo	'horse'	<i>caballo</i>
b.	li'mêtat̪í	bo'têja	'bottle'	<i>botella, limeta</i>

There are no other documented morphological strategies to nativize Spanish nouns in the corpus of Choguita Rarámuri.

8.7 Tone in morphologically complex nouns

This section addresses the tonal properties of morphologically complex nouns. While nominal morphology is more limited than verbal morphology, and the interactions between tonal and stress properties of both roots and morphological constructions is largely a matter of general phonological processes, some tonal patterns in morphologically complex nouns exhibit lexical and morphological conditioning.

Nouns exhibit the following word-prosodic properties, which are shared with other major word classes (see also Chapter 11, §11.3.1 and §11.3):

(48) Word-prosodic properties of nouns

- Each prosodic word has a single main stress.
- There is no secondary stress (i.e., stress is non-iterative).

- Stress is restricted to appear within an initial three-syllable window.
- There is a three-way tonal contrast (HL, L, and H).
- Tonal contrasts are exclusively realized in stressed syllables.
- Morphological constructions are either stress-shifting, triggering stress shifts, or stress-neutral, triggering no stress changes in the stems to which they attach.
- Stress-shifting suffixes are part of the stressable domain, while stress-neutral suffixes are outside the stressable domain and never stressed.
- Stressed stem syllables bear the lexical tone of the root, while stressed suffixed syllables bear the lexical tone of the suffix.

From the set of nominal morphological constructions, there are only two suffixes that trigger a stress shift in the bases to which they attach. These are listed in (49). Stress falls on the suffix syllable, where the underlying lexical tone of the suffix is realized.

(49) Nominal stress-shifting suffixes

- a. Locative-adessive LOC.AD *-t̪í* H
- b. Possessive POSS *-lâ* HL

The examples in (50) and (51) illustrate the stress and lexical tonal properties of these suffixes.

(50) Stress-shifting locative-adessive *-t̪í*

- | Locative- | Gloss | Stem | Gloss |
|---------------------|---------------|-------|-----------------------------|
| <i>adessive</i> | | | |
| a. wasa- <i>t̪í</i> | ‘on the land’ | wa'sá | ‘land’ {SFH tx43:7:44.3} |
| b. kawi- <i>t̪í</i> | ‘on the hill’ | ka'wì | ‘hill’ {LEL tx32:0:30.7} |
| c. rono- <i>t̪í</i> | ‘on the foot’ | ro'nô | ‘foot’ {MDH co1140:17:52.7} |

(51) Stress-shifting possessive *-lâ*

- | Possessive form | Stem | Gloss | Source |
|--------------------|-------|---------------------|---------------------|
| a. ono- <i>lâ</i> | o'nó | ‘father (male ego)’ | < SFH tx12(9)/tx > |
| b. a?ka- <i>lâ</i> | a?kâ | ‘sandals’ | < BFL 09 1:60/el > |
| c. bo?i- <i>lâ</i> | bo?í | ‘road’ | < BFL 06 5:128/el > |
| d. sono- <i>lâ</i> | so'nó | ‘lungs’ | < MGD 06 1:107/el > |

As shown in these examples, stress shifts one syllable rightward to the suffix syllable, the third syllable of the word. In contrast, other nominal suffixes never

condition stress shifts with the nouns to which they attach (e.g., the locative-inessive *-rare* suffix never triggers stress shifts; compare, for instance, *saʔpá-rare* ‘in the meat’, with no stress shift and *saʔpa-^{tʃí}* ‘on the meat’, with stress shift, in (50c) above). There are no other documented cases in the corpus of Choguita Ráramuri where other nominal suffixes trigger stress shifts in the morphologically complex words in which they appear.

While nominal morphological constructions may be classified as stress-shifting or stress-neutral, triggering stress shifts or not, respectively, nominal roots do not exhibit a stressed/unstressed distinction like verbs do. Recall that verbs may be classified as lexically stressed or unstressed, with lexically stressed verbs retaining stress in a fixed position across paradigmatically related words and lexically unstressed verbs consistently shifting stress when attaching a stress-shifting construction (see §11.3.8). In words containing unstressed verbal roots and a stress-neutral construction, stress is assigned by default to the second syllable of the root (or the only syllable of monosyllabic roots) (see §5.3). In contrast to this pattern, stress shifts in nouns are not homogeneously observed with all suffixes that may be stressed (analyzed here as ‘stress-shifting’). As shown in (52) below, some nominal paradigms exhibit stress shifts with the stress-shifting locative-adessive *-tʃí* suffix, but not with the stress-shifting possessive *-lâ* suffix (forms with stress shift are highlighted in boldface).

(52) Stress behavior of morphologically complex nouns

	<i>Stem</i>	<i>Gloss</i>	<i>Locative-adessive</i>	<i>Possessive</i>	<i>Locative-inessive</i>
a.	<i>saʔpá</i>	‘meat’	<i>sapa-^{tʃí}</i>	<i>saʔpá-lâ</i>	<i>saʔpá-rare</i>
b.	<i>si'kâ</i>	‘hand’	<i>sika-^{tʃí}</i>	<i>si'kâ-lâ</i>	<i>si'kâ-ti</i>

Suffix-triggered stress shifts in nominal forms are thus not homogeneously attested, but rather are a matter of lexical conditioning. However, the distinction between stress-shifting and stress-neutral is kept here for nominal morphological constructions, reflecting the ability to trigger a stress shift and bear stress or not, respectively.

Examples of the three lexical tones in noun roots are provided in (53).

(53) Lexical tones in nouns

	<i>Tone</i>	<i>Form</i>	<i>Gloss</i>
a.	[L]	<i>mè</i>	‘agave, mezcal’
b.	[H]	<i>té</i>	‘lice’
c.	[L]	<i>ko'lí</i>	‘spatial root’
d.	[HL]	<i>ko'lí</i>	‘chile pepper’
e.	[HL]	<i>ko'nâ</i>	‘salt’

- f. [L] koʔ'nà 'heart of corn cob' (*olote*)
- g. [HL] 'nôtſā 'pretentious'
- h. [L] 'nôtſā 'hard working'
- i. [H] na'pátſā 'blouse'
- j. [HL] *tſā'bōtſi* 'mestizo person'

As attested in morphologically complex verbs, the underlying lexical tone of nominal suffixes is revealed when stressed, as shown in (54).

	<i>Locative-adessive</i>	<i>Stem</i>	<i>Gloss</i>
a.	[H] kawi-' <i>tſi</i>	[L] ka'wì	'hill, earth'
b.	[H] sa?pa-' <i>tſi</i>	[H] sa?'	pá 'meat'
c.	[H] rono-' <i>tſi</i>	[HL] ro'nô	'foot'

As shown in these examples, the locative *-tſi* suffix emerges with a H tone when stressed, regardless of the lexical tone of the nominal root (either L (54a), H (54b), or HL (54c)).

These tonal patterns are thus lexical tone patterns, which are contingent on the morphologically-conditioned stress assignment that operates across the language. In addition to these lexical tone patterns, there is also evidence for grammatical tone in nouns. Specifically, the locative-innessive *-riri* [-riri] suffix, a stress-neutral suffix that is never stressed, replaces stem L tones with a grammatical H tonal melody in the stressed syllable of the stem. This is shown in (55). As shown in these examples, tonal replacement is only attested when the root bears a lexical L tone (55a–b), but no changes are attested with nouns with other lexical tone patterns (55c–d).

(55) Tonal replacement in morphologically complex nouns

	<i>Locative-innessive</i>	<i>Stem</i>	<i>Gloss</i>
a.	[H] ka'wí-riri < LEL tx109:1:17.4 >	[L] ka'wì < LEL tx88:1:42.0 >	'hill, earth'
b.	[H] ro'há-riri {LEL tx71:3:59.6}	[L] ro'hà < LEL el1917/el >	'oak tree'
c.	[HL] mu'ní-riri < BFL 06 5:127/el >	[HL] mu'ní < MDH co1136:0:10.0 >	'beans'
d.	[H] ki'má-riri < LEL 06 5:127-9/el >	[H] ki'má < LEL tx372:4:06.5 >	'blanket'

This pattern involves a morphologically-conditioned tonal effect, similar to the one documented with verbs inflected for imperfective or present progressive

(see §9.2.3), where morphological constructions condition a tonal change in the stem without bringing about a stress change.

Morphologically-conditioned tonal replacement in nouns, however, exhibits both inter- and intra-speaker variation. Some examples are shown in (56):

	<i>Locative-inessive</i>	<i>Stem</i>	<i>Gloss</i>
a.	[L] ro'hà-riri {SFH tx152:05:57.2}	[L] ro'hà {SFH tx152:5:23.6}	'oak tree'
b.	[L] ka'wì-riri {LEL tx109:0:32.1}	[L] ka'wì {LEL tx130:4:44.7}	'hill, earth'

For speaker SFH, there is no replacement of the stem lexical L tone when attaching the locative-inessive suffix (56a) (in contrast to (55b) where the same noun undergoes tonal replacement for speaker LEL). Speaker LEL exhibits variable realization of tonal patterns with nouns inflected with this suffix, as in (56b), which contrasts with example (55a), where the same noun undergoes tonal replacement for the same speaker.

There is thus very marginal evidence for grammatical tone patterns in morphologically complex nouns, in contrast to tonal patterns in verbs (§11.3.7). This can be understood as instantiating a common cross-linguistic trend whereby nouns show greater 'phonological privilege' than verbs, where phonological privilege is defined as the ability to support a greater array of phonological contrasts (Smith 2011). Phonological privilege may involve larger number of underlying phonological distinctions, more variety in surface patterns and/or greater resistance to undergoing phonological processes. Lack of grammatical tone in morphologically complex nouns can be also understood as contributing to the phonological privilege of nouns in Choguita Rarámuri.

9 Verbs and the verbal complex

This chapter provides an overview of the verbal morphology, the verbal complex and morphologically-conditioned phonological processes of Choguita Rarámuri and provides evidence for a hierarchical structure of the verb. The chapter is structured along two important topics in the language: (i) phonological and morphological properties of verb roots and morphological constructions (affixes and non-concatenative processes), and (ii) the morphological structure of verbs. Choguita Rarámuri verbal morphology is highly synthetic and agglutinative (where agglutination is understood to involve mostly separative-non-flexive morphology (Bickel & Nichols 2007)). The morphological structure of the language does not instantiate a position-class system (as defined in Simpson & Withgott 1986 and Inkelas 1993),¹ but is rather arranged in verbal zones, in concentric layers that are evidenced by the degrees of morpho-phonological fusion displayed by verbal suffixes.

This chapter provides evidence for twelve suffix positions that are grouped into six verbal domains, schematized in Table 9.1: an Inner Stem, the input to suffixation, a Derived Stem, a Syntactic Stem, an Aspectual Stem, a Finite Verb domain and a Subordinate Verb domain. Each of these domains is semantically, morphotactically, and morpho-phonologically motivated, with morphological exponents closer to the root displaying a higher degree of phonological fusion.

The Inner Stem, described in §9.3, is the domain of body part incorporation, non-concatenative processes and unproductive concatenative markers. The morphological processes taking place at this stage are more tightly fused phonologically to the root than any later morphological process as they may undergo hap-

¹Position-class or templatic analyses are posited when affix order in a given language is not governed by semantic, syntactic or phonological principles, and every morpheme in the system is assumed to be lexically indexed for a particular fixed position in a total linear arrangement of position classes. In this kind of system, morphemes are rigidly ordered, there are formal dependencies between discontinuous suffixes, inflectional and derivational exponents are interspersed within the verbal structure, and semantically compatible suffixes might be in complementary distribution due to their membership to the same position class (Inkelas 1993; see also Rice 2011). None of these properties characterize the Choguita Rarámuri morphological system.

Table 9.1: Choguita Rarámuri verbal stem domains

Position	Marker	Stem domain
S1	Inchoative	Inner Stem
S2	Transitives	Derived Stem
S3	Applicatives	Syntactic Stem
S4	Causative	
S5	Applicative	
S6	Desiderative	Aspectual Stem
S7	Associated Motion	
S8	Auditory Evidential	
S9	Voice/Aspect/Tense	Finite Verb
S10	Mood	
S11	TAM	
S12	Deverbal morphology	Subordinate Verb

lology (1a), compensatory lengthening (1a),² vowel lengthening triggered by the past passive suffix (1b), and round harmony, among other processes (a comprehensive description of the morphologically conditioned phonological processes attested in Choguita Rarámuri verbs is provided in §9.4.3).

(1) Inner Stem examples

- a. *tʃá'bóopo*
/[tʃá'bó-pi]InnerStem^{-po}/
beard-REV-FUT.PL
'They will remove their beards.'
'Se van a quitar la barba.' < SFH 08 1:5/el >
- b. *o'siiru*
/[o's-i]InnerStem^{-ru}/
write-APPL-PST.PASS
'It was written.'
'Fue escrito.' < SFH 08 1:45/el >

²In (1a), there is syllable deletion in avoidance of adjacent identical syllable onsets (/tʃá'bó-pi-po/, as well as compensatory lengthening of the stressed syllable as a result of this deletion process ([tʃá'bóopo]) More details about haplology and compensatory lengthening can be found in §9.4.3.1 and §9.4.3.2, respectively.

The first verbal domain involving suffixation, the Derived Stem, includes inchoative and transitive suffixes (2a), derivational suffixes that are only attested with change-of-state predicates (further discussion of these markers can be found in Appendix A.1). This stem domain is characterized morpho-phonologically by: (i) a non-concatenative morphological process of stress shift to the final syllable of the domain to encode imperative singular; (ii) vowel lengthening induced by the past passive suffix (2b); and (iii) morphologically conditioned stress shifts.

(2) Derived Stem examples

- a. *tʃoko'bánali*
/[[tʃoko]InnerStem-'bá-na]DerivedStem-li/
be.sour-INCH-TR-PST
'S/he made them go sour.'
'Hizo que se agriaran.' < SFH 04 1:113/el >
- b. *rapa'nâaru*
/[[rapa]InnerStem-nâ]DerivedStem-ru/
split-TR-PST.PASS
'She was already operated (lit. cut).'
'Ya la operaron (cortaron).' < SFH 08 1:84/el >

The next verbal domain, the Syntactic Stem, is comprised of valence-increasing suffixes that display variable ordering, as well as multiple exponence (3a).³ In terms of their morpho-phonological properties, these suffixes form a coherent domain since they are stress-neutral and part of the domain of a phonological process of round harmony (3b). Further discussion and examples of these markers can be found in Appendix A.2.

(3) Syntactic Stem examples

- a. *no'kèrtikiri!*
/[[no'ka-è]InnerStem-ri-ti-ki]SyntacticStem-ri/
move.APPL-CAUS-CAUS-APPL-IMP.SG
'Move it for someone!'
'¡Muéveselo!' < BFL 08 1:28/el >

³Two causative markers are attested in this example, instantiating multiple (extended) exponence. See Caballero (2011c) for discussion of this phenomenon in Choguita Rarámuri.

b. *ſukukupo*

/[[su'kú]InnerStem-ki]SyntacticStem-po/
scratch-APPL-FUT.PL

‘They will scratch her.’

‘La van a arañar.’ < BFL 05 1:116/el >

The Aspectual Stem domain is composed of disyllabic modal and aspectual suffixes that are transparently related to independent verbs in the language. As discussed in more detail in §15.6.4, these markers involve a process of V-V incorporation. Aspectual Stem markers may undergo round harmony (4a) and exhibit variable ordering (4b-c). More details about the markers belonging to this stem domain are provided in Appendix A.3.

(4) Aspectual Stem examples

a. *bani'sútusuma*

/[[[bani'sú]InnerStem-ti]SyntacticStem-simi]AspectualStem-ma/
pull-CAUS-MOT-FUT.SG

‘S/he will go along making them pull it.’

‘Los va a ir haciendo que lo jalen.’ < SFH 07 2:67 rec487 /el >

b. *sutu'béet-nale*

/[[sutu'béet̪i]InnerStem-t̪ane-nale]AspectualStem/
trip-EV-DESID

‘It sounds like they want to trip.’

‘Se oye que se quieren tropezar.’ < BFL 07 rec300/el >

c. *'sûuntʃuna*

/[[sû]InnerStem-nale-t̪ane]AspectualStem-a/
sow-DESID-EV-PROG

‘It sounds like she wants to sow.’

‘Se oye como que quiere coser.’ < SFH 07 1:9/el >

The next two verb domains involve inflectional markers. The Finite Verb domain comprises mood, voice, tense, and aspect suffixes that close verbs used in non-subordinate clauses (5a). Verbs may also add suffixes from a final, Subordinate Verb domain when used in subordinate clauses (5b). Suffixes in these last two domains are largely separable and do not undergo vowel lengthening, rounding harmony or other morpho-phonological effects attested in inner verbal domains.

(5) Finite and Subordinate Verb examples

- a. *po^títisima*
 $/[[[[po^tí]_{\text{Inner Stem}}-ti]_{\text{Syntactic Stem}}-simi]_{\text{Aspectual Stem}}-ma]_{\text{Finite Verb}}/$
 jump-CAUS-MOT-FUT.SG
 'I will go along making the dog jump.'
 'Voy a ir haciendo que brinque el perro.' < SFH 08 1:72/el >
- b. *omo'wáruat^tí*
 $/[[[omo'wá]_{\text{Inner Stem}}-riwa-a]_{\text{Finite Verb}}-t^tí]_{\text{Subordinate Verb}}/$
 make.party-MPASS-PROG-TEMP
 'like with parties, when parties are made'
 'así como las fiestas, cuando hacen fiesta' {SFH tx12:5:40.5}

Finally, inflected verbal forms are part of a larger unit, referred to here as the Verbal Complex (discussed in detail in §9.5), which includes person enclitics (6a) and epistemic modality markers (6b). Person enclitics (which encode person, number and a nominative-accusative case distinction) are unrestricted in terms of the syntactic category of the words they may attach to. Epistemic markers (which encode the degree of certainty speakers have towards the actuality of an event) are prosodically independent markers that may only follow inflected verbs. Epistemic markers show some degree of fusion with their bases, as they may condition phonological changes in the inflected verb.⁴

(6) Verbal Complex: person clitics and epistemic markers

- a. *ka^tíkini*
 $/[[[ka^tí]_{\text{Inner Stem}}-ki]_{\text{Finite Verb}}]=ni]_{\text{Verbal Complex}}/$
 spit-pst.ego=1sg.nom
 'I spitted.'
 'Escupí.' {BFL el656:1:27.6}
- b. *wipi'sómo 'lá*
 $/[[[wipi'só]_{\text{Inner Stem}}-ma]_{\text{Finite Verb}} o'lá]_{\text{Verbal Complex}}/$
 hit.w.stick-FUT.SG CER
 '(I) will definitely hit it with a stick.'
 '(Le) voy a pegar con palo.' {SFH el1080:3:29.0}

⁴In (6b), the initial vowel of the certainty marker *o'lá* replaces the final vowel of the future singular suffix *-ma*.

As argued in this chapter, this organization of the morphology into these verbal domains is critical in understanding the patterns of morphologically-conditioned phonology and variable affix ordering patterns attested in this language.

This chapter also addresses the morphological role of tone, in terms of tonal properties of verb classes, tone alternations as phonological effects imposed by certain morphological constructions, and tone as the exponent of morphological categories. The strictly phonological aspects of the interaction between stress and tone in the word prosodic system of the language are addressed in Chapter 5, while the interaction between tone and intonation is addressed in Chapter 6. Complex prosodic interactions involving stress, tone (lexical and grammatical) and intonation are described in Chapter 11.

This chapter is organized in two parts, which address the verb from the inside-out. The first part is concerned with verbal root classes and the prosodic properties of roots and suffixes (in §9.1), grammatical tonal patterns in verbal paradigms (in §9.2), and other non-concatenative morphological processes taking place at the Inner Stem (in §9.3). The second part of the chapter is concerned with the suffixation domain and the clitics and modal particles that occur in the verbal complex (in §9.4 and §9.5). Topics addressed in this second half include the morphotactic evidence for positing different positions in the verbal template (§9.4.2), and the morpho-phonological evidence for positing verbal domains (§9.4.3), including the distribution of stress-shifting and stress-neutral suffixes in the verbal stem. A description of the basic phonological and morphosyntactic properties of verbal suffixes in each verbal domain can be found in Appendix A.1–A.5.

9.1 Verbal root classes

9.1.1 The contrast between stressed and unstressed roots

Choguita Rarámuri verbal roots can be divided in three classes depending on their underlying stress and vowel specifications. Membership in these classes is manifested through presence or absence of stress shifts and vowel quality differences, triggered by specific affixes and non-concatenative morphological processes.

Roots can be first characterized as either underlyingly stressed or unstressed. Stressed roots do not display any stress shifts or vocalic alternations in any morphological context (as exemplified in (7)). All unstressed roots, on the other hand, shift stress one syllable to the right in certain morphological contexts (as exemplified in (8)). Stress syllables are in bold face.

(7) Stressed roots

- | | | | |
|----|-------------------|----------------|---------------------------------|
| a. | ri' mù -li | 'dream-PST' | 2 nd syllable stress |
| b. | ri' mù -la | 'dream-REP.DS' | 2 nd syllable stress |
| c. | ri' mù -bo | 'dream-FUT.PL' | 2 nd syllable stress |
| d. | ri' mù -sa | 'dream-COND' | 2 nd syllable stress |

(8) Unstressed roots

- | | | | |
|----|-------------------|------------------|---------------------------------|
| a. | su' kú -li | 'scratch-PST' | 2 nd syllable stress |
| b. | su' kú -la | 'scratch-REP.DS' | 2 nd syllable stress |
| c. | suku-' bô | 'scratch-FUT.PL' | 3 rd syllable stress |
| d. | suku-' sâ | 'scratch-COND' | 3 rd syllable stress |

A partial list of stress-shifting suffixes is provided in Table 9.2.

Table 9.2: Stress-shifting suffixes

Suffix	Root <i>sukú</i> 'scratch' ('rasguñar')
Conditional <i>-sâ</i>	suku-' sâ
Future sg. <i>-'mêa</i> / <i>-ma</i>	suku-' mêa
Motion imperative <i>-mê</i>	suku-' mê
Desiderative <i>-nále</i>	suku-' nále
Future pl. <i>-bô</i>	suku-' bô

These suffixes contrast with another class of suffixes, stress-neutral suffixes, that do not trigger any stress shifts on any class of roots, exemplified in Table 9.3.

Table 9.3: Stress-neutral suffixes

Suffix	Root <i>sukú</i> 'scratch' ('rasguñar')
Past, 1 st person <i>-ki</i>	su' kú -ki
Evidential <i>-tʃane</i>	su' kú -tʃane
Imperfective <i>-e</i>	su' kú -i
Associated Motion <i>-simi</i>	su' kú -simi
Irrealis pl. <i>-pi</i>	su' kú -pi

Suffixes and non-concatenative processes that condition stress and other morpho-phonological changes on unstressed roots are referred to here as “shifting” morphological constructions. Stress-neutral suffixes and non-concatenative processes, on the other hand, do not trigger any morpho-phonological alternations, and form “neutral” morphological constructions. Here I employ the term “morphological construction” to refer to any morphological process or pattern that combines two sisters into a single constituent to form a complex word (Inkelas & Zoll 2005: 12). Each individual affix or non-concatenative process thus involves a unique morphological construction. By grouping morphological constructions into “shifting” and “neutral” classes, I suggest that morphological constructions in the language belong to two classes based on their phonological properties. The details of the phonological properties of particular morphological constructions are addressed in §5.3.

Unstressed roots can be further subdivided in two classes: (i) unstressed roots with fully specified vowels (exemplified in (9)); and (ii) unstressed roots with root final unspecified vowels (exemplified in (10)). While the former class of roots (Class 2) has vowels that are fully specified in their underlying representation, I assume that the latter class of roots (Class 3) have a final V slot, whose features are dependent on the morphological construction in which the root takes place. Class 2 roots display no vocalic alternations in both shifting and neutral constructions, and Class 3 roots have final root vowel raising concomitant to the stress shift in shifting constructions.

(9) Unstressed roots with specified vowels (Class 2)

	<i>Stem</i>	<i>Gloss</i>	<i>Unstressed stems</i>	<i>Stressed stems</i>
a.	tʃo'í	'extinguish, intr.'	tʃo?i-	tʃo?í
b.	ro'nò	'boil'	rono-	ro'nò
c.	kú'rú	'become thick'	kuru-	kú'rú
d.	ra'ná	'give birth'	rana-	ra'ná

(10) Unstressed roots with final unspecified vowels (Class 3)

	<i>Stem</i>	<i>Gloss</i>	<i>Unstressed stems</i>	<i>Stressed stems</i>
a.	tʃo?nV	'hit with fist'	tʃo?ni	tʃo?ná
b.	ra?lV	'buy'	ra?li-	ra?lá
c.	rewV	'find'	rewi-	re'wá
d.	itʃV	'sow'	itʃi-	ítʃá

Stressed roots, with no morpho-phonological changes, are the third type of roots in Choguita Rarámuri (Class 1). The difference between Choguita Rarámuri verbal root classes is summarized in Table 9.4.

Table 9.4: Choguita Rarámuri verbal root classes

	Class 1 <i>Stressed</i>	Class 2 <i>Unstressed specified final V</i>	Class 3 <i>Unstressed unspecified final V</i>	
PST	be'nè-li	su'kú-li	ra?lè-li	Neutral
PROG	be'nè-a	su'kú-a	ra?lè-a	Constructions
IMPF	be'nè-i	su'kú-i	ra?lè-i	
FUT.SG	be'nè-ma	suku-'mêa	ra?li-'mêa	Shifting
COND	be'nè-sa	suku-'sâ	ra?li-'sâ	Constructions
DESID	be'nè-nale	suku-'nále	ra?li-'nále	

Class 3 roots have a final stressed low vowel in neutral constructions. There are Class 2 roots that have a final low vowel, but these roots do not undergo final stem vowel raising in shifting constructions. As shown in (11), there are Class 2 roots with final specified *o* (11a–b), *i* (11c–d), *u* (11e–f) and *a* (11g–h).

(11) Class 2 roots' final specified vowels

	<i>Shifting</i>	<i>Neutral</i>	
	<i>FUT.SG</i>	<i>PST</i>	<i>Gloss</i>
a.	rono-'mêa	ro'nò-li	'boil'
b.	moro-'mêa	mo'rò-li	'to smoke' cf. mo'ri 'smoke'
c.	wi?ri-'mêa	wi?rí-li	'to stand, sg'
d.	tʃa?i-'mêa	tʃa?í-li	'grab'
e.	uku-'mêa	u'kú-li	'to rain' cf. u'ki 'rain'
f.	muku-'mêa	mu'kú-li	'die'
g.	rana-'mêa	ra'ná-li	'give birth' cf. ra'ná 'offspring'
h.	ika-'mêa	i'ká-li	'be windy' cf. i'ká 'wind'

Most Class 3 roots, on the other hand, end in high, front vowels in shifting constructions (but can also end in back, mid vowels (e.g., *noko-'mêa* in (12d)). Without exception, these roots end in *a* in neutral constructions. Some examples of these roots with alternating final vowels are provided in (12):

(12) Class 3 roots' final specified vowels

	<i>Shifting</i>	<i>Neutral</i>	
	<i>FUT.SG</i>	<i>PST</i>	<i>Gloss</i>
a.	osi- ^m êa	o'sâ-li	'write, read'
b.	itfi- ^m êa	i'tfá-li	'sow'
c.	rahi- ^m êa	ra'há-li	'light up (fire)'
d.	noko- ^m êa	no'ká-li	'to move'

< AHF 05 1:127/el >
< SFH 05 1:78/el >
< ROF 04 1:62/el >
< BFL 05 1:114/el >

The generalization is that roots with final *a* are split between Class 2 roots (with no vowel alternation in shifting constructions as in (11g–h)), and Class 3 roots (with vowel alternations in neutral constructions (as in (12)).

9.1.2 Stress-shifting and stress-neutral constructions across Uto-Aztecan

9.1.2.1 Morphosyntactic-based accounts

Some descriptive and historical-comparative works on Uto-Aztecan languages treat the stress shifts and vocalic alternations of roots just described, present in other Uto-Aztecan languages, as stem suppletive allomorphy, where roots with no stress shifts or vocalic alternations encode non-future meanings (like past, perfective, and imperfective), and roots with stress shifts and vocalic alternations encode a future or “unrealized” stem meaning (like irrealis, counterfactual, imperative, and potential) (Langacker 1977: 133). Thus, the morpho-phonological alternations attested in verb roots could be analyzed as being morphosyntactically motivated. There are, however, shortcomings to a classification of shifting and neutral constructions along a future/irrealis scale. Specifically, many of the categories in either shifting or neutral constructions cannot be characterized as having either a non-future or an “unrealized” meaning (such as valency-increasing categories). In addition, the past passive suffix, which is stress-shifting, patterns along with the ‘unrealized’ or future forms, contrary to the morphosyntactically-based stem allomorphy proposal.

In Choguita Rarámuri, then, the constructions that trigger a stress shift with certain roots do not themselves encode any constant morphosyntactic features or properties, but rather are a heterogenous class of morphological constructions. This fits in the definition given for *morphemic* stems by Aronoff (1994), where “the mapping from morphosyntax to phonological realization is not direct, but rather passes through an intermediate level” (1994: 25), which is purely morphological (see also Blevins 2003). The two sets of morphological constructions identified (shifting and neutral constructions) cannot be characterized morphosyntac-

tically or semantically, but only phonologically (see also §11.3.7.3 and Caballero & German 2021).

9.1.2.2 Conjugation class analysis alternative

There is an alternative analysis for Choguita Rarámuri verbal roots, and that is to treat the alternations as indicative of conjugation classes (as Brambila 1953 and Lionnet 1972 do for other Rarámuri varieties). Under such an analysis, the stress and vocalic alternation properties of roots would reflect an arbitrary division of the lexicon; that is, the lexically conditioned stem allomorphy would be expressed through item-based alternations (stress shifts and vocalic alternations) when inflected for certain morphological categories.

Under the conjugation class analysis, there would also be three root classes in Choguita Rarámuri.⁵ Class 1 roots would not display any stress shift or vocalic alternation when inflected for any morphological category. Class 2 roots would have a “primary stem” and a “secondary stem”. For two-syllable stems, the primary stem will have second-syllable stress, while the secondary stem will have third-syllable stress, on a suffix adjacent to the root. Finally, Class 3 roots also have a primary stem and a secondary stem marked by a stress shift and a concomitant vowel alternation: the primary stem has a stem final low vowel (usually *a*, but also *o*), while the secondary stem has a stem final high, front high vowel (*i*). Table 9.5 exemplifies these conjugational classes.

Table 9.5: Choguita Rarámuri inflection classes

	Class 1	Class 2	Class 3	
PST	be'nè-li	su'kú-li	ra?lā-li	Primary
PROG	be'nè-a	su'kú-a	ra?lā-a	stem
IMPF	be'nè-i	su'kú-i	ra?lā-i	
FUT.SG	be'nè-ma	suku-'mēa	ra?li-'mēa	Secondary
COND	be'nè-sa	suku-'sā	ra?li-'sā	stem
DESID	be'nè-nale	suku-'nále	ra?li-'nále	

Conjugational classes, as flexive formatives in general, are characterized by displaying item-based variation; this variation, however, is lexically, not morphophonologically, conditioned (Bickel & Nichols 2007). A diagnosis in favor of the

⁵Brambila (1953) and Lionnet (1972) propose three and four conjugation classes, respectively. Lionnet includes irregular forms as additional verbal classes in his classification.

conjugational class analysis would be the existence of other phenomena that would correlate with the stem types of Choguita Rarámuri besides the stress shift and vocalic alternations identified above. That is, in order to argue that a conjugational class analysis is the correct one for the stem alternations in Choguita Rarámuri, there should be other phenomena correlating with the arbitrary division of the lexicon that could not be explained as arising from morpho-phonological alternations. There are two phenomena in Choguita Rarámuri that could potentially fit this definition. First, Class 2 and Class 3 stems (both of which are unstressed) pattern together in participating in valence-related alternations (described in §9.1.5). However, this valence marking system does not distinguish between any subgroup of the unstressed stems, so there would not be evidence for the distinction between Class 2 and Class 3 stems. Second, there is an apparently lexically-conditioned allomorph of a habitual passive suffix: *-rīwa* for Class 1 stems and *-wá* for the rest.

The evidence for conjugation classes in Choguita Rarámuri is therefore weak. Stress shifts and vocalic alternations of Choguita Rarámuri stems are analyzed here as arising from regular morpho-phonological processes and the existence of two phonological kinds of stems and suffixes: roots with underlying, lexically pre-specified stress, and roots without it; and stress-perturbing suffixes and stress-neutral suffixes. These two kinds of suffixes would be associated with two kinds of morphological constructions. Stress shifts result from regular morpho-phonological principles that apply to the interactions of the different roots and affixes, rather than from an arbitrary classification of the lexicon into conjugation classes.

While this morpho-phonological analysis of Choguita Rarámuri roots has implications for the analysis of the morphologically-conditioned stress, the conjugational class analysis might be used as a simplified notational device for lexicographic and pedagogical works. Specifically, it is crucial to distinguish three classes of verbal roots in this language in order to predict the roots' behavior in morphological constructions.

9.1.3 The interaction of shifting and neutral morphological constructions: stress and vocalic alternations

The agglutinating nature of the Choguita Rarámuri verbal template allows for the interaction of different kinds of suffixes in terms of their stress properties (as stress-neutral or stress-shifting) in the same word. Given the phonological effects of each type of suffix with unstressed roots, it is necessary to look at unstressed roots that undergo multiple affixation to determine what suffix imposes

its phonological properties on the whole word, i.e., which phonological effects percolate up to the word level.

As we have seen in the previous section, Class 3 roots have a stem with second syllable stress and final *a*) when attaching a stress neutral suffix and a stem with third syllable stress and final unstressed *i* when attaching a stress shifting suffix. In cases of multiple affixation, the stress properties of the word are invariably defined by the first suffix added: in each form exemplified in (13–16), words have third syllable stress when the first suffix is stress shifting (13, 14), and second syllable stress when the first suffix is stress neutral (15–16), regardless of the stress type of outer suffixes. Multiply suffixed forms where the root is immediately followed by a stress neutral suffix, are, however, split with respect to their vocalic qualities: these roots can either have a final stressed *i* vowel (e.g., (15a–b) and (16a–b)) or a final stressed *a* vowel (e.g., (15c–d) and (16c–d)).

(13) Class 3 verb root + stress shifting suffix + stress shifting suffix

- a. *osi'nálsa*
osi-'nále-sa
 write.read-DESID-COND
 'If s/he wants to read/write.'
 'Si quiere leer/escribir.' < BFL 08 1:18/el>
- b. *riwi'bôsi*
riwi-'bô-si
 find.see-MOT.IMP.PL-IMP.PL
 'You all go see/find it!'
 '¡Vayan a ver/encontrar!' < BFL 08 1:16/el >

(14) Class 3 verb root + stress shifting suffix + stress neutral suffix

- a. *osi'náliki*
osi-'nále-ki
 write.read-DESID-PST.EGO
 'I wanted to read/write.'
 'Quería leer/escribir.' < BFL 08 1:18/el >
- b. *riwi'wái*
riwi-'wá-i
 find.see-MPASS-IMPF
 'It used to be seen/found.'
 'Era visto/encontrado.' < BFL 08 1:16/el >

9 Verbs and the verbal complex

- (15) Class 3 verb root + stress neutral suffix + stress shifting suffix

- a. *o'sisima*
o'sì-si-ma
write.read-MOT-FUT.SG
'S/he will go along reading/writing.'
'Va a ir leyendo/escribiendo.' < SFH 05 1:88/ el >
- b. *ri'wíwkima*
ri'wí-wi-ki-ma
find.see-APPL-APPL-FUT.SG
'S/he will find/see it for them.'
'Va a encontrárselo/vérselo.' < BFL 08 1:16/el >
- c. *o'sàrma*
o'sà-ri-ma
write.read-CAUS-FUT.SG
'S/he will make them read/write.'
'Va a hacer que lea/esscriba.' < BFL 08 1:10/el >
- d. *ra?lártima*
ra?lá-ri-ti-ma
buy-CAUS-CAUS-FUT.SG
'S/he will make them buy it.'
'Va a hacer que lo compre.' < BFL 08 1:10/el >

- (16) Class 3 verb root + stress neutral suffix + stress neutral suffix

- a. *o'sirili*
o'sì-ri-li
write.read-CAUS-PST
'S/he made them read/write.'
'Lo hizo leer/escribir.' < SFH 08 1:41/ el >
- b. *ri'wísio*
ri'wí-si-o
find.see-MOT-EP
'S/he goes along seeing/finding.' < BFL 08 1:16/el >
- c. *o'sàrki*
o'sà-ri-ki
write.read-CAUS-PST.EGO
'I made them read/write.'
'Los hice leer/escribir.' < BFL 08 1:10/el >

- d. *raʔlártiki*
ra'lá-ri-ti-ki
 buy-CAUS-CAUS-PST.EGO
 'I made them buy it.'
 'Los hice comprarlo.' < BFL 08 1:10/el >

Irrespective of the stress type of the suffixes added, then, words built from Class 3 roots will have a stress make-up dependent on the first suffix added, but either a final *i* stem vowel or a final *a* stem vowel.⁶

9.1.4 Lexical tone in lexically stressed and unstressed verbs

In addition to the contrast in terms of lexically specified stress (stressed and unstressed), verbal roots bear lexical tonal contrasts with a distribution that is partly dependent on the lexical stress properties of roots. First, all tonal contrasts (HL, L and H) are realized with lexically stressed roots (those with fixed stress across paradigms). This is exemplified in (17), where stress is fixed with both neutral (e.g., past *-li*) and shifting (e.g., future sg. *-ma*) suffixes:⁷

- (17) Tonal properties of lexically stressed roots

		<i>Neutral</i>	<i>Shifting</i>	
		<i>PST</i>	<i>FUT.SG</i>	
a.	ni'hî	'give away'	ni'hî-li	ni'hî-ma < BFL el1904 >
b.	wi'tʃô	'wash (clothes)'	wi'tʃô-li	wi'tʃô-ma < SFH el101 >
c.	o'hò	'thresh'	o'hò-li	o'hò-ma < BFL el1906 >
d.	tʃî'hà	'spread, intr.'	tʃî'hà-li	tʃî'hà-ma < BFL 2014:64 >
e.	po'tʃí	'jump'	po'tʃí-li	po'tʃí-ma < SFH el1900 >
f.	pa'kó	'wash (dishes)'	pa'kó-li	pa'kó-ma < SFH el1901 >

⁶The fact that there is variation of stem shape in constructions with multiple suffixes could suggest a “look-ahead” effect of morphology, where variation in vocalic quality is dependent on having multiple suffixation (i.e., the outer suffixes ‘see’ inside the preceding morphological structure, a violation of bracket erasure). An alternative is to assume that variation in stem selection is exclusively found when Class 3 roots add suffixes of inner layers (e.g., the Syntactic Stem and Aspectual Stem verb domains defined below in §9.4). Given the hierarchical structure of the verb proposed in this grammar, suffixes belong to different verbal domains. The phonological features of certain domains will thus percolate up to the word level and impose its phonological properties to the word form.

⁷As described in §9.2.4 below, a subset of lexically stressed roots have “alternating” tone patterns, or morphologically determined tone in inflection: L tone in neutral morphological contexts and HL tone in shifting morphological contexts. This class differs from other verbal roots since it displays tonal changes in the absence of stress shifts.

On the other hand, lexically unstressed roots are predominantly H-toned (e.g., (18a–d), though there are also unstressed L-toned roots documented (e.g. (18e–f). Crucially, there are no documented HL-toned unstressed roots. The examples in (18) show how these roots, like all unstressed roots, shift stress in shifting contexts (e.g., when inflected for future singular *-mēa* ~ *-ma*), but keep stress in the stem in neutral contexts (e.g., when inflected for past *-li*). The lexical tone of the root emerges in bare stems and when inflected for neutral constructions.

(18) Tonal properties of lexically unstressed roots

		<i>Neutral</i>	<i>Shifting</i>	
		<i>PST</i>	<i>FUT.SG</i>	
a.	a'wí	'dance'	a'wí-li	awi-'mēa < BFL el1883>
b.	a'sá	'sit down'	a'sá-li	asi-'mēa < RIC el1892>
c.	ma ¹ t̪í	'know'	ma ¹ t̪í-li	mat̪í-'mēa < BFL el1909>
d.	ro'nò	'boil'	ro'nò-li	rono-'mēa < BFL el1903>
e.	mo'lò	'to be smoky'	mo'lò-li	molo-'mēa < BFL el1914>
f.	t̪ju?mì	'to hiccup'	t̪ju?mì-li	t̪ju?mì-'mēa < BFL 2014:147>

Given the surface tonal distributions in morphologically complex verbs in Choguita Rarámuri, the analysis assumed here is that all lexical tones are specified, in both lexically stressed and lexically unstressed verb roots. The stress and tonal properties of morphologically complex verbs are discussed further in §9.2 below and in Chapter 11.

9.1.5 Valence alternations

In the previous section, we have seen that there are three identifiable verbal root classes in Choguita Rarámuri, which have characteristic stress and vowel alternation properties in morphologically defined contexts. Unstressed roots (Class 2 and Class 3 roots) can, in addition, undergo valence related alternations through the affixation of transitive and applicative vocalic suffixes that replace the final vowel of the stem.

In this valence alternation system, there are three kinds of stems: intransitive, transitive and applicative stems. Intransitive stems end in an unstressed vowel (19). Transitive stems replace the final stem vowel with a stressed *-a* suffix (20).⁸

⁸Heath (1978) provides evidence that an intransitive-transitive contrast marked by *i* for intransitive and *a* for transitive goes back to Proto-Uto-Aztecán.

Applicative stems replace the final stem vowel with a stressed, low toned front vowel suffix (-è or -i) (21).⁹

(19) Valence stem allomorphy: Intransitive

- a. *ni'hê 'má noko'mêa*
ni'hê 'má noko-'mêa
 1SG.NOM already move.INTR-FUT.SG
 'I will move.'
 'Ya me voy a mover.' < SFH 05 1:80/el >
- b. *uku'mêa*
uku-'mêa
 rain.INTR-FUT.SG
 'It will rain.'
 'Va a llover.' < SFH 05 1:82/el >

(20) Valence stem allomorphy: Transitive

- 'má ra?lákí*
'má ra?l-á-ki
 already buy-TR-PST.EGO
 '(He) already bought it.'
 'Ya lo compró.' < AHF 05 1:130/el >

⁹There is only one example that shows a semantic difference between an applicative stem formed with a final stressed high front vowel and an applicative stem with a final stressed mid front vowel: the verb *ra?lá/ra?li* - 'to buy', has two applicative bases: *ra?l-è* 'buy from' (i.a) and *ra?li* 'buy for' (i):

- (i) a. *mu'hê ta'mí sa'pâto ra?lèma*
mu'hê ta'mí sa'pâto ra?l-è-ma
 2SG.NOM 1SG.ACC shoes buy.from-FUT.SG
 'You'll buy shoes from me (that I sell).'
 'Me vas a comprar zapatos (a mi, que yo vendo)' < SFH 05 1:74/ el >
- b. *mu'hê ta'mí sa'pâto ra?lima*
mu'hê ta'mí sa'pâto ra?l-i-ma
 2SG.NOM 1SG.ACC shoes buy-APPL-FUT.SG
 'You will buy me shoes (for me to use).'
 'Me vas a comprar zapatos (para mi, para que yo use)' < SFH 05 1:74/el >

There are no other examples where two applicative stems have been lexicalized with different meanings.

(21) Valence stem allomorphy: Applicative

- a. *ni'he 'mí 'trôka no'kèli*
ni'he 'mí 'trôka no'k-è-li
 1SG.NOM 2SG.ACC truck move-APPL-PST
 'I will move the truck for you.'
 'Te voy a mover la troca.' < SFH 05 1:80/el >
- b. *'á=mi ta'mí ra?lèma*
'á=mi ta'mí ra?l-è-ma
 AFF=2SG.NOM 1SG.ACC buy-APPL-FUT.SG
 'Will you buy (it) from me?'
 '¿Me lo compras (yo lo vendo)?' < SFH 05 1:75/el >
- c. *mi u'kèli*
mi u'k-è-li
 DEM rain-APPL-PST
 'It rained for (him).'
 'Le llovió.' < SFH 05 1:84/el >

Table 9.6 schematizes the three-way contrast between intransitive, transitive and applicative stems (syntactic/semantic gaps are symbolized by dashes).

Table 9.6: Valence stem allomorphy

	Intransitive	Transitive	Applicative	Gloss
a.	su'wí	su'wá	su'w-è	'run out/finish up'
b.	sa'wí	-	sa'w-è	'cure, heal'
c.	-	ra?lá	ra?l-è	'buy'
d.	noko	-	no'k-è	'move'
e.	-	i'tsá	i't-í	'plant'
f.	uku	-	u'k-è	'rain'
g.	wili-	wi'lá	wi'l-è	'stand'
h.	tʃo?i	tʃo?á	tʃo'?'-í	'extinguish'
i.	-	o'sá	o's-è	'read, write'
j.	-	ki'má	ki'm-è	'cover with blanket'

Verbs that exhibit this valence alternation may exhibit multiple exponence: the examples in (22–24) show how the applicative is redundantly marked, as there are two applicative markers in (22b), (23b) and (24b), but only one benefactive

or malefactive argument introduced. These forms are semantically equivalent to their counterparts with only one applicative exponent (in (22a), (23a), and (24a), respectively) and speakers use the two types of forms interchangeably.

- (22) a. *'máni 'mí su'wèli re'mê*
 'má=ni 'mí su'w-è-li re'mê
 already=1SG.NOM 2SG.ACC finish-APPL-PST tortillas
 'I already finished (ate) up your tortillas.'
 'Ya me acabé tus tortillas.' < SFH 05 1:119/el >
- b. *'máni 'mí su'wèkili re'mê*
 'má=ni 'mí su'w-è-ki-li re'mê
 already=1SG.NOM 2SG.ACC finish-APPL-APPL-PST tortillas
 'I already finished (ate) up your tortillas.'
 'Ya me acabé tus tortillas.' < LEL 06 5:123/el >
- (23) a. *o'síma*
 o's-i-ma
 write-APPL-FUT.SG
 'She will write him (a letter).'
 'Le va a escribir (una carta).' < BFL 06 2:98/el >
- b. *o'síkima*
 o's-i-ki-ma
 write-APPL-APPL-FUT.SG
 'She will write him (a letter).'
 'Le va a escribir (una carta).' < BFL 06 2:98/el >
- (24) a. *ro'nèma*
 ro'n-è-ma
 boil-APPL-FUT.SG
 'He will boil it for her.'
 'Se la va a hervir.' < BFL 06 2:101/el >
- b. *ro'nèkima*
 ro'n-è-ki-ma
 boil-APPL-APPL-FUT.SG
 'He will boil it for her.'
 'Se la va a hervir.' < BFL 06 2:101/el >

Finally, transitive and applicative stems block any stress shift or vocalic alternation conditioned by shifting and neutral morphological constructions. That is, transitive and applicative stems always have stress on their final stem vowel, and block any stress shift or vocalic alternation imposed by shifting morphological constructions.

9.1.6 Change-of-state predicates

In addition to the valence stem allomorphy of unstressed roots, Choguita Rarámuri has a second valency-increasing stem allomorphy system, marked through thematic suffixes and stress alternations in a semantically defined class of verbs, change-of-state predicates. In Choguita Rarámuri, the class of change-of-state predicates is composed of unstressed roots that are marked as intransitive, transitive or applicative through the presence or absence of transitive suffixes and specific stress patterns. All change-of-state verb roots are disyllabic.

The Guarajío cognates of this verb class are defined as predicates that denote an irreversible change-of-state or condition, generally produced by some kind of contact, with prototypical intransitive-causative pairs ‘break’, ‘twist’, ‘torn apart’, ‘shatter’, ‘spill’ (Miller 1996: 153). This class of verbs shares morphological traits across the Uto-Aztecan language family: Heath (1978) reconstructs a morphological class of verbs for Proto-Uto-Aztecan (PUA) and the intermediate protolanguages, Proto Northern Uto-Aztecan (PNUA) and Proto Southern Uto-Aztecan (PSUA), and gives descriptions of this class of verbs in Southern Paiute, Mono, Luiseño, Cupeño, Cahuilla, Serrano, Hopi, Tepiman, Tarahumara and Aztec language varieties. This class is composed of disyllabic roots with thematic variation, and it includes verbs denoting events of physical change-of-state, even though the actual verbs are not cognate from one language to another.

Intransitive stems involve no theme suffixes and have fixed stress: stress is on the second syllable, whether a stress-shifting suffix (future singular in (25a) and conditional in (25c)) or a stress-neutral suffix (past in (25b) and (25d)) is attached.

(25) Intransitive change-of-state predicates

- a. *tʃíháma 'lé tʃíba*
tʃíhá-ma a'lé tʃíba
 scatter-FUT.SG DUB goats
 ‘The goats will scatter.’
 ‘Se van a desparramar las chivas.’ < SFH 07 1:17/el >

- b. *'má t̪í'háli t̪í'ba*
'má t̪í'há-li t̪í'ba
 already scatter-PST goats
 'The goats already scattered.'
 'Ya se desparramaron las chivas.' < SFH 07 1:17/el >
- c. *ri'púsa ku'sì*
ri'pú-sa ku'sì
 cut-COND wood
 'If the wood is cut.'
 'Si se corta la leña.' < BFL 08 1:25/el >
- d. *'má ri'púli ku'sì*
'má ri'pú-li ku'sì
 already cut-PST wood
 'The wood was already cut.'
 'Ya está cortada la leña.' < BFL 08 1:25/el >

Transitive stems, on the other hand, are marked by suffixes (the transitive *-'nâ* suffix exemplified in (26) and the transitive pluractional *-t̪â* suffix exemplified in (27c)), and are also sensitive to shifting and neutral constructions: stress is shifted to the transitive suffix, the third syllable, when attaching stress-shifting morphemes ((26a) and (26c)), but have final root (second syllable) stress when attaching stress-neutral suffixes ((26b) and (26d)).

(26) Transitive change-of-state predicates

- a. *t̪íha'nâsa na'pâtfí*
t̪íha-'nâ-sa na'pâtfí
 scatter-TR-COND blouse
 'if she scatters the blouses...'
 'si desparrama las blusas' < SFH 07 1:17/el >
- b. *'pírim o'lá t̪í'hánili na'mûti*
'píri=mi o'lá t̪í'há-na-li na'mûti
 what=2SG.NOM why scatter.TR-TR-PST things
 'Why did you scatter the things?'
 '¿Por qué desparramas las cosas?' < SFH 07 1:17/el >
- c. *ma ripu'nâma 'lé ku'sì*
ma ripu-'nâ-ma a'lé ku'sì
 now cut-TR-FUT.SG DUB wood
 'S/he'll cut the wood now.'

9 Verbs and the verbal complex

‘Ya va a cortar la leña.’ <RF 04 verbs/el >

- d. *se'rütʃo ri'púnili ku'si*
se'rütʃo ri'pú-na-li ku'si
 saw cut-TR-PST wood

‘The saw cut the wood.’

‘El serrucho cortó la leña.’ < BFL 08 1:25/el >

The transitive *-'nâ* suffix, thus, has a stressed and an unstressed allomorph. The same is attested for the transitive pluractional *-tʃā* suffix.¹⁰

- (27) a. *ni'hê ku?ru'nâma*
ni'hê ku?ru-'nâ-ma
 1SG.NOM turn-TR-FUT.SG
 ‘I will turn it (on its own axis).’
- ‘Le voy a dar vuelta (en su propio eje).’ < BFL 05 1:187/el >
- b. *ni'hê ku?rîma*
ni'hê ku?rî-ma
 1SG.NOM turn-FUT.SG
 ‘I will turn (on my own axis).’
- ‘Voy a dar vuelta (en mi propio eje).’ < SFH 05 1:140/el >
- c. *'máni ku?rîtʃima*
'má=ni ku?rî-tʃa-ma
 already=1SG.NOM turn-TR.PL-FUT.SG
 ‘I will now turn it several times (on its own axis).’
- ‘Ya le voy a dar muchas vueltas (en su propio eje).’ < BFL 05 1:187/el >

Finally, applicative stems are marked through the addition of a transitive suffix and fixed final root (second syllable) stress. As shown in the next examples, the applicative stems of change-of-state predicates have fixed second syllable stress, whether they are in a shifting construction (future singular (28b)) or a neutral construction (past (28d)). Applicative stems are shown with a corresponding non-transitive version of these predicates.

¹⁰When bearing stress, the transitive suffix often causes the final root vowel to align in color with the first root vowel, as in (27a).

(28) Applicative change-of-state predicates

- a. *'pé u'tfiin t̪i'wáli boʔ'nà mu'nî 'nè*
'pé u'tfi=ni t̪i'wá-li boʔ'nà mu'nî 'nè
 just small.space=1SG.NOM tear-PST harvest.beans beans 1SG.NOM
 'Just a little bit (in a small piece of land) I tore beans for harvest, I.'
 'Nomás muy poquito (en un pedazo de tierra chiquito) alcancé a
 arrancar frijol, yo.' {MDH co1137:9:36.1}
- b. *ni'hê 'mí t̪i'wánima*
ni'hê 'mí t̪i'wá-na-ma
 1SG.NOM 2SG.ACC tear.APPL-TR-FUT.SG
 'I'm going to tear it for you.'
 'Yo te lo voy a trozar.' < SFH 07 1:21/el >
- c. *t̪íiba t̪i'háli*
t̪íiba t̪i'há-li
 goats scatter-PST
 'The goats got scattered.'
 'Las chivas se desparramaron.'
- d. *ni'hê 'mámi t̪i'hánili na'pàt̪i*
ni'hê 'má-mi t̪i'há-na-li na'pàt̪i
 1SG.NOM already=2SG.ACC scatter-TR-PST blouses
 'I scattered your blouses.'
 'Ya te desparramé las blusas.' < SFH 07 1:21/el >

The differences between the different kinds of stems are schematized in Table 9.7

Table 9.7: Change-of-state predicates and thematic alternations

	Neutral	Shifting	Marker
Intransitive	ka'sì-li	ka'sì-ma	fixed 2 nd syllable stress, no transitive suffix
Transitive	ka'sì-ni-li	kasi-'nâ-ma	transitive <i>-nâ</i>
Applicative	ka'sì-ni-li	k'asì-ni-ma	fixed 2 nd syllable stress (plus transitive <i>-nâ</i>)

The effects of neutral and shifting morphological contexts only produce stress shifts with transitive stems of change-of-state predicates.

9.1.7 Summary

All open class words in Choguita Rarámuri have surface stress, but verbal (and other) roots can be characterized as either lexically stressed or unstressed, a distinction of their underlying phonological representation. This phonological distinction involves significant differences in the prosodic makeup of words, depending on the interaction between roots and different types of suffixes and morphological constructions. Unstressed roots can be further subdivided into two classes if the roots undergo vowel alternations concomitant to the stress shifts. I have presented a morpho-phonological analysis of these three types of roots, and have given arguments in favor of this analysis over a conjugational class analysis.

Unstressed verbs can participate in a valence stem allomorphy system and undergo internal, non-concatenative changes when specified for intransitive, transitive or applicative meanings. Another subset of the unstressed verbs, semantically defined as a class of verbs of change-of-state, participates in a second valence stem allomorphy system. In these systems, final stem vowel changes and fixed stress patterns are the markers of morphological categories (valence-increasing categories), while any concomitant stress shifts are epiphenomenal of certain morphological constructions, a byproduct of the phonological make up of roots and affixes and their compositional interaction.

In addition to stress shifts and vocalic alternations, morphologically complex verbs are characterized by tonal patterns governed by both phonological and morphological conditioning factors. All lexical tones are analyzed here to be underlyingly specified. Lexically stressed verbs may exhibit any of the three lexical tones of the language (HL, L or H), while lexically unstressed verbs are only specified for H and L tones (i.e., there are no lexically unstressed verbs with lexical HL tones). I turn to the role of tone in morphologically complex verbs in the next section.

9.2 The role of tone in verbal morphology

As described in Chapter 6, Choguita Rarámuri features a three-way lexical tonal contrast. In addition to lexical tone patterns and processes, tone in Choguita Rarámuri has purely morphological functions and properties that require description and analysis independently of its phonological characteristics.

This section is devoted to describing the role of GRAMMATICAL TONE in the verbal morphology of Choguita Rarámuri. Grammatical tone may be defined as a tonal pattern or process that is not general across the phonological grammar

of a language, but is instead associated to a specific morpheme or construction, or a natural class of morphemes or constructions (see Rolle 2018).¹¹

As discussed in this grammar, stress carries a high functional load in the verbal morphology of the language. While tone appears to carry a smaller functional load than stress, and while lexical tone distribution is itself constrained by stress placement (with morphological distributions of tone being a by-product of the morphological factors that govern stress distribution), tone nonetheless plays an autonomously morphological role in this language. Before addressing each one of these grammatical tone properties, the next section provides an overview of the lexical tonal properties of suffixes in Choguita Rarámuri.

9.2.1 Lexical tones of suffixes

Evidence for three contrastive lexical tones in Choguita Rarámuri is given in Chapter 6 and their distribution in verbal roots was addressed in §6.1.3. Suffixes also have underlying lexical tones, which are evidenced when they are stressed in morphologically complex words. Only those suffixes associated with shifting constructions (stress-shifting) attaching to unstressed roots will reveal their underlying tonal properties in the surface form (as there is no evidence that suffixes belonging to the neutral class bear lexical tones since they are never stressed). The forms in (29) exemplify suffixes and their tonal properties when attaching to the lexically unstressed root *sukú* ‘to scratch’ (Spanish *rascarse*).

(29) Lexical tone of suffixes in partial verbal paradigm

- a. FUT.SG -'m  a *suku-’m  a* ‘(S)he will scratch.’
- b. DESID -'n  le *suku-’n  le* ‘(S)he wants to scratch.’
- c. COND -'s  a *suku-’s  a* ‘if (s)he scratches’
- d. IMP.PL -'s  i *suku-’s  i* ‘Scratch yourselves!’

<LEL el2059>

As shown in these examples, suffixes may bear any of the three lexical tones of the language. (30) provides a comprehensive list of shifting suffixes and their underlying tonal properties.

¹¹Given that verbal morphology in Choguita Rarámuri is more complex than nominal morphology and the morphology of other word classes, this chapter addresses morphological tone within the verbal domain. The grammatical tonal properties of Choguita Rarámuri nouns are addressed in Chapter 8 (§8.7).

(30) Lexical tone properties of shifting suffixes

a.	TR	<i>-bû</i>	HL
b.	DESID	<i>-nále</i>	H
c.	MPASS	<i>-rîwa</i>	HL
d.	COND.PASS	<i>-sûwa</i>	HL
e.	FUT.SG	<i>-mêa</i>	HL
f.	FUT.PL	<i>-bô</i>	HL
g.	MOT.IMP	<i>-mê</i>	HL
h.	COND	<i>-sâ</i>	HL
i.	IRR.SG	<i>-mê</i>	HL
j.	IMP.SG	<i>-sâ</i>	HL
k.	IMP.SG	<i>-kâ</i>	HL
l.	IMP.PL	<i>-sì</i>	L
m.	GER	<i>-ká</i>	HL

If one of these suffixes is stressed within a complex word, the surface tone pattern of the word may be characterized as involving lexical tone. Lexical tone contrasts with grammatical tone, as the latter involves tonal patterns that are governed directly by morphological factors. I address these next (in §9.2.2 and in §11.3.7).

9.2.2 Tone as realizational morphology

Choguita Rarámuri deploys tone as a morphological exponent in the marking of imperative mood. The imperative singular has four allomorphs, two concatenative exponents (*-kâ* and *-sâ*) and two non-concatenative ones (a floating L tone and a final stress shift).

The low tonal allomorph replaces stem lexical HL tones, neutralizing the contrast between lexical HL and L tones in the imperative mood. The data in (31) exemplify the four allomorphs of the imperative singular construction, contrasting the bare stem (inflected for present tense) and the corresponding imperative singular form.

(31) The imperative singular construction: four allomorphs

	<i>PRS</i>		<i>IMP.SG</i>		<i>Gloss</i>
a.	<i>ni'kâ</i>	HL	<i>ni'kâ</i>	L	‘Bark!’ < BFL el1910 >
b.	<i>ti'sô</i>	HL	<i>ti'sò</i>	L	‘Walk with cane!’ < SFH el2042 >
c.	<i>ni'wâ</i>	HL	<i>ni'wâ-sa</i>	HL	‘Make it!’ < BFL 2014:61 >
d.	<i>mu'rú</i>	H	<i>mu'rú-ka</i>	HL	‘Carry in arms!’ < BFL el1883 >
e.	<i>na?so'wâ</i>	L	<i>na?so'wâ</i>	HL	‘Stir it!’ < BFL el1957 >

As shown in these examples, the L tonal allomorph of the imperative singular replaces the HL tone of the stem (31a–b), but tonal replacement does not take place if a suffixal allomorph of the imperative singular is used instead (31c–d). Finally, (31e) shows that a stress shift within the stem may encode the imperative singular inflectional value.

The examples in (32) show a HL-toned verb, *ma'tô* ‘to carry something in shoulders’, inflected for different tense/aspect and person/number values, including the imperative singular (32e).

(32) Partial paradigm of the verb *ma'tó* ‘to carry in shoulders’

- a. *ma'tôa*
ma'tô-a
carry.shoulders-PRS
'(S)/he carries it on the shoulders.'
'La carga en los hombros.'
 - b. *ma'tôki*
ma'tô-ki
carry.shoulders-PST.EGO
'I carried it on the shoulders.'
'La cargué en los hombros.'
 - c. *ma'tôma*
ma'tô-ma
carry.shoulders-FUT.SG
'I will carry it on the shoulders.'
'La voy a cargar en los hombros.'
 - d. *ma'tôi*
ma'tô-i
carry.shoulders-IMPF
'I was carrying it on the shoulders.'
'La cargaba en los hombros.'
 - e. *ma'tò*
ma'tò
carry.shouldersIMP.SG
'Carry it on the shoulders!'
'Cárgala en los hombros!'
- < BFL 2014 1:152 >

As shown in the contrast between these inflected forms, a HL-toned verb will keep its lexical tonal melody across derivations without any stress shifts (32), ex-

cept when inflected for the imperative singular tonal allomorph: in this case, the morphological L tone replaces the HL lexical tone of the stem (32e). In this case, the stem vowel undergoes lengthening in order to accommodate the imperative L-tone allomorph of the imperative singular on the first mora and the H% boundary tone on the second mora of the stem vowel (for more discussion of boundary tones, see §6.2.1).

The following examples show how the imperative singular L tone is a grammatical tone that replaces stem tones, which includes morphologically complex stems composed of roots and stem-forming suffixes, such as the transitive *-na* suffix:

- (33) a. *supa'nàá*
supa'-nà
 unravel-TR.IMP.SG
 'Unravel it!'
 '¡Deshílalo!' < SFH 2014 1:142>
- b. *supa'nâma*
supa'-nâ-ma
 unravel-TR-FUT.SG
 '(S)/he will unravel it.'
 'Lo va a deshilar.' < SFH 2014 1:142>

As shown in the contrast between (33a) and (33b), a HL tone in a stem containing a stressed transitive *-na* suffix is replaced when inflected for the imperative singular, since the imperative L-tone allomorph associates with the stressed syllable, replacing the stem HL tone.¹²

In contrast, L-toned stems and H-toned stems do not undergo any tonal changes when inflected for the imperative singular. Suffixing allomorphs and stress shifts are available in words containing these stems in order to encode this inflectional construction. This is exemplified in (34).

- (34) No tonal replacement

	<i>Stem</i>		<i>IMP.SG</i>		<i>Gloss</i>
a.	<i>o'hò</i>	L	<i>o'hò</i>	L	'Thresh!' < BFL el1906>
b.	<i>se'mè</i>	L	<i>se'mè</i>	L	'Play the violin!' < BFL el1920>
c.	<i>bi?'tò</i>	L	<i>bi?'tò</i>	L	'Twist your ankle!' < RIC el2024>

¹² Chapter 11 provides more details about patterns of tonal replacement in morphologically complex words.

- d. sa'kú H sa'kú H 'Dry it in the sun!' < BFL el1923>
- e. ki'má H ki'má H 'Put on blanket!' < BFL el1909>
- f. sutu'bú H sutu'bú H 'Tie its legs!' < BFL el1911>

Replacement of HL tones with grammatical L imperative singular tone thus leads to neutralization of HL and L lexical tones in this construction. Finally, and as shown in (31c–d) above, the L-tone imperative allomorph is incompatible with other imperative singular marking. Thus, there is no multiple exponence involved for this inflectional category.

9.2.3 Morphologically-conditioned tone

The lexical tonal properties of suffixing constructions is addressed in §9.2.1. Recall that these suffixing constructions belong to the shifting class, triggering stress shifts with lexically unstressed roots. There are, however, suffixes that condition tonal alternations onto the stems they attach with without triggering any stress shifts. This is the case of the imperfective *-i* suffix and the present progressive *-a* suffix, two suffixes that impose a L tone on a stressed stem syllable of a complex word containing an underlyingly unstressed root without conditioning any stress shifts: both the imperfective and the present progressive are neutral morphological suffixing constructions that do not trigger stress shifts and are unable to bear stress. The data in (35) exemplify this morphologically-conditioned tone pattern.

(35) Morphologically-conditioned L tone

- | PST <i>-li</i> | IMPF <i>-i</i> | PROG <i>-a</i> |
|----------------|----------------|------------------|
| a. a'wí-li H | a'wì-i L | a'wì-a L 'dance' |
| b. ri'wá-li H | ri'wà-i L | ri'wà-a L 'find' |
| c. ra?lá-li H | ra?là-i L | ra?là-a L 'buy' |

As the examples in (35) show, the imperfective and the present progressive are associated with a L tone in the stem without triggering stress shifts, in contrast to other neutral constructions such as the past *-li* suffix, which do not trigger any tonal alternations in the stems to which they attach (i.e., the H tone in the stem when attaching the past *-li* suffix is the underlying tone of the verbal root).

As mentioned above, this morphologically-conditioned effect is only attested when the imperfective and progressive suffixes attach to lexically unstressed roots. When the roots exemplified in (35) above attach a shifting construction, the resulting morphologically complex word exhibits a stress shift (in these cases, stress falls on the shifting suffixes). This is shown in (36).

(36) Morphologically-conditioned tone only targets unstressed roots

	PST <i>-li</i>	IMPF <i>-i</i>	PROG <i>-a</i>			
a.	a'wí-li	H	a'wì-i	L	awi'-sâ	HL 'dance'
b.	ri'wá-li	H	ri'wà-i	L	riwi'-sâ	HL 'find'
c.	ra?lá-li	H	ra?là-i	L	ra?la'-sâ	HL 'buy'
d.	hi'râ-li	HL	hi'râ-i	HL	hîrâ-sa	HL 'bet'
e.	mu'rú-li	H	mu'rú-i	H	mu'rú-sa	H 'carry in arms'
f.	i?tʃá-li	L	i?tʃá-i	L	i?tʃá-sa	L 'plant'

As in the examples in (36a–c) show, stress shifts with lexically unstressed roots; if stress is on the suffix, the lexical tone associated with that suffix emerges (in the case of the conditional *-sâ* suffix, a falling HL tone). When stress falls on the stem containing these lexically unstressed roots, the surface tone is either the lexical root tone (when attaching the past tense *-li* suffix) or the morphologically-conditioned L tone (when attaching the imperfective *-i* suffix or the present progressive *-a* suffix). The forms in (36d–f) show that no tonal alternations are attested when the imperfective and progressive suffixes attach to lexically stressed roots (which do not exhibit any tone changes across morphological paradigms).

Finally, it should be noted that the tonal effect that the imperfective and present progressive suffixes have in the stems to which they attach can be traced diachronically to recent changes in the segmental and prosodic make up of these suffixes: as evidenced in data from Norogachi Rarámuri (Brambila 1953), and the closely related Mountain Guarajío (Miller 1996), both of these suffixes were stressable suffixes that recently lost a palatal glide onset. For more discussion of this recent development, see Chapter 11.

9.2.4 Alternating tone stems

A subset of stressed verbal stems in Choguita Rarámuri (referred to as “alternating” in Caballero & Carroll 2015) exhibit alternating tone patterns that are predictable in terms of the inflectional morphology with which they combine. As exemplified in (37), these stems exhibit a HL tone in shifting morphological contexts (those that condition stress shifts and other morpho-phonological alternations) and a L tone in neutral contexts. There are no stress shifts in either context, and only the tonal alternation is indicative of either the shifting or neutral morphological context. These generalizations hold when considering two-level constructions (stem and only one morphological construction).

(37) Alternating verbs: tonal alternations

	<i>Neutral</i>		<i>Shifting</i>	
	PST/PST.EGO		FUT.SG	
a.	'pà-li	L	'pâ-ma	HL
b.	na'wà-li	L	na'wâ-ma	HL
c.	bi?w-à-li	L	bi?w-â-ma	HL
d.	a?wà-li	L	a?wâ-ma	HL
e.	ne'wà-ki	L	ni'wâ-ma	HL

'to bring' <RIC el1921>
'to arrive' <RIC el1921>
'to clean (tr.)' < BFL el1903>
'to swallow' <LEL 2063>
'to make, do <RIC 1892>

The examples in (38) and (39) show the tone alternations of a single verb *bi?w-a* 'to clean' (a stem composed of the root *bi?w-* 'to clean' and the transitivizer *-a* suffix), where the surface tonal properties of the word are determined by the type of morphological construction: L if neutral (38) and HL if shifting (39).

(38) Neutral constructions

- a. bi?w-à-ki L Past egophoric
- b. bi?w-à-li L Past
- c. bi?w-à-i L Imperfective
- d. bi?w-à-a L Present progressive

(39) Shifting constructions

- a. bi?w-â-ma HL Future singular
 - b. bi?w-â-fi HL Imperative plural
 - c. bi?w-â HL Imperative singular
 - d. bi?w-âa-ru HL Past passive
- < BFL el1903, LEL 18:164>

In these cases, it is not possible to identify any underlying lexical tone properties of the verb roots and tonal alternations cannot be predicted from the lexical tonal properties of suffixes. These tonal alternations are also independent of stress alternations and other phonological properties. Stress and tone, though closely related, are orthogonal dimensions in Choguita Rarámuri.

9.2.5 Summary

The following is a summary of the different grammatical tone patterns documented Choguita Rarámuri (for further discussion, see Chapter 11, as well as Caballero & German 2021):

(40) Choguita Rarámuri grammatical tone patterns

- Tone may be a morphological exponent of inflection (tone as *realizational morphology*) (§9.2.2)
- Suffixes have tonal properties and may induce changes on the stems to which they attach (tone as *morphologically-conditioned phonology*) (§9.2.3)
- Tone is systematically distributed across verb classes in terms of neutral vs. shifting inflectional morphology constructions (§9.2.4)

Having addressed the properties of root classes in Choguita Rarámuri, including the tone properties of roots as well as grammatical tone patterns, we can now turn to the non-productive and non-concatenative processes occurring at the next level of the Choguita Rarámuri verb, the Inner Stem.

9.3 The Inner Stem: noun incorporation, non-concatenative morphology and unproductive processes

The Inner Stem, the input to suffixation, is composed of a denominalized noun root, an incorporated verb root, or a verbal root that has optionally undergone a non-concatenative process or a process that is no longer fully productive, including subject number prefixation and pluractional marking.

This first stem domain can also be characterized morpho-phonologically: this is the domain of application of compensatory lengthening (described in §9.4.3.2), and a morphological incorporation stress rule that assigns stress to the first syllable of the head of an incorporated verb (described in more detail in §9.3.3). In general, the morphological processes taking place at this stage are more tightly fused phonologically to the root than any later morphological process.

This sub-section is organized as follows: §9.3.1 describes non-concatenative processes; §9.3.2 gives an overview of instrumental prefixes; §9.3.3 describes the process of body-part incorporation; §9.3.4 describes number suppletion and plural prefixation; and §9.3.5 gives an overview of the unproductive verbalizer suffixes and their phonological effects on their bases.

9.3.1 Non-concatenative processes

Non-concatenative processes in Choguita Rarámuri include conversion (§9.3.1.1), pluractional consonant mutation (§9.3.1.2), stress and tone changes to encode im-

perative singular (§9.3.1.3), and stress shifts encoding a derivational verbalization process (§9.3.1.4).

9.3.1.1 Conversion

Some nominal stems (including some nouns referring to weather) can take verbal morphology with no overt denominal marking. The examples in (41) are listed with the future singular suffix. With some exceptions (like (41a)), most of these zero derived verbs belong to the unstressed stem class in terms of their stress behavior.

(41) Noun-to-verb conversion

	<i>Verb stem</i>		<i>Noun stem</i>	
a.	ré'mê-ma	make.tortillas-FUT.SG	ré'mê	'tortillas'
b.	ika'-mêa	be.windy-FUT.SG	i'ká	'wind'
c.	moro'-mêa	be.foggy-FUT.SG	mo'rí	'smoke'
d.	uku'-mêa	rain-FUT.SG	u'kí	'rain'
e.	nori'-mêa	be.cloudy-FUT.SG	no'rí	'cloud'
f.	saki'-mêa	make.esquite-FUT.SG	sa'kí	'esquite'

Examples (41c-d) show also that the unstressed vowel of the derived verbal form can harmonize with the stem's first vowel (*mo'rí* 'smoke' becomes *morò* 'to be smoky/foggy' and *u'kí* 'rain' becomes *uku-* 'to rain'). This harmonizing process is absent in cognate forms of zero derivation in Mountain Guarijío (cf. *yu'kí* 'rain', *yu'kí-má* 'to rain') (Miller 1996: 148).

9.3.1.2 Pluractionality: prefixation and consonant mutation

There is a process that marks plural subject with verbs, or that an action occurs or is being performed by the same agent several times, or by several agents several times. When used with nouns it marks plural number. These meanings are related in that they refer to event plurality or "pluractionality". Pluractionals have been defined as encompassing meanings that range from iterative and frequentative to distributive and extensive action (Newman 1990, Newman 2012, Wood 2007).

Choguita Rarámuri pluractional forms are marked through a prefixed element analyzed in other descriptive works of Rarámuri and Guarijío as reduplication (Lionnet 1968, Lionnet & Miller 1985).¹³ In Mountain Guarijío, the cognate process (labelled "plural subject, iterative or durative"), is more clearly analyzed as

¹³Lionnet (2001b) labels these "intensive".

reduplication, since the prefixed element is (C)V- (e.g. *saé*, *sa-saé* ‘smell’, *isí*, *i-isí* ‘walk’) (Miller 1996: 62).

Pluractionals in Choguita Rarámuri are marked in three ways: (i) through a prefixed vowel (42a–b) (where the vowel quality of the prefix can be harmonized to the root’s first syllable vowel); (ii) through consonant mutation (42c–h); or (iii) through both consonant mutation and a prefix element (42i–o).¹⁴

(42) Pluractionals

	<i>Base</i>	<i>Pluractional</i>	<i>Gloss</i>	
a.	'tʃóni	o-'tʃóni	‘become black’	< AHF 05 2:24/el >
b.	sí'rí-ame	i-'séri-k-ame	‘governor’	< BFL 05 1:156/el >
c.	ka'pô-r-ame	ka'bô-r-ame	‘round one’	< BFL 05 1:155/el >
d.	rema'rí	'têmuri	‘young person’	< BFL 05 1:155/el >
e.	riku'rí	'tékiri	‘drunk person’	< BFL 05 1:156/el >
f.	ka'pí-r-ame	ka'bí-r-ame	‘cylindrical one’	< BFL 05 1:156/el >
g.	sa'pê-ami	sa'bê-ami	‘fat one’	< BFL 05 1:156/el >
h.	ro'sâ-k-ami	to'sâ-k-ami	‘white one’	< BFL 05 1:157/el >
i.	ki'pá	i-ki'bá	‘to snow’	< SFH 05 2:8/el >
j.	kupu'wé	u-ku'bé	‘grill peppers’	
k.	si'tâ-k-ame	i-si'râ-k-ame	‘red one’	< BFL 05 1:157/el >
l.	ba'hî	a-pa'hî	‘to drink’	< SFH 08 1:46/el >
m.	tʃá'bôtʃí	i-tʃápotʃí	‘mestizo’	< BFL 05 1:155/el >
n.	mu'kî	o-mu'gí	‘woman’	< BFL 05 1:156/el >
o.	ra'nâra	a-ta'nâra	‘offspring’	< BFL 05 1:156/el >
p.	si'tâ-k-ame	i-si'râ-k-ame	‘red one’	< BFL 05 1:156/el >

Consonant mutation involves a voicing toggle, since it produces voicing or lenition of a voiceless stop (42b–f), and devoicing or hardening of a voiced plosive (42f).

As shown in (43), consonant mutation also targets voiceless velar stops to encode pluractionality.

(43) k ~g alternation in pluractional marking

	<i>Forms</i>	<i>Gloss</i>	
a.	pa'kó-t-ami	‘good person (baptized)’	< SFH 06 in61/in >
b.	pa'gó-t-ami	‘good people’, ‘people’	< FLP 06 in61/in >

¹⁴It has been suggested that the prefix-like element was originally a prefix *i-* that has been leveled in color with the first stem vowel in contemporary Rarámuri varieties (Lionnet 2001b).

The example above shows that the plural of participle *pa'kó-t-ami* (42a), with a word-medial voiceless velar stop, is *pa'gó-t-ami*, with a voiced word-medial velar stop (42b). The data in (44) shows more examples of stop alternations in pluractional constructions.

(44) Stop alternations in pluractional constructions

Base	Pluractional	Gloss	
a. <i>bi'téli</i>	<i>i-pi'rê</i>	'dwell'	< BFL 05 1:186/el >
b. <i>ba'hî</i>	<i>a-pa'hî</i>	'drink'	< BFL 05 2:23/el >
c. <i>ka'pô-r-ame</i>	<i>ka'bô-r-ame</i>	'round thing'	< BFL 05 1:155/el >
d. <i>ki'pâ</i>	<i>i-ki'bá</i>	'to snow'	< SFH 05 2:8/el >
e. <i>si'tâ-k-ame</i>	<i>i-si'râ-k-ame</i>	'red thing'	< BFL 05 1:157/el >
f. <i>pi'wâ</i>	<i>i-'bêwa</i>	'to smoke'	< BFL 05 2:24/el >

9.3.1.3 Imperative L tone and final stem stress

As described in §9.2.2, the imperative singular construction has non-concatenative allomorphs, including stress shifts and grammatical tone. Relevant examples are shown in (45).

(45) Imperative stress shift

- a. *raʔa'mà*
give.advice.IMP.SG
'Give advice!'
'¡Aconseja!'
- b. *raʔa'mâbo*
raʔa'mâ-bo
give.advice-FUT.PL
'They will give advice.'
'Van a aconsejar.'
- c. *ra'ʔàmili*
ra'ʔàma-li
give.advice-PST
'S/he gave advice.'
'Dió consejo.' < ROF 04 1:64/el >
- d. *raʔi'tfà*
raʔi'tfà
speak.IMP.SG
'Speak!'
'¡Habla!' < SFH 2014:60>

- e. *raʔi'tʃâma*
raʔi'tʃâ-ma
 speak-FUT.SG
 'S/he will speak.'
 'Va a hablar.' < SFH 2014:60>
- f. *raʔitʃîki*
raʔitʃâ-ki
 speak-PST.EGO
 'I spoke.'
 'Hable.' < SFH 2014:60>

Final stem imperative stress of unstressed roots contrasts with the stress pattern of these roots in neutral constructions: in (45), the trisyllabic unstressed roots *raʔáma* 'give advice', and *raʔitʃâ* 'speak', have third syllable stress in the imperative (45a) and (45d)) as well as in shifting constructions ((45b) and (45e)), but second syllable stress in neutral constructions ((45c) and (45f)).¹⁵

As discussed in further detail in §9.4, the stress shift to mark imperative is restricted to occur within a defined verbal zone, the Derived Stem.

In addition to stress, Choguita Rarámuri deploys tone in the exponence of the imperative singular: in addition to two concatenative suppletive allomorphs, *-sâ* and *-kâ*, a stress shift allomorph, the imperative singular may also be encoded through a L tonal allomorph that replaces stem lexical HL tones. The examples in (32) above, repeated here in (46), show a HL-toned verb, *ma'tó* 'to carry something in shoulder', inflected for different tenses/aspect and person/number combinations.

- (46) Partial paradigm of the verb *ma'tó* 'to carry in shoulders'

- a. *ma'tóa*
ma'tó-a
 carry.shoulders-PRS
 '(S)he carries it on the shoulders.'
 'Lo carga en sus hombros.'

¹⁵ As discussed in more detail in Chapter 11, there are systematic tonal alternations associated with stress shifts on morphologically complex words containing unstressed roots: HL falling tones are associated with stress shifts (e.g., when inflected for the future plural (e.g., (45b)) or future singular, as in (45e)); in the case of the imperative singular encoded through a stress shift, speakers may exhibit variation in the tonal makeup of these forms; the examples above show forms where the imperative singular forms have a L tone, which can be analyzed as the grammatical L tone associated with this construction, an instance of multiple exponence.

- b. *ma'tóki*
ma'tó-ki
 carry.shoulders-PST.EGO
 'I carried it on the shoulders.'
 'Lo cargué en los hombros.'
 - c. *ma'tóma*
ma'tó-ma
 carry.shoulders-FUT.SG
 'I will carry it on the shoulders'
 'Lo voy a cargar en los hombros'
 - d. *ma'tói*
ma'tó-i
 carry.shoulders-IMPF
 'I was carrying it on the shoulders'
 'Lo cargaba en los hombros.'
 - e. *ma'tò*
ma'tò
 carry.shoulders.IMP.SG
 'Carry it on the shoulders!'
 'Cárgalo en los hombros!'
- < BFL 2014 1:152 >

As shown in the contrast between these inflected forms, a HL-toned verb will keep its lexical tonal melody across derivations without any stress shifts, except when inflected for the imperative singular tonal allomorph: in this case, the morphological L tone replaces the HL lexical tone of the stem. This construction contributes to the list of non-concatenative processes of the language.

9.3.1.4 Stress shift as verbalization

Some nouns can be denominalized through a stress shift one syllable to the right. The stress shift in these cases cannot be said to be triggered by a shifting construction, since (47a) is inflected with a stress-shifting suffix and (47c) is inflected with a stress-neutral suffix. The stress shift is, thus, only attributable to the verbalizing process.

(47) Verbalizing stress shift

- a. *sipu'fâma*

- sipu'tfâ-ma*
wear.skirt-FUT.SG
'She will wear a skirt.'
'Se va a poner falda'
- b. *si'pútâ*
'skirt'
'falda' < BFL 07 Sept 6/el >
- c. *napa'tfâli*
napa'tfâ-li
wear.blouse-PST
'She wore the blouse.'
'Se puso la blusa.' < BFL 07 Sept 6/el >
- d. *na'pátâ*
'blouse'
'blusa' < BFL 07 Sept 6/el >

Some of the nouns that undergo this stress shift may alternatively undergo other processes to mark verbalization. For instance, the denominal verb in (47a) can be alternatively realized as *sipu'-tâ-ma*, 'she will wear a skirt', with denominalizing suffix *-tâ*, which involves a concomitant noun truncation process (see also discussion of this process in §9.3.5). I have not detected any semantic difference between these alternative forms.

9.3.2 Instrumental prefixes

A well-known phenomenon of Uto-Aztecán languages is the presence of a set of instrumental prefixes that indicate the instrument with which a transitive activity is performed, or the manner in which the activity is carried out. These prefixes (approximately 20) are reconstructed for Proto-Uto-Aztecán. A list of reconstructions is given in (48) (from Dayley 1989: 92):

(48) Uto-Aztecán instrumental prefixes

- | | | | |
|----|---------------------------------|--------|---------|
| a. | 'with heat or fire' | *kuh | 'fire' |
| b. | 'with the teeth or mouth' | *kü'i | 'bite' |
| c. | 'with the hand' | *maa | 'hand' |
| d. | 'with the nose' | *mu-pi | 'nose' |
| e. | '(with or pertaining to) water' | *paa | 'water' |
| f. | 'with the butt or behind' | *pilh | 'back' |
| g. | 'with or from cold' | *süp | 'cold' |

- h. ‘with the mind, by feeling or sensation’ *suuna ‘heart’
- i. ‘with the foot’ *tannah ‘foot’

According to Langacker (1977), these instrumental prefixes are morphologically active only in the Numic and Tepiman branches of Uto-Aztecán, and have only lexicalized remnants in the rest of the Uto-Aztecán family. This is true in the case of Choguita Rarámuri. Instrumental incorporation in Choguita Rarámuri is only found in a few lexicalized items, some of which are exemplified in (49).

(49) Choguita Rarámuri instrumental prefixes

- a. ma+'tʃó hand +hit ‘hit with hand’ < ROF 04 1:124/el >
- b. ma+'hó hand+dig ‘fondle’ < BFL 04 Com/el >
- c. rara+'hó foot+dig ‘dig with foot’ < SFH 08 1:48/el >
- d. sika+'tʃó hand+hit ‘hit with hand’ < SFH 04 1:123/el >

In some cases, the incorporated noun does not have a corresponding independent nominal form, as *ma-* (49a). (Lionnet 2001a: 87) identifies several instrumental prefixes in the Norogachi dialect (*ba(?)*- ‘water’, *ku-* ‘wood’, *ma-* ‘hand’, *mo(?)*- ‘head’, and *na-* ‘fire’), but does not provide any examples. The Choguita Rarámuri verbs *mo'totʃi* ‘hit (oneself) in the forehead’, *mo'tépia* ‘braid hair’ are likely lexicalizations of verbal roots plus the instrumental prefix *mo-* ‘head’, but no alternations are documented to support a synchronic analysis of these forms as morphologically complex.

9.3.3 Body-part incorporation

Another Inner Stem building process in Choguita Rarámuri is noun incorporation. The language has N-V constructions that are restricted to nouns referring to body parts and bodily fluids, with properties that are prototypical of “body part incorporation”. This is a restricted kind of noun incorporation, which is common in languages of the Americas, including the Uto-Aztecán language family (Baker 1988). Relevant examples are shown in (50), where the body-part nouns (*mo'ʔo* ‘head’, *bu'si* ‘eye’, *ro'pâ* ‘belly’, etc.) precede a verbal root, the head of the incorporated construction.

(50) Body part incorporation constructions

- a. *moʔorépi*
moʔo+répu
head+cut
‘to behead’
‘cortar la cabeza’ < SFH 07 1:185/ el >

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- b. *busi'kâsi*
busi+kâsi
 eye+break
 'to be blind' 'ser ciego' < SFH 06 1:112/el >
- c. *ropa'kâsi*
ropa+kâsi
 belly+break
 'to have a miscarriage'
 'tener un aborto' < BFL 07 VDB/el >
- d. *siwa'bôti*
siwa+bôti
 guts+loosen
 'to become disemboweled'
 'descriparse' < SFH 07 1:186/el >
- e. *kuta'bîri*
kuta+bîri
 neck+twist
 'to twist one's neck'
 'torcerse el cuello' < SFH 07 VDB/el >
- f. *tjôma'bîwa*
tjôma+bîwa
 mucus+clean
 'to clean mucus'
 'limpiarse los mocos' < SFH 08 1:51/el >

Some of these constructions (e.g. (50d–f)) are fully compositional and have transparent semantics. The incorporated noun generally fills the syntactic role of object, decreasing the verb's valence. Incorporated constructions can also be externally modified, as example (51) shows.

- (51) External modification of incorporated verb
- 'má ko'súrti rono'rêpili 'môno*
'má ko'súrti ro'nô+re'pù-li 'môno
 already left leg+cut-PST doll
 'The doll's left leg already fell'
 'Ya se le cayó la pata izquierda al mono' < SFH 07 1:186/el >

Incorporated body-part nouns, however, do not form an open class. Only a few body-part terms are found in these constructions, and not the full range

of lexical items in this semantic class. Body-part terms such as *ra'ñika-la* 'heel', *ko'tfia-la* 'eyebrow, lashes', and *lo'míritfi* 'wrist', among others, have not yet been documented in incorporated constructions.

As for the prosodic make-up of incorporated forms, stress is assigned in the first syllable of the head of the construction, the verbal root, regardless of the underlying lexical stress information the roots might carry (see also (17) on p. 417). In forms where the first element, the noun, is disyllabic and where the second element, the head verb, has second-syllable stress in non-incorporated structures, stress surfaces on the first syllable of the second member (52).

(52) Stress shift in incorporated forms

- a. [busi'kâsi]
/bu'sí+ka'sí/
 eye+break
 'to become blind (lit. eye-break)'
 'quedarse ciego (lit. quebrar-ojo)' < BFL 07 1:163/el >
- b. [kuta'bîri]
/ku'tâ+bi?rì/
 neck+twist
 'to twist one's neck'
 'torcerse el cuello' < BFL 07 1:163/el >
- c. [rono'rêpi]
/ro'nô+re'pù/
 food+cut
 'to cut one's foot'
 'cortarse el pie' < BFL 07 1:163/el >
- d. [sika'rêpi]
/si'kâ+re'pù/
 hand+cut
 'to cut one's hand'
 'cortarse la mano' < BFL 07 1:163/el >

As shown in these examples, the tonal properties of incorporated verbs are homogeneous: the stressed syllable (the first syllable of the head of the compound) bears a HL tone, regardless of what the underlying tonal properties of the members of the compound are (for more discussion, see §11.3.6).

Incorporated body-part nouns can also be truncated to fit the prosodic template of incorporated forms. In (53), the trisyllabic nouns *tʃa'mêka*, 'tongue', and *tʃere'wá*, 'sweat', truncate their final syllable in the incorporated form (the prosodic properties of incorporated forms are addressed in more detail in §11.5.4).)

(53) Truncation of tetrasyllabic nouns in incorporation

- a. [tʃame'rêpu]
/tʃa'mêka+re'pù/
tongue+cut
'to cut one's tongue'
'cortarse la lengua' < SFH 07 1:184/el >
- b. [tʃere'bîwa]
/tʃere'wá+bi?wá/
sweat+clean
'to clean one's sweat'
'limpiarse el sudor' < SFH 07 1:187/el >

Finally, body part incorporation constructions exhibit voicing alternations. In (54), the verb *pa'kó* 'to wash' has a voiced bilabial stop onset on its first syllable in incorporation.

(54) Stop alternations in incorporated verbs

- a. [rono'bâki-]
/ronô+pakó-/
feet+wash
'to wash one's feet'
'lavarse los pies' < SFH 04 CS/el >
- b. [rame'bâki-]
/rame+pakó-/
teeth+wash
'to wash one's teeth'
'lavarse los dientes' < SFH 04 CS/el >
- c. [kupa+'bâki-]
/kupá+pakó-/
hair+wash

‘to wash one’s hair’
 ‘lavarse el pelo’ < SFH 04 CS/el >

This voicing alternation in incorporated constructions is analyzed as a morphologically-conditioned phonological effect.

9.3.4 Suppletion and prefixation in pluractional marking

Choguita Rarámuri lacks inflectional agreement marking, but displays a few lexically restricted resources to mark plurality and pluractionality on both nouns and verbs. This section describes plural and pluractional marking in verbs.

Like most Uto-Aztecán languages, Choguita Rarámuri has number suppletion for certain roots, mostly positional verbs. Singular and plural agreement is expressed with intransitive patient-like subjects (55a–d) and with transitive objects (55e), in an ergative pattern.

(55) Number verb suppletion

	<i>Singular</i>	<i>Plural</i>		
a.	a'sá-	mo'tʃí-	‘to sit down’	< BFL 05 2:45-46/el >
b.	wí'lí-	ha'wá-	‘to stand up’	< BFL 05 2:46/el >
c.	bo'ʔí-	bi'ʔtí-	‘to lie down’	< BFL 05 2:47/el >
d.	ba'kí-	mo'ʔí-	‘to go in’	< BFL 05 1:133/el >
e.	mi'ʔrí-	ko'ʔí-	‘to kill’	< ROF 04 1:103/el >

In addition, there are two non-suppletive, semi-productive processes in Choguita Rarámuri to mark plurality. The first one is used exclusively with verbal roots and it marks subject number in an accusative pattern (S and A). When the subject is singular, a prefix *ni-* is added or the root remains unprefixed; when the subject is plural, the prefix *na-* is used (56).

(56) Number prefixation

	<i>Singular</i>	<i>Plural</i>	<i>Gloss</i>	
a.	su'rí/ni-su'rí	na-su'rí	‘to fight’	< BFL 05 2:107/el >
b.	iʔ'kí/ ni-iʔ'kí	na-’kí	‘to bite’	< BFL 05 2:107/el >
c.	o'tʃó/ni-'tʃó	na-'tʃó	‘to punch’	< BFL 05 2:107/el >
d.	ku'ʔíri/ ni-'kúri	na-'kúri	‘to help’	< ROF 04 VDB/el >
e.	ni-hí'rápi	na-hí'rápi	‘to wrestle’	< AHF 05 2:100/el >
f.	ni-hí'sípi	na-hí'sípi	‘to reach’	< BFL 05 2:106/el >
g.	ni-tówi	na-tówi	‘to surpass’	< BFL 05 2:106/el >
h.	ni-hí'sá	na-hí'sá	‘to challenge’	< BFL 05 2:106/el >
i.	ni-té	na-té	‘to step on’	< BFL 05 2:107/el >

The examples in (56a–d) have an independent root form with no prefix for the singular, but the forms in (56e–f) are not attested alternatively without a subject number prefix.

9.3.5 Denominal verbs

Choguita Rarámuri verbs may be derived through a variety of morphological mechanisms applying to nominal bases. The mechanisms to derive verbs from nominal bases include several productive verbalizing suffixes such as the *-ta* ‘make’ suffix, the reversive *-bu* suffix, the *-tu* ‘gather’ suffix and the *-ê* ‘have, wear’ suffix, among others. Denominal verb constructions of this kind are documented across the Uto-Aztecán language family, with meanings that include notions like ‘make’, ‘put on’, ‘have’, ‘remove’, ‘use’, ‘get’ and ‘become’, among others (Haugen 2008a; 2017). These constructions are productive in Choguita Rarámuri. This subsection describes each of them in detail.

9.3.5.1 The suffix *-tâ* ‘make/become’

A noun derived with the verbalizer *-tâ* (*-râ*) suffix, a stress-shifting suffix, becomes a verb meaning ‘to make/become N’ (57a) or, when used with nouns referring to a piece of clothing, ‘to wear N’ (57b, c). It follows the nominal root forming a base to which inflectional morphology is added.

- (57) a. *nori'râma lê*
nori-'râ-ma *a'lé*
 cloud-VBLZ-FUT.SG DUB
 ‘It will get cloudy, it seems.’
 ‘Se va a nublar, parece.’ < BFL 04 1:92/el >
- b. *ni'hê a^hka'râsa sa'pâto*
ni'hê *a^hka-'râ-sa* *sa'pâto*
 1SG.NOM sandal-VBLZ-COND shoes
 ‘I will wear shoes.’
 ‘Voy a ponerme zapatos.’ < SFH 08 1:47/el >
- c. *sipu'tâa t^hu'kú*
sipu-'tâ-a *t^hu'kú*
 skirt-VBLZ-PROG bend
 ‘(She is) putting a skirt.’
 ‘Se está poniendo la falda.’ < BFL 07 Sept 6/el >

Further examples of this denominal constructions are shown in (58).

(58) Denominal verbs

- a. boʔi-’râ ‘to make a road’ bo’ʔí ‘road’ < BFL 06 5:128/el >
- b. wari-’râ ‘to make a basket’ wa’rî ‘basket’ < BFL 06 5:129/el >
- c. sapa-’râ ‘to fatten’ sa?’pá ‘flesh’ < BFL 06 5:129/el >
- d. kali-’râ ‘to make house’ ka’lî ‘house’ < BFL 06 5:127/el >

When this suffix is added to trisyllabic nouns, the last syllable of the noun is truncated in order to meet the requirement of this construction to have stress on the denominalizing suffix (59) (the truncated syllable of the noun is highlighted in boldface in the phonemic representation with morpheme breaks).

(59) Noun truncation in verbalizing constructions with the *-ta* suffix

- ’hê ’náni si’pút̪a *sipu’tâmo* ’lá
 ’hê na=ni si’pút̪a *siput̪a-tâ-ma* o’lá
 DEM PROX=1SG.NOM skirt skirt-VBLZ-FUT.SG CER
 ‘I will wear this skirt.’
 ‘Me voy a poner esta falda.’ < BFL 07 Sept 6/el >

This truncation process resembles the truncation that trisyllabic nominal roots undergo in incorporation constructions (see §9.3.3 above). Discussion of morphologically-conditioned truncation and templatic effects in Choguita Rarámuri is further discussed in §11.5.

9.3.5.2 The reversive suffix *-bû*

The suffix *-bû*, on the other hand, has a “reversive” meaning and it derives verbs from nouns is a non-productive affix that has the meaning ‘remove’ or ‘undo’.¹⁶ Some examples of this derivational suffix are provided in (60).

- (60) a. ni’hê to’lí boʔo’bûma
 ni’hê to’lí boʔo-’bû-ma
 1SG.NOM chicken feather-REV-FUT.SG
 ‘I will pluck the chicken.’
 ‘Voy a desplumar la gallina.’ < SFH 08 1:51/el >

¹⁶ A cognate suffix can be found in Guarajío, and Miller identifies the verb *puha* ‘to take away’, as its source (1996: 151). The Rarámuri cognate of this verb is *bu(?)è* ‘to take away’.

- b. *pa'tfá a'ti mu'nî ri?i'bûa*
pa'tfá a'ti mu'nî ri?i-'bû-a
 inside sitting beans stone-REV-PROG
 'He is sitting inside taking out stones from beans.'
 'Está (sentado) adentro limpiando frijol (quitándole las piedras).' <
 SFH 08 1:51/el >
- c. *'má t̪omo'bûka*
'má t̪omo-'bû-ka!
 already mucus-REV-IMP.SG
 'Clean your nose already!'
 'Ya límpiate la nariz!' < SFH 08 1:51/el >

9.3.5.3 The 'gather' suffix *-tú*

The suffix *-tú* (*-rú*), which means 'to gather' or 'to bring', is another derivational suffix that attaches to nominal roots to form verbs. It is an unproductive suffix restricted to attach to only a few nouns. It is always stressed, it occurs next to the nominal root. As part of the Inner Stem, it is sensitive to the morpho-phonological effects that characterize this stem domain, including compensatory lengthening. Some examples are given in (61).

- (61) a. *ni'hê ba?wi'túma*
ni'hê ba?wi-'tú-ma
 1SG.NOM water-gather-FUT.SG
 'I will bring water.'
 'Voy a traer agua.'
- b. *mati ila'rúpo*
ma=tí ila-'rú-po
 now=1PL.NOM cactus-gather-FUT.PL
 'Let's gather cactus now.'
 'Vamos juntando nopalos.' < SFH 08 1:52/el >
- c. *mi ri?ri na?i'rúmisa*
mi ri?ri na?i-'rú-mi-sa
 DEM there fire-gather-MOT.IMP-IMP.SG
 'Go get fire over there!'
 '¡Ve a traer lumbre allá!' < SFH 08 1:52/el >

- d. *'hípi o'méat̪í raki'rúpa 'lá*
'hípi o'méat̪í raki'-rú-pa *o'lä*
 today Sunday palm-gather-FUT.PASS CER
 'Palms will be gathered today, Sunday.'
 'Hoy domingo van a recibir la palma.' (lit. 'las palmas serán juntadas') < SFH 08 1:52/el >

9.3.5.4 The 'have' -ê suffix

The -ê suffix is a derivational suffix that may be characterized as a "denominal verb of possession". I follow Haugen (2017) in defining "denominal verb of possession" as "a construction where an identifiable noun root (or stem) N can be converted into a verb by the [affixation] ... of some affix X such that the N+X complex is treated as a regular verb, able to be inflected with markers of tense-aspect-mood and other categories, and having the meaning of 'to have N'" (2017: 164).

The -ê suffix, which has the general meaning of 'to have' or 'to wear', is a *replacive suffix*. It targets the nominal stem final vowel, and it is always stressed.¹⁷ The examples in (62) show this derivation.¹⁸

(62) Verbalizer suffix -ê

<i>Verb stem</i>		<i>Noun stem</i>	
a. <i>ku'n-ê-</i>	'to marry a man'	<i>ku'nà-</i>	'husband'
			< BFL 05 1:116/el >
b. <i>u'p-ê-</i>	'to marry a woman'	<i>u'pî-</i>	'wife'
			< BFL 05 1:116/el >
c. <i>a^hk-ê</i>	'to wear sandals'	<i>a^hkà</i>	'sandal'
			< BFL 05 1:116/el >
d. <i>wi'r-ê</i>	'to wear earrings'	<i>wi'rá</i>	'earring'
			< BFL 07 sept 6/el >
e. <i>moto's-ê</i>	'to have white hair'	<i>moto'sá</i>	'white hair'
			< BFL 07 sept 6/el >

¹⁷The cognate of this suffix (-e) in Mountain Guarjío is described in Miller (1996) as exhibiting different prosodic properties, yielding variable stress patterns in the morphologically complex words where it is attested (with stress on the stem or the suffix) and not replacing the final stem vowel (e.g., *puhkú-e* ~ *puhku-e* 'to have an animal' (1996: 149)).

¹⁸For discussion of verbless possessive constructions in Yaqui (Taracahitan), see Jelinek & Escalante (2010).

As shown in these examples, while the suffix is always stressed, there are no homogeneous tonal properties that the morphologically complex verbs containing this verb share (i.e., each of the three lexical tones is attested in these cases, in what appears to be a lexically conditioned pattern).

Further examples of this construction are shown in (63).

(63) Verbalizer suffix *-ê*: further examples

<i>Verb stem</i>	<i>Gloss</i>	<i>Base Noun</i>	<i>Gloss</i>
a. <i>kal-ê</i>	'to have a house'	<i>kalí</i>	'house' < BFL 06 5:127/el >
b. <i>ka'w-ê</i>	'to have eggs'	<i>ka'wá</i>	'egg' < BFL 06 5:127/el >
c. <i>wa's-ê</i>	'to have mother-in-law'	<i>wa'sí</i>	'mother-in-law' < BFL 06 5:127/el >
d. <i>ro'n-ê</i>	'to have feet'	<i>ro'nô</i>	'feet' < BFL 06 5:127/el >
e. <i>ka's-ê</i>	'to have legs'	<i>ka'sí</i>	'legs' < BFL 06 5:127/el >
f. <i>si'k-ê</i>	'to have hands, arms'	<i>si'kâ</i>	'hands, arms' < BFL 06 5:128/el >
g. <i>rihi'm-ê</i>	'to have relatives'	<i>rihi'má</i>	'relatives' < BFL 06 5:128/el >
h. <i>athk-ê</i>	'to have sandals'	<i>athkâ</i>	'sandals' < BFL 06 5:128/el >
i. <i>koro'k-ê</i>	'to have a necklace'	<i>koro'ká</i>	'necklace' < BFL 06 5:129/el >

This construction is highly productive. There are no apparent restrictions in terms of the semantic properties of the nouns that can undergo this derivation.

9.3.5.5 The verbalizer *-wi* suffix

In addition to the verbalizer *-ê* suffix, some nominal stems attach the neutral *-wi* suffix to derive a verb with the meaning 'to own/have N'. Examples of this construction are shown in (64).

(64) Verbalizer suffix *-wi*

<i>Verb stem</i>	<i>Gloss</i>	<i>Noun stem</i>	<i>Gloss</i>
a. <i>wino'mí-wi</i>	'to have money'	<i>wino'mí</i>	'money' < BFL 06 5:127/el >
b. <i>wa'sá-wi</i>	'to have land'	<i>wa'sá</i>	'land for cultivation' < BFL 06 5:127/el >
c. <i>kútʃu-wi</i>	'to have children'	<i>kútʃí</i>	'little ones' < BFL 06 5:127/el >
d. <i>su'nù-wi</i>	'to have corn'	<i>su'nù</i>	'corn' < BFLL 06 5:127/el >
e. <i>mu'ní-wi</i>	'to have beans'	<i>mu'ní</i>	'beans' < BFL 06 5:127/el >
f. <i>rihi'má-wi</i>	'to have relatives'	<i>rihi'má</i>	'relatives' < BFL 06 5:128/el >
g. <i>ko'bísu-wi</i>	'to have pinole'	<i>ko'bísi</i>	'pinole' < BFL 06 5:128/el >
h. <i>a^hká-wi</i>	'to have sandals'	<i>a^hká</i>	'sandals' < BFL 06 5:128/el >
h. <i>'púru-wi</i>	'to have a knitted belt'	<i>'púra</i>	'knitted belt' < BFL 06 5:128/el >
i. <i>ko'mâru-wi</i>	'to have a comadre'	<i>ko'mâare</i>	'comadre' < BFL 06 5:128/el >

This construction is also highly productive in the language.

A potentially related morphological strategy to derive denominal verbs with the meaning 'have' or 'own' is through the suffixation of *-i*, which replaces the final vowel of the stem, which may be a reduced form of the verbalizer *-wi* suffix. Relevant examples are shown in (65).

(65) Verbalizer suffix *-i*

<i>Verb stem</i>	<i>Gloss</i>	<i>Noun stem</i>	<i>Gloss</i>
a. <i>si'pútʃ-i</i>	'to have a skirt'	<i>si'pútʃá</i>	'skirt' < BFL 06 5:128/el >
b. <i>na'pátʃ-i</i>	'to have a blouse'	<i>na'pátʃá</i>	'blouse' < BFL 06 5:128/el >

The verbalizer *-wi* suffix and other verbalizing morphological markers may be available with the same nominal stems. In some cases, the choice of marker involves a semantic difference. This is illustrated with the minimal pair in (66) where choice of marker entails a different semantic interpretation.

(66) Semantic differences of denominal verbs

- a. *saʔpê*
saʔp-ê
meat-VBLZ
‘to have flesh (one’s own)’
‘tener carne (del cuerpo)’ < BFL 06 5:129/el >
- b. *saʔpáwi*
saʔpá-wi
meat-VBLZ
‘to have (e.g. cow’s) meat’
‘tener carne (e.g., de res)’ < BFL 06 5:129/el >
- c. cf. *saʔpá*
‘flesh’
< BFL 06 5:129/el >

As these examples show, the choice of verbalizing suffix (-ê in (66a) and -wi in (66b)) may involve a semantic distinction. Specifically, the choice of verbalizer in this case entails a distinction in terms of an inalienable reading vs. an alienable one, respectively (for more discussion of alienable/inalienable distinctions and their morphological expression in Choguita Rarámuri, see §8.4.1). However, semantic distinctions of this kind are not widespread, which suggests that these derived forms have undergone some degree of lexicalization.

Finally, there are a few constructions that may also encode the meaning ‘to own/have N’ through a periphrastic construction, in addition to a suffixing construction. This periphrastic construction is exemplified in (67):

- (67) a. *wa'sá 'níwi*
cultivation.land have
‘to have land’
‘tener tierra de cultivo’
- b. *'sôda 'níwi*
soda have
‘to have soda’
‘tener soda’

As shown in these examples, the construction involves a noun followed by the verb *'níwi* ‘to have’. This auxiliary verb is the likely source of the -wi verbalizer suffix (the language also has a related appositive possessive construction, described in §2.7 below).

9.3.5.6 The verbalizer *-pi* suffix

Another verbalizer suffixing construction is a derivational suffix, *-pi*, which means ‘to remove’. This suffix is exemplified in (68).

(68) Verbalizer *-pi* suffix

Form	Gloss	Noun stem	Gloss
a. <i>sipu'tʃâ-pi</i>	‘to remove skirt’	<i>si'pútʃâ</i>	‘skirt’
b. <i>napa'tʃâ-pi</i>	‘to remove blouse’	<i>na'pátʃâ</i>	‘blouse’
c. <i>pu'râ-pi</i>	‘to remove knitted belt’	<i>'púra</i>	‘knitted belt’
d. <i>tʃâ'bó-pi</i>	‘to remove beard’	<i>tʃâ'bó</i>	‘beard’

This suffix is unproductive in Choguita Rarámuri.

9.3.5.7 Non-concatenative verbalizing constructions

There are a few cases where denominal verbs meaning ‘make/wear N’ are derived through a stress shift. Specifically, the derived verb will have stress one syllable to the right with respect to the stress location in the related nominal base. This is shown in the example in (69):

(69) Derivational stress shift

- a. *napa'tʃâ* ‘to wear a shirt’
 - b. *na'pátʃâ* ‘shirt’
- < BFL 06 5:128/el >

Denominalization may also involve truncation of the last, unstressed syllable of the base noun even with no overt attachment of any suffix. This is shown in the examples in (70):

(70) Stem truncation in denominalization

Verb	Gloss	Noun	Gloss
a. <i>si'pú</i>	‘to wear skirt’	<i>si'pútʃâ</i>	‘skirt’
b. <i>pú</i>	‘to wear a knitted belt’	<i>'púra</i>	‘knitted belt’

< BFL 06 5:128/el >

These non-concatenative processes to derive verbs from nouns are unproductive in the language.

9.3.6 Summary

Verbal roots in Choguita Rarámuri may undergo semi-productive and unproductive processes, both concatenative and non-concatenative, before adding any further suffixes. These processes include conversion, pluactional consonant mutation, stress shifts and grammatical tone to mark imperative or verbalization or body-part incorporation. Having described root classes and the processes taking place at the innermost level of the verbal stem, I now turn to the suffixation domain.

9.4 Verbal structure and verbal domains

9.4.1 Overview

The suffix positions and categories expressed in the Choguita Rarámuri verbal structure are schematized in Table 9.8.

Table 9.8: Suffix positions and categories of the Choguita Rarámuri verb

Position	Type	Categories
S1	Derivation	Inchoative
S2	Derivation	Transitive
S3	Derivation	Applicative
S4	Derivation	Causative
S5	Derivation	Applicative
S6	Modality	Desiderative
S7	Derivation	Associated Motion
S8	Modality	Auditory Evidential
S9	Inflection	Voice/Aspect/Tense
S10	Inflection	Mood
S11	Inflection	TAM
S12	Subordination	Deverbal morphology

The suffixes in each position do not generally co-occur in the same word, due to their semantic incompatibility (though there are systematic exceptions; these will be discussed in this chapter and the rest of this grammar). A summary of the verbal suffixes and their position in the verbal template is given in Table 9.9. A basic description and examples of the suffixes can be found in Appendix A. The

“Reference” column in Table 9.9 refers to the section where each individual suffix is described in this Appendix.

This verbal structure does not imply a slot-and-filler, template-like structure, i.e. the labels S1...S12 are not intended to imply a flat structure as in a slot matrix. In the verbal morphology of this language, morphotactic, and morphophonological processes define a hierarchical structure of the verb, with suffixes closer to the Inner Stem displaying less salient morpheme junctures (given by phonological transparency and productivity). In the structure represented in Table 9.10, I identify five verbal zones after the Inner Stem domain: a Derived Stem, a Syntactic Stem, an Aspectual Stem, a Finite Verb domain, and finally a Subordinate Verb domain.

The first identifiable layer in the suffixation domain is the Derived Stem. This layer of the verbal stem includes two kind of semantically restricted, unproductive derivational suffixes (an inchoative suffix and three transitive suffixes). These suffixes are restricted to a semantically defined class of verbs, change-of-state verbs. There are three morphological and morpho-phonological criteria that allow identifying this stem domain as a defined sub-constituent of the Choguita Rarámuri verb: first, the non-concatenative imperative singular (described in §9.3.1.3) is marked as final stress of this stem domain; second, this level is also the domain of the passive-induced lengthening (discussed below); finally, the Derived Stem undergoes the stress shift that characterizes unstressed stems when combined with shifting suffixes (addressed in §5.3).

The Derived Stem is the input to the next stage of the construction of the Choguita Rarámuri verb, the Syntactic Stem. This next stem domain includes suffixes in S3–S5, suffixes that mark valence-increasing operations. Within this stem domain, suffixes are attested in variable order and display multiple (or extended) exponence. The suffixes in this level also form a coherent domain within the Choguita Rarámuri verb in morpho-phonological terms: these suffixes are stress-neutral, forming a small pocket of unstressable suffixes within a larger, stressable domain. Finally, this stem domain is part of the domain of round harmony, as defined in §9.4.3.

Another layer of the verbal stem is the Aspectual Stem, composed of suffixes in positions S6 to S9, marking desiderative, associated motion, and auditory evidential. These suffixes are formally and semantically related to independent verb forms in the language. Table 9.11 lists these suffixes, their grammaticalized meanings and their independent lexical verb sources.

These aspectual markers exhibit the same properties as constructions described for other Uto-Aztecan languages as “secondary verb” constructions, where grammaticalized formatives derived from independent verbs that encode aspectual-

Table 9.9: Choguita Rarámuri verbal suffixes

Category	Suffix	Reference
S1	Inchoative -bá (INCH)	§A.1.1
S2	Transitives -ná (TR)	§A.1.2
	Pluractional transitive -t̪á (TR.PL)	§A.1.3
	Transitive -bú (TR)	§A.1.4
S3	Applicatives -ni (APPL)	§A.2.1.1
	Applicative -si (APPL)	§A.2.1.2
	Applicative -wi (APPL)	§A.2.1.3
S4	Causative -ti (CAUS)	§A.2.2
S5	Applicative -ki (APPL)	§A.2.3
S6	Desiderative -nále (DESID)	§A.3.1
S7	A. Motion Associated Motion -simi (MOT)	§A.3.2
S8	A. Evidential Auditory Evidential -t̪áne (EV)	§A.3.3
S9	Tense, Aspect, Past Passive -ru (PST.PASS)	§A.4.1.1
	Future Passive -pa (FUT.PASS)	§A.4.1.2
	Medio-Passive -r̪iwa, -wá (MPASS)	§A.4.1.3
	Conditional Passive -s̪uwa (COND.PASS)	§A.4.1.4
	Future Sg. -'m̪ea, -ma (FUT.SG)	§A.4.2.1
	Future Pl. -p̪o (FUT.PL)	§A.4.2.2
	Motion Imperative -m̪e (MOT.IMP)	§A.4.3
	Conditional -s̪â (COND)	§A.4.4
	Irrealis sg. -m̪e (IRR.SG)	§A.4.5.1
	Irrealis pl. -pi (IRR.PL)	§A.4.5.2
S10	Mood Potential -râ (POT)	§A.4.6
	Imperative sg. -kâ (IMP.SG)	§A.4.7.1
	Imperative sg. -s̪â (IMP.SG)	§A.4.7.2
	Imperative pl. -s̪i (IMP.PL)	§A.4.7.3
S11	Tense, Aspect, Reportative different subj. -la (REP.DS)	§A.4.8.1
	Reportative same subj. -lo (REP.SS)	§A.4.8.2
	Past -li (PST)	§A.4.9
	Past perfective egophoric -ki (PST.EGO)	§A.4.10
	Imperfective -e (IMPF)	§A.4.11
	Progressive -a (PROG)	§A.4.12
	Indirect causative -nula	§A.4.13
S12	Subord. Temporal -t̪í (TEMP)	§A.5.1
	Epistemic -o (EP)	§A.5.2
	Gerund -ká (GER)	§A.5.3
	Purposive -ra (PUR)	§A.5.4
	Participial -ame (PTCP)	§A.5.5

Table 9.10: Choguita Rarámuri verbal stem domains

Position	Marker	Stem domain
	Pluractionality, number, Verbalization, etc.	Inner Stem
S1	Inchoative	Derived Stem
S2	Transitives	
S3	Applicatives	Syntactic Stem
S4	Causative	
S5	Applicative	
S6	Desiderative	Aspectual Stem
S7	Associated Motion	
S8	Auditory Evidential	
S9	Voice/Aspect/Tense	Finite Verb
S10	Mood	
S11	TAM	
S12	Deverbal morphology	Subordinate Verb

Table 9.11: Choguita Rarámuri aspectual suffixes and their lexical counterparts

Aspectual suffixes	Independent lexical verb
<i>-nále</i> 'desiderative (DESID)'	<i>nále</i> 'want'
<i>-simi</i> 'associated motion (MOT)'	<i>simi</i> 'go.SG'
<i>-tʃane</i> 'auditory evidential (EV)'	<i>(a)tʃane</i> 'say, make noise'

like or adverbial-like meanings (Crapo 1970), a type of V-V incorporation construction analyzed as involving light verbs in Hiaki (Taracahitan; Tubino Blanco et al. 2014) and serialization in Northern Paiute (Numic; Thornes 2011) (the syntactic properties of these constructions are discussed in §15.6.4). These aspectual suffixes in Choguita Rarámuri are disyllabic and have monosyllabic allomorphs and they are integrated prosodically with the stem in a single phonological word. The phonological factors determining the distribution of dysyllabic and monosyllabic allomorphs of these suffixes are discussed in Chapter 11 (§11.5). These suffixes are also part of the domain for round harmony and constitute the last layer where this process applies (that is, suffixes to the right of this domain are not targets for spreading of the harmony).

The final stage in constructing a Choguita Rarámuri inflected verb consists in adding the suffixes in positions S9–S11 in the finite verb, the Finite Verb level suffixes. The grammatical categories marked at this level are mood distinctions (including imperative and reportative), voice, tense, and aspect (and number and person marginally), conflated in portmanteaux suffixes. In this domain there are inflectional affixes that produce an idiosyncratic meaning when combined.

Finally, a finite verb can be the input for another, optional layer of morphology, in order to be used in subordinate clause constructions. These suffixes, in position S12, are the last stage of affixation of the Choguita Rarámuri verb, and are stress neutral. They produce nominalizations, and are at the word boundary.

Table 9.12 summarizes the linear order facts, and the semantic, morphophonological and prosodic properties of affixes that have motivated the verbal zones proposed for the Choguita Rarámuri verb.

The evidence for the proposed structure will be laid out as follows. In §9.4.2, I present the morphotactic evidence for positing the positions in the verbal template, and in §9.4.3, I give the morpho-phonological evidence for positing different verbal domains.

9.4.2 Morphotactic evidence for affix ordering generalizations

This section provides the morphotactic evidence for positing the suffix positions or slots in the verbal template. This evidence comes from the linear ordering properties of the suffixes, as well as their exponence and permutation possibilities. The evidence is presented progressively describing the positions from the Inner Stem towards the outer layers of affixation.

The positions closest to the Inner Stem in the verbal template are occupied by suffixes that are only used with change-of-state predicates: the inchoative suffix (in S1) and a set of transitive suffixes in (S2). Their ordering is illustrated in (71).

- (71) INCH (S1) – TR.PL (S2)
- a. *'mán rata'bát̪íki koʔ'wáami*
'má=ni *rata-'bá-tfa-ki* *koʔ'wá-ame*
 already=1SG.NOM heat-INCH-TR.PL-PST.EGO eat-PTCP
 'I already heated up the food.'
 'Ya calenté la comida.' < BFL 08 1:20/el >
 - b. *mu'hē mu'nî 'má tʃoko'bánali*
mu'hē *mu'nî* *'má* *tʃoko-**bá-na-li*
 2SG.NOM beans already be.sour-INCH-TR-PST
 'You already made the beans go sour.'
 'Ya hiciste que se agriaran los frijoles.' < SFH 04 1:113/el >

Table 9.12: Characteristics of the Choguita Rarámuri verb

Stem domain	Categories expressed	Morphotactics	Phonology	Stress properties
Inner Stem	Body part incorporation, pluractional, number prefixes, verbalization	Fixed order	Haploglossy, compensatory lengthening, passive length, imperative stress, round harmony	Shifting
Derived Stem	Inchoative Transitive	Fixed order	Passive length, imperative stress, round harmony	Shifting
Syntactic Stem	applicative Causative	Variable order, Multiple exponence	Round harmony	Neutral
Aspectual Stem	Desiderative Ass. Motion Evidential	Variable order	Round harmony, short allomorphs	Shifting / Neutral
Finite Verb	Voice TAM Indirect Causative	Fixed order		Neutral (except S10)
Subord. Verb	Nominalizat., subordination	Fixed order		Neutral

- c. 'nè 'má *a^hka'bát^hfili* *ka'hê*
 'nè 'má *a^hka-*'bá-*tfa*-*li* *ka'hê*
 1SG.NOM already sweet-INCH-TR.PL-PST coffee
 'I already sweetened the coffee.'
 'Ya endulcé el café.' < BFL 08 1:20/el >
- d. 'nè 'mí *ba?*'wí *rata'bát^hfira*
 'nè 'mí *ba?*'wí *rata-*'bá-*tfa*-*ki*-*ra*
 1SG.NOM 2SG.ACC water heat-INCH-TR-APPL-POT
 'Shall I heat the water for you?'
 '¿Te caliento el agua?' < BFL 08 1:21/el >

Position S3 is occupied by a set of applicative suffixes. These applicative suf-

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fixes might have encoded semantic differences in a previous diachronic stage,¹⁹ but synchronically they are lexically selected by the roots to which they attach. For instance, the applicative suffix *-ni* is the only applicative suffix that can be attached to bases derived with transitive suffix *-bû* (e.g., (72a–b)). This applicative suffix is also attested with stems derived through other transitive suffixes (72c).

(72) TR (S2) – APPL (S3)

- a. *'wé 'nè mo?o'bûnima to'wí 'ét̪i mu'kî*
'wé 'nè mo?o-'bû-ni-ma to'wí 'ét̪i mu'kî
 INT 1SG.NOM go.up-TR-APPL-FUT.SG boy DIST woman
 'I will lift the boy for that woman.'
 'Voy a levantarle el niño a esa mujer.' < BFL 05 1:39/el >
- b. *'wé ta raki'bûnibo*
'wé ta raki-'bû-ni-bo
 INT 1PL.NOM push-TR-APPL-FUT.PL
 'Let's push it for him.'
 'Vamos empujándoselo.' < SFH 05 1:61/el >
- c. *ri?o'nâníma*
ri?o-'nâ-ni-ma
 sandpaper-TR-APPL-FUT.SG
 'They will sandpaper (the wood).'
 'Se lo va a lijar (la madera).' < SFH 05 1:175/el >

The applicative suffixes in slot S3 are in turn followed by a productive causative suffix in slot S4. In (73), applicative suffixes *-ni*, *-si* and *-wi* precede the causative suffix *-ti*.

(73) APPL (S3) – CAUS (S4)

- a. *ga'briêlo su'wíwtima 'lé ba*
ga'briêlo su'wí-wi-ti-ma a'lé ba
 Gabriela finish.up.APPL-APPL-CAUS-FUT.SG DUB CL
 'Gabriela will make her finish up (his tortillas).'
 'Gabriela va a hacer que ella se las acabe (sus tortillas).' < BFL 08 1:27/el >

¹⁹Some semantic differences are still retained in cognate suffixes in the closely related Mountain Guarajío (Miller 1996).

- b. *'nè a 'mí 'jûntikisa 'ró*
'nè a 'mí 'sû-ni-ti-ki-sa 'ró
 1SG.NOM AFF 2SG.ACC SEW-APPL-CAUS-APPL-COND Q
 'What if I made you sew her a skirt?'
 '¿Qué tal si te hago coserle una falda?' < BFL 08 1:28/el >
- c. *to ja'dîra 'pástiri bo!*
to ja'dîra 'pásî-ti-ri bo!
 EXH Yadira throw-APPL-CAUS-IMP.SG EXH
 'Let's see, throw it to Yadira!'
 '¡A ver, tíraselo a Yadira!' < BFL 08 1:28/el >
- d. *o'siwtimo lá 'nè 'jéla*
o'sì-wi-ti-ma o'lá 'nè 'jé-la
 write-APPL-CAUS-FUT.SG CER 1SG.NOM mom-POSS
 'She'll make him write my mom (a letter).'
 'Va a hacer que le escriba a mi mamá.' < BFL 08 1:28/el >

The productive causative suffix *-ti* appears ordered before the productive applicative suffix *-ki* (as shown in (74)), motivating a slot S5 for the applicative suffix.

(74) CAUS (S5) – APPL (S6)

- a. *ta'mí=komi o'péstikima 'lé ba*
ta'mí=ko=mi o'pési-ti-ki-ma a'lé ba
 1SG.ACC=EMPH=2SG.NOM vomit-CAUS-APPL-FUT.SG DUB CL
 'You'll make him throw up on me.'
 'Vas a hacer que me vomite encima.' < BFL 08 1:27/el >
- b. *a^hka'bátikini*
a^hka-'bá-ti-ki=ni
 sweet-INCH-CAUS-PST.EGO=1SG.NOM
 'I sweetened it.'
 'Lo endulcé.' < BFL 08 1:18/el >
- c. *ta'mí no'kèrtikiri!*
ta'mí no'ka-è-ri-ti-ki-ri
 1SG.ACC move.APPL-CAUS-CAUS-APPL-IMP.SG
 'Move it for me!'
 '¡Muévemelo!' < BFL 08 1:28/el >

While the Causative-applicative (-*ti-ki*) order is the most commonly attested, these suffixes can also permute their order. In the examples in (75) the applicative suffix *-ki* is ordered before the causative suffix *-ti*.

(75) APPL (S6) -CAUS (S5) *-ki-ti* order

- a. *tòo, jéni dûlse iwkitiri jadîra*
*tòo, jéni dûlse iwi-**ki-ti-ri** jadîra*
 go! Yeni candy bring.APPL-APPL-CAUS-IMP.SG Yadira
 'Make Yeni bring candy for Yadira!'
 '¡Ve, haz que Yeni le traiga dulces a Yadira!' < BFL 07 1:62/el >
- b. *to mi'tfiktiri bo*
*to mi'tfí-**ki-ti-ri** bo!*
 EXH carve-APPL-CAUS-IMP.SG EXH
 'Carve it for him'
 '¡Lábraselo!' < BFL 08 1:107/el >
- c. *'nè tfoʔ'má biʔ'wiktimo lá ti'wé*
*'nè tfoʔ'má biʔ'wì-**ki-ti-ma** o'lá ti'wé*
 1SG.NOM mucus clean-APPL-CAUS-FUT.SG CER girl
 'I'll make her clean the girl's nose.'
 'La voy a hacer que le limpie los mocos a la niña.' < BFL 08 1:55/el >

The applicative-causative suffix order, as exemplified in (75), is marginally attested in the Choguita Rarámuri corpus (the factors that may condition this affix permutation pattern are discussed in Caballero 2010). The overwhelming preference for the causative-applicative order motivates positing a separate slot, S5, for the productive applicative suffix *-ki*, separate from the rest of the applicative suffixes in S3. An additional argument in favor of keeping the two applicative positions distinct comes from the difference in productivity between the inner applicatives and the later, productive suffix *-ki*.

The applicative suffix is in turn followed by the desiderative suffix *-nále* (in slot S6). This suffix is exemplified in (76).

(76) APPL (S5) – DESID (S6)

- a. *'nè mi bi'lé 'wàsi miʔ'ríkinili mu'hé o'máwaratfí*
*'nè=mi bi'lé 'wàsi miʔ'rí-**ki-nale** mu'hé o'máwaratfí*
 1SG.NOM=2SG.ACC one cow kill-APPL-DESID 2SG.NOM party
 'I want to kill one cow for you, for your party.'
 'Quiero matar una vaca para ti (para tu fiesta).' < SFH 07 2:65-66/el >

- b. *ja ta'mí pi'i^{tsí}kinili ni'hê bi'têritfí*
ja ta'mí pi'i^{tsí}-ki-nale ni'hê bi'têritfí
 already 1SG.ACC sweep-APPL-DESID 1SG.NOM house
 'They already want to sweep my house for me.'
 'Ya me quieren barrer la casa.' < SFH 07 2:65-66/el >
- c. *'mí si'mèkinira 'rú*
'mí si'mè-ki-nale-ra 'rú
 2SG.ACC play-APPL-DESID-REP say.PRS
 'He says he wants to play a song for you.'
 'Dice que te quiere tocar una canción.' < BFL 08 1:60/el >
- d. *'ém t^{fí}'mí si'míra bani'súkinima*
'émi t^{fí}'mí si'mí-ra bani'sú-ki-nale-ma
 2PL.NOM there go-POT pull-APPL-DESID-FUT.SG
 'They will want to go and pull it for them.'
 'Van a querer ir jalándoselo.' < SFH 08 1:75/el >

The desiderative suffix *-nále* is then followed by the associated motion *-simi*, as exemplified in (77). Further discussion and analysis of the nature of the short-long alternation for this and other suffixes is provided in Chapter 11 (§11.5.4).

(77) DESID (S6) – MOT (S7)

- a. *'nè t^{fá} kotfí'nálsi i'náli*
'nè t^{fá} kotfí-^{nále-simi-i} i'náli
 1SG.NOM INT sleep-DESID-MOT-IMPF go
 'I really wanted to go along sleeping (e.g., riding in a bus).'
 'Realmente quise irme durmiendo.' < SFH 07 2:72-73/el >
- b. *ko?nálsia i'náli*
ko?-^{nále-simi-a} i'náli
 eat-DESID-MOT-PROG go
 'He went wanting to go along eating.'
 'Se fue queriendo comer.' < SFH 07 2:72-73/el >
- c. *'nè i'siinsia i'náli*
'nè i'si-^{nále-simi-a} i'náli
 1SG.NOM urinate-DESID-MOT-PROG go
 'I'm going along wanting to urinate.'
 'Voy queriendo orinar.' < BFL 08 1:61/el >

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- d. *'mán 'nè tʃákéna 'wánsia i'nâli ri^htê*
'má=n 'nè tʃákéna 'wá-nale-simi-a i'nâli ri^htê
 already 1SG.NOM aside throw-DESID-MOT-PROG go stone
 'I go along wanting to throw away the stones.'
 'Ya me dan ganas de ir quitando las piedras.' < BFL 08 1:88/el >

The desiderative and associated motion suffixes are also attested in the inverse order, as shown in (78).

(78) MOT-DESID affix order

- a. *riʔi'búsnilí ri^htê buʔu'tʃími*
riʔi-'bú-simi-nale ri^htê buʔu'tʃími
 stone-REV-MOT-DESID stone road
 '(He) wants to go along the road removing stones.'
 'Quiere irse por el camino quitando las piedras.' < SFH 07 2:72-73/el >
- b. *a'wísinili*
a'wí-simi-nale-i
 dance-MOT-DESID-IMPF
 'She wanted to go along dancing.'
 'Quería irse bailando.' < SFH 07 2:72-73/el >
- c. *'nèn na'lásnila i'nâli*
'nè=n na'là-simi-nale-a i'nâli
 INT=1SG.NOM cry-MOT-DESID-PROG go
 'I'm going along feeling like crying.'
 'Voy queriendo llorar.' < BFL 08 1:89/el >
- d. *á bi'lá ta'mí jòrsinira 'ruá*
á bi'lá ta'mí jò-ri-simi-nale-ra ru-'wá
 AFF really 1SG.ACC mad-CAUS-MOT-DESID-REP say-MPASS
 'He says he wants to go along making me mad.'
 'Dice que me quiere ir haciendo enojar.' < SFH 08 1:72/el >

The next position is occupied by the auditory evidential suffix *-tʃáne*, another disyllabic suffix that is transparently related to an independent verb in the language, (*a*)*tʃáne*, 'say, sound like'. The following examples show the evidential suffix ordered after the associated motion suffix (79) and the desiderative suffix (80).

(79) MOT (S7) – EV (S8)

- a. *wiku'wâstfina*
wiku'wâ-simi-tfane-a
 whistle-MOT-EV-PROG
 'It sounds like they are going around whistling.'
 'Se oye que van chiflando.' < SFH 07 2:74, el492/el >
- b. *'wîstfane*
'wî-simi-tfane
 harvest-MOT-EV
 'It sounds like they are going along harvesting.'
 'Se oye que van pizcando.' < SFH 08 1:132/el >
- c. *á bi'lá u'bârstfani*
á bi'lá u'bâ-ri-simi-tfane
 AFF really bathe-CAUS-MOT-EV
 'It sounds like they are going along bathing them.'
 'Se oye que van bañándolos.' < SFH 08 1:150/el >
- d. *á bi'lá 'wé 'aastfani wiko'ki u?pá*
á bi'lá 'wé 'a-simi-tfane wiko'ki u?pá
 AFF really INT look.for-MOT-EV mushrooms back
 'It sounds like they are going along looking for mushrooms back there.'
 'Se oye que van buscando hongos atrás.' < SFH 08 1:145/el >

(80) DESID (S6) – EV (S8)

- a. *wika'rântfane*
wika'râ-nale-tfane
 sing-DESID-EV
 'It sounds like they want to sing.'
 'Se oye como que quieren cantar.' < SFH 07 1:9/el >
- b. *'má ko?-nâltfani*
'má ko?-nâle-tfane
 already eat-DESID-EV
 'It seems they already want to eat.'
 'Como que ya quieren comer.' < SFH 08 1:124/el >

- c. *ro'kò mi bo'óri 'nà ha're mo'i'náaltfini*
*ro'kò mi bo'óri 'nà ha're mo'i-'nále-**tfane-i***
 night there up.there there some enter.PL-DESID-EV-IMPF
 'Last night it sounded like theey wanted to go inside up there.'
 'Anoche se oía que querían entrar allá arriba.' < SFH 08 1:124/el >

The desiderative and evidential suffixes, too, can appear in the inverse order, as shown in (81), due to factors discussed in more detail in Caballero (2010).²⁰

(81) Evidential-desiderative affix order

- a. *o'péstfanalo*
*o'pés-**tfane-nale-o***
 vomit-EV-DESID-EP
 'It sounds like they want to vomit.'
 'Se oye como que quieren vomitar.' < BFL 07 rec300/el >
- b. *paraértfanalo*
*paraér-**tfane-nale-o***
 dance.paraeri-EV-DESID-EP
 'It sounds like they want to dance paraéri.'
 'Se oye como que quieren bailar paraéri.' < BFL 07 1:182/el >
- c. *'á bi'lá t'fikle kétfitfanili kúruwi*
*'á bi'lá t'fikle kétfi-**tfane-nale** kúruwi*
 AFF really gum chew-EV-DESID kids
 'It seems like the kids want to chew gum.'
 'Se oye que los niños quieren mascar chicle.' < SFH 08 1:146/el >
- d. *'nápi 'lé a'tístfanala*
*'nápi a'lé a'tísi-**tfane-nale-a***
 REL DUB sneeze-EV-DESID-PROG
 'It is like somebody wants to sneeze (it sounds like it).'
 'Como que se oye que quieren estornudar.' < SFH 08 1:122/el >

²⁰In (81a–b), the last vowel of the desiderative suffix is replaced by the epistemic suffix *-o*, that encodes an event is the result of a psychological or mental state, in this case, 'want'. Epistemic marking in desiderative-marked verbs is attested in the speech of some speakers (e.g., BFL in (81a–b), but not others (e.g., SFH in (81c–d)). More details about this suffix can be found in Appendix A.5.2.

The desiderative, associated motion and evidential suffixes precede a set of stress-shifting suffixes, posited to occupy slot (S9). All of the suffixes in this position are suffixes encoding both voice and tense/aspect. A list is provided in (82) (more details about each individual suffix can be found in the Appendix in the cross-referenced sections).²¹

(82) Inflectional suffixes: slot (S9)

<i>-ru</i>	Past Passive (PST.PASS)	§A.4.1.1
<i>-pa</i>	Future Passive (FUT.PASS)	§A.4.1.2
<i>-rîwa, -wá</i>	Medio-Passive (MPASS)	§A.4.1.3
<i>-sûwa</i>	Conditional Passive (COND.PASS)	§A.4.1.4
<i>-'mêa, -ma</i>	Future Singular (FUT.SG)	§A.4.2.1
<i>-pô</i>	Future Plural (FUT.PL)	§A.4.2.2
<i>-mê</i>	Motion Imperative (MOT.IMP)	§A.4.3
<i>-sâ</i>	Conditional (COND)	§A.4.4
<i>-mê</i>	Irrealis Singular (IRR.SG)	§A.4.5.1
<i>-pi</i>	Irrealis Plural (IRR.PL)	§A.4.5.2

As shown in the next examples, the desiderative suffix (83), the associated motion suffix (84) and the evidential suffix (85) all precede these inflectional suffixes, which are more peripheral in the verbal template.

(83) DESID (S6) – FUT.SG (S9)

- a. *pi'tîrnimo 'lá*
pi'tî-ri-nale-ma *o'lá*
sweep-CAUS-DESID-FUT.SG CER
‘He will want to make him sweep.’
‘Va a querer hacerlo barrer.’ < BFL 07 EDCW(81)/el >
- b. *ni'hê ko 'á ka'hê 'pâksinima*
ni'hê ko 'á ka'hê 'pâki-si-nale-ma
1SG.NOM EMPH AFF coffee brew-MOT-DESID-FUT.SG
‘I will go along wanting to brew some coffee.’
‘Voy a querer ir colando café.’ < SFH 08 1:147/el >
- c. *po'tîtnimon o'lá ja'dîra*
po'tî-ti-nale-ma-ni *o'lá ja'dîra*
jump-CAUS-DESID-FUT.SG=1SG.NOM CER Yadira
‘I will want to make Yadira jump.’
‘Voy a querer hacer brincar a Yadira.’ < BFL 08 1:62/el >

²¹The motion imperative suffix and irrealis singular suffix are homophonous, but distinct suffixes in the language.

(84) MOT (S7) – FUT.SG (S9)

- a. *ni'hê 'mí ti'tfíksima*
ni'hê 'mí ti'tfí-ki-simi-ma
 1SG.NOM 2SG.ACC comb-APPL-MOT-FUT.SG
 'I will go along the way combing your hair.'
 'Voy a ir peinándote.' < SFH 07 2:67/el >
- b. *'nè ko'tfí po'tfítisima*
'nè ko'tfí po'tfí-ti-simi-ma
 1SG.NOM dog jump-CAUS-MOT-FUT.SG
 'I will go along making the dog jump.'
 'Voy a ir haciendo que brinque el perro.' < SFH 08 1:72/el >
- c. *mín pi'wârsimo 'lá*
'mí=ni pi'wâ-ri-simi-ma o'lá
 2SG.ACC=1SG.NOM smoke-CAUS-MOT-FUT.SG CER
 'I'll make you go along smoking.'
 'Voy a hacer que vayas fumando.' < BFL 08 1:91/el >

(85) EV (S8) – MPASS (S9)

- 'nè i'tfírtfúnua*
/nè itfí-ri-tfane-wa
 1SG.NOM plant.APPL-APPL-EV-MPASS
 'It sounds like (corn) is being planted for me.'
 'Se oye como que me están sembrando maíz.' < SFH 07 1:10/el >

The evidential suffix can also appear ordered after these suffixes, under circumstances described in Caballero (2010). The examples below show the evidential suffix preceeded by the stressed allomorph of the future singular suffix (86a–b) and by the habitual passive suffix (86c).

(86) Future/Habitual Passive – Evidential affix order

- a. *'nápi 'lé 'má awi'mêtfâni*
'nápi a'lé 'má awi-'mê-tfane
 REL DUB already dance-FUT.SG-EV
 'It sounds like they are going to dance.'
 'Se oye como que van a bailar.' < SFH 07 1:140/el >
- b. *'nápi 'lé na'kómítfâna 'wâsi*

- 'nápi a'lé na'kó-**ma-tfane-a** 'wàsi
 REL DUB fight-FUT.SG-EV-PROG cows
 'It sounds like the cows are going to fight.'
 'Se oye como que las vacas se van a pelear.' < SFH 07 1:140/el >
- c. 'nápi ri'ménuwatsfana
 'nápi ri'mé-nu-wa-**tfane-a**
 REL make.tortillas-APPL-MPASS-EV-PROG
 'It sounds like they are making him tortillas.'
 'Como que se oye que le están haciendo tortillas.' < SFH 07 2:69/el >

Finally, there is another slot of stress-shifting affixes that mark mood (potential (POT) *-ra*, imperative singular (IMP.SG) suffixes *-kâ* and *-sâ*, and imperative plural (IMP.PL) *-sî*). In (87), the potential suffix and the imperative singular suffix *-sa* are ordered after the motion imperative suffix (in S8):²²

- (87) MOT.IMP (S9) – Mood (S10)
- a. *jurka osi'mêra 'lé*
*juri-ka osi-'**mê-ra*** *a'lé*
 take-IMP write-MOT.IMP-POT DUB
 'Go, take him to see if he writes.'
 'Ve y llévalo a ver si escribe.' < BFL 08 1:94/el >
- b. *'âamsa*
*'â-**me-sa***
 give-MOT.IMP-IMP.SG
 'Go give it to her!'
 '¡Ve y dáselo!' < ROF 04 1:112/el >

As shown so far, there is a fair amount of morphotactic evidence for positing the positions of a complex verbal template in Choguita Rarámuri. The evidence laid out in this subsection involves attested linear ordering of suffixes. There are, however, two other important morphotactic phenomena in the Choguita Rarámuri verb, namely variable order of suffixes and multiple (or extended) exponentence.

Several of the examples above show that several suffixes do not have a fixed order with respect to other suffixes, in interactions that are specific to defined

²²There is no example that demonstrates the relative ordering between the evidential suffix (posited in S9) and the mood suffixes in (S10). The evidential is semantically incompatible with at least the imperative mood.

pairs of suffixes belonging to the Syntactic Stem and Aspectual Stem domains of the verb. Suffixes that might switch their order include: causative and applicative; desiderative and associated motion; and desiderative and evidential.

In addition, the suffixes in the Syntactic Stem can display multiple exponence, i.e., they can be multiply marked without an equivalent semantic recursivity. This is exemplified in (88).

(88) Causative and Applicative Multiple Exponence

- a. *ni'hê bi'lá i?nèrtimo 'lá*
*ni'hê bi'lá i?nè-**ri**-**ti**-ma* *o'lá*
 1SG.NOM really look-CAUS-CAUS-FUT.SG CER
 'I'll make him look at it.'
 'Lo voy a hacer que lo vea.' < SFH 06 3:181/el >
- b. *ni'hê i?nèrili*
*ni'hê i?nè-**ri**-li*
 1SG.NOM look-CAUS-PST
 'I made him look at it.'
 'Lo hice que lo viera.' < SFH 06 3:181/el >
- c. *boto'bûunkirini 'bôte*
*boto-'bû-**ni**-**ki**-**ri**=ni* *'bôte*
 sink-TR-APPL-APPL-PST.PASS=1SG.NOM can
 'They sank my can (in the river).'
 'Me hundieron el bote.' < SFH 07 2:32/el >
- d. *boto'bûunirini*
*boto-'bû-**ni**-**ri**=ni*
 sink-TR-APPL-PST.PASS=1SG.NOM
 'They sank my can (in the river).'
 'Me hundieron el bote.' < SFH 07 2:32/el >

Variable suffix ordering and multiple exponence might render the verbal structure proposed in Table 9.8 a highly abstract representation. This structure, however, will be retained as a descriptive device since variable orders of suffixes are restricted to specific pairs of suffixes. The applicative, for instance, while variably ordered with respect to the causative, has a fixed position preceding the desiderative suffix and the associated motion suffix, among others. Moreover, variable suffix ordering and multiple exponence are only found with suffixes that belong to particular layers or domains in the verb.

There is other evidence showing that the concatenation of the Choguita Rarámuri verb is not unidimensional, and that there is an internal organization or hierarchy of processes. The next section will address the morphologically-conditioned phonology that make suffixes in the inner layers of the verb more tightly fused with the root than outer, inflectional suffixes.

9.4.3 Phonological transparency and morpheme boundary strength

The Choguita Rarámuri verb displays a nested structure that can be characterized in terms of the semantics and overall function of clusters of suffixes (valence-increasing, aspectual, etc.), and the morphologically-conditioned phonology that yields different degrees of morpho-phonological fusion between suffixes. This sub-section is concerned with the latter phenomena.

The phonological phenomena discussed in this section are root-suffix haplogy (§9.4.3.1), compensatory lengthening (§9.4.3.2), past-passive induced lengthening (§9.4.3.3), imperative stress shift (§9.4.3.4), round harmony (§9.4.3.5), and the distribution of stress-shifting and stress-neutral suffixes in the verb (§9.4.3.6).

9.4.3.1 Stem-suffix haplogy

We have seen that stress-conditioned vowel deletion results in derived consonant clusters and geminates in Choguita Rarámuri (see §5.2.2 and §4.2). As highlighted above, derived geminates are subject to inter-speaker (and to a lesser extent, intra-speaker) variation. The alternative to having a derived geminate is to have syllable deletion in avoidance of adjacent identical syllable onsets. In this language, haplogy between a final syllable in the Inner Stem and a following suffix syllable with identical onsets takes place in morphologically complex constructions. In (89a,c,e), the root's underlying final, unstressed syllable and the immediately adjacent suffix syllable have identical onsets, leading to deletion of one syllable. The examples in (89b,d) show how the root's final syllable is not deleted in other morphological constructions. The forms in (89a,c,e) show unattested, hypothetical forms with adjacent root and suffix syllables with identical onsets.

(89) Root-suffix haplogy

- a. [a'sísa]
/a'sísi-sa/
wake.up-COND

9 Verbs and the verbal complex

- ‘if s/he wakes up’
 ‘si se despierta’ < BFL 08 1:1/el >
 **a'sísi-sa*
- b. [a'sísma]
 /a'sísi-ma/
 wake.up-FUT.SG
 ‘s/he will wake up’
 ‘se va a despertar’ < BFL 08 1:1/el >
- c. [sutu'bét̪íni]
 /sutu'bét̪í-t̪ane/
 trip-EV
 ‘it sounds like they are tripping’
 ‘suena que se tropiezan’ < SFH 07 1:143/el >
 **sutu'bet̪ít̪íni*
- d. [sutu'bét̪íniili]
 /sutu'bét̪í-nale/
 trip-DESID
 ‘s/he is about (wants) to trip’
 ‘se quiere tropezar’ < BFL 07 1:138/el >
- e. [siko'ráanili]
 /siko'rána-nale/
 eye.secrete-DESID
 ‘s/he is about (lit. wants) to have an eye secretion’
 ‘quiere lagañear’ < BFL 08 1:1/el >²³
 **siko'rananale*

Example (90a) shows how haplology also targets suffixes belonging to the Inner Stem domain:

(90) Inner Stem suffix-suffix haplology

- a. [t̪á'bóopo]
 /t̪á'bó-pi-po/

²³The Spanish translation of this verb form is ‘le quieren salir lagañas, quiere lagañear’, which is translated to English as ‘it is imminent that s/he will have eye secretion’.

- beard-REV-FUT.PL
 ‘They will remove their beards.’
 ‘Se van auitar la barba.’ < SFH 08 1:5/el >
- b. [tʃá'bópili]
 /tʃá'bó-pi-po/
 beard-REV-PST
 ‘They removed their beards.’
 ‘Se quitaron la barba.’ <SFH 08 1:5/el >

No haplology takes place between identical syllable sequences within roots (e.g. the form **a'sí-ma /a'sísi-ma/*, with the expected reading ‘S/he will wake up’ (‘wake.up-FUT.SG’) in (89b), is unattested). Syllables with identical onsets belonging to two suffixes can optionally undergo deletion, as shown in (91).

(91) Optional suffix-suffix haplology

- a. [ra?a'mânkiki]
 /ra?a'mâ-na-ki-ki/
 advise-DESID-APPL-PST.EGO
 ‘I wanted to advise them.’
 ‘Quise aconsejarlos.’ < BFL 06 5:132/el >
- b. [mi'itʃíiki]
 /mi'itʃí-ki-ki/
 carve-APPL-PST.EGO
 ‘I carved it for them.’
 ‘Se lo labré.’ < BFL 08 1/el >

Similar cases in the literature are treated as instances of a “Repeated Morpheme Constraint” (Menn & MacWhinney 1984), a phenomenon where sequences of morphemes that are homophonous are prohibited. The Choguita Rarámuri case could be analyzed to instantiate this phenomenon, even though it involves only phonologically similar sequences of morphemes (for an overview of this phenomenon and theoretical implications, see Inkelas (2014)).

9.4.3.2 Compensatory lengthening

As discussed in Chapter 3 and further addressed in Chapter 11 below, there is no evidence of contrastive vowel length in Choguita Rarámuri. Surface long vowel sequences, however, are not uncommon and are salient acoustically in this language. There are several processes that yield these vowel sequences in

surface representations. One of such processes is a word minimal size constraint affecting verbs (§11.1). Another source for surface vowel length is compensatory lengthening (CL), the phenomenon whereby the deletion of one element triggers a corresponding lengthening of another element.²⁴ I address this process in this section.

The more widespread CL pattern in Choguita Rarámuri involves deletion of a vowel that triggers lengthening of a preceding syllable's stressed vowel. This is exemplified in (92).

- (92) 'CVCV > 'CV:C

- a. *lāni* > *lāa*
 ‘bleed’
 ‘sangrar’

b. *máli-* > *máal-*
 ‘swim’
 ‘nadar’

c. *nāri-* > *nāar-*
 ‘ask’
 ‘preguntar’

d. *muru'bē-ni-* > *muru'bēe-n-*
 get.close-APPL
 ‘to get something close to something else’
 ‘acerarlo’

e. *ramu'wéli-* > *ramu'wéel-*
 joke with in-laws²⁵
 ‘vacilar con cuñados’

²⁴ CL has been treated as the transfer or preservation of a phonological unit, i.e. a mora, within a prosodic unit in the phonological literature (Hyman 2003, McCarthy & Prince 1986, *inter alia*), or as a phonetically-based process that results from isochrony, the preservation of phonetic duration (Timberlake 1983, Barnes & Kavitskaya 2000). I assume that while this process was based phonetically, it is now part of the lexical phonology of the language.

²⁵This verb is translated into Spanish by Choguita Rarámuri speakers as 'viciar con los cuñados'. This verb more accurately refers to a very specific kind of social interaction that involves joking playing around with a sister- or brother-in-law, a register documented also in Mountain Guarajío Miller (1996).

Vowel deletion in these contexts occurs due to posttonic syncope in derived environments (described in more detail in §5.2.2). Some of the examples in (92) are given in context in (93) below. In these cases, CL takes place when the intervening consonant is a sonorant. Lengthened vowels are underlined in the surface form and deleted vowels are in bold face in the underlying representation.

(93) CL with intervening sonorant

- a. ['nâarta]
/'nâri-ra/
ask-POT
'S/he can ask.'
'Puede preguntar.' < SFH 08 1:82/el >
- b. [muru'bêenti]
/muru'bê-ni-ti/
get.close-APPL-CAUS
'S/he makes them get it closer for them.'
'Hace que se lo acerque.' < BFL 07 6:07/el >
- c. [ramu'wéeltʃane]
/ramu'wéli-tʃane/
joke.with.in.laws-EV
'It sounds like they're joking with the in-laws.'
'Se oye que están vacilando con los cuñados.' < BFL 07 1:181/el >
- d. [lâanki]
/lâni-ki/
bleed-PST.EGO
'I bled.'
'Sangré.' < BFL 08 1:94/el >

Cases of CL triggered by deletion of a whole syllable have not been reported or even mentioned, to the best of my knowledge, as a logical type of CL. A second pattern of apparent vowel CL in Choguita Rarámuri, however, involves precisely the deletion of a syllable. In (94a), the tetrasyllabic root *nabi'sûri* truncates the final syllable when attaching the disyllabic desiderative suffix *-nále*. The result is a stem with a long stressed vowel. There are no other potential sources for lengthening in this case (such as passive-conditioned lengthening or vowel loss), so the lengthening must be attributed to syllable deletion. CL takes place with an intervening voiceless affricate (94c), and an intervening voiceless fricative (94e). Below each example of syllable-triggered CL includes a related form with no deletion.

(94) Syllable deletion triggered CL

- a. [nabi'sûunili]
 /nabi'sûri-nale/
 form.line-DESID
 ‘They want to form a line.’
 ‘Se quieren formar.’ < BFL 07, SF 08 1:83 /el >
- b. [nabi'sûrima]
 /nabi'sûri-ma/
 form.line-FUT.SG
 ‘S/he will form a line.’
 ‘Se va a formar.’ < BFL 07 VDB/el >
- c. [sutu'béet̪-nale]
 /sutu'bét̪fi-t̪sa-nale/
 trip-EV-DESID
 ‘It sounds like they want to trip.’
 ‘Se oye que se quieren tropezar.’ < BFL 07 rec300/el >
- d. [sutu'bét̪jima]
 /sutu'bét̪fi-ma/
 trip-FUT.SG
 ‘S/he will trip.’
 ‘Se va a tropezar.’ < LEL 06 5:35/el >
- e. [a'síisa]
 /a'sísi-sa/
 wake.up-COND
 ‘if s/he wakes up’
 ‘si se despierta’ < SFH 08 1:82/el >
- f. [a'sísima]
 /a'sísi-ma/
 wake.up-FUT.SG
 ‘S/he will wake up.’
 ‘Se va a despertar.’ < SFH 08 1:82/el >

We could alternatively analyze CL triggered by syllable deletion as CL triggered by consonant deletion after cyclically applied posttonic syncope. That is, deletion would not target the syllable as a unit. Instead, the consonant, after

being syllabified as coda of the preceding syllable, would be the target of a phonetic weakening process to a semi-vowel and subsequent monophthongization (as proposed for other cases of CL by De Chene & Anderson 1979). This can be represented schematically as in (95):

- (95) CL derived through syncope, gliding and monophthongization

UR	Syncope	C Gliding	Monophthongization
/CVCVCV/	CVCVC	CVCVG	CVCVV

There is no evidence, however, that all derived coda consonants can glide, except for /b/ (cf. §4.4.2). Furthermore, not all labio-velar semi-vowels undergo monophthongization, as shown in the examples in (96). Their existence makes it hard to posit a special set of semi-vowels that would not weaken and monophthongize with the syllable nucleus.

- (96) Non-monophthongized labio-velar semi-vowels

- a. *nè ko 'mí raʔliwtima pa'trísio*
nè=ko *'mí* *raʔl-i-wi-ti-ma* *pa'trísio*
 1SG.NOM=EMPH 2SG.ACC buy-APPL-CAUS-FUT.SG Patricio
 'I will make you buy a soda for Patricio.'
 'Voy a hacer que le compres soda a Patricio.' < BFL 07 2:39/el >
- b. *basa'rôwmi 'lé ma baʔa'rîo*
basa'rôwa-mi *a'lé* *ma* *baʔa'rî-o*
 stroll.around-IRR.SG DUB perhaps tomorrow-EP
 'Perhaps she will take a stroll tomorrow.'
 'A lo mejor va a pasear mañana.' < BFL 07 1:150/el >

Whether we analyze this last set of cases as instances of CL or not, the cases of vowel lengthening shown above are uncontroversially a case of CL triggered by V loss. CL is seemingly restricted to targeting stressed vowels of roots or derivational suffixes in the Inner Stem, delimitating this stem domain.

9.4.3.3 Past passive-conditioned lengthening

Another morphologically-conditioned phonological effect involves vowel lengthening triggered by the past passive construction. The past passive suffix *-ru* is a stress-shifting affix with a stressed and an unstressed allomorph. The unstressed allomorph has the property of triggering lengthening of the final stem stressed vowel. This is exemplified in (97).

- (97) Vowel lengthening induced by past passive suffix

- a. *na'ñi o'siiru*
na'ñi o's-i-ru
 here write-APPL-PST.PASS
 'Something was written here'
 'Aqui escribieron' < SFH 08 1:45/el >
- b. *'kani bahu'reero ba*
ka=ni bahu're-ru ba
 'NEG=1SG.NOM invite.to.drink-PST.PASS CL
 'I wasn't invited to drink'
 'No me invitaron al tesgüino' < BFL 07 2:33/el >
- c. *'tòoru graba'dòra*
'tò-ru graba'dòra
 take-PST.PASS recorder
 'The recorder was taken.'
 'Se llevaron la grabadora.' < SFH 08 1:45/el >
- d. *na'ñi itfiiru*
na'ñi itfi-ru
 here sew-PST.PASS
 'It was sewn here.'
 'Aquí sembraron.' < SFH 08 1:45/el >

This effect, which cannot be predicted from the prosodic or phonological properties of the affix, can be considered as an instance of dominance. 'Dominant' affixes (as opposed to 'recessive' affixes) have been defined as affixes which delete or neutralize contrasts in the base to which they attach (Kiparsky et al. 1982, Inkelas 1998). Although dominant affixes are typically described as involving the deletion of accentual or tonal information from the base, there are also cases of dominant affixes that neutralize vowel length in the base (such as Mam Maya (Willard 2004)). I argue that the past passive suffix is a dominant suffix which imposes lengthening in a preceding stressed syllable.

There are instances where the vowel quality of the past passive suffix (a high, back round vowel) is neutralized in height in posttonic position. This yields a suffix form that is homophonous with the active voice past suffix (-*li*). In (98–99), the passive constructions would thus be homophonous with past active constructions, except that the lengthening in the stressed root vowel is a clear index of

the passive construction. It is possible that there is a change in progress where the lengthening is being reanalyzed as the marker of past passive.

(98) Neutralized vowel quality of past passive suffix

- a. *na'ñi ko 'wé tʃóortiri*
na'ñi=ko 'wé tʃóri-ti-ru
 here=EMPH INT have.cramps-CAUS-PST.PASS
 'People felt cramps here.'
 'Aquí se acalambraba la gente.' < BFL 05 2:41/el >
- b. *'nè ko bi'lá ru'wèeri 'wé ka'níla 'rá*
'nè ko bi'lá ru'w-è-ru 'wé ka'ní-la ru-'wá
 1SG.NOM EMPH really tell-PST.PASS INT happy-REP say-MPASS
 'I was told he got really happy.'
 'Me contaron que se puso bien contento.' < SFH 08 1:84/el >

While the lengthening in (98a) could be alternatively analyzed as compensatory lengthening triggered by syncope, the lengthening in (98b) cannot be attributed to compensatory lengthening, since there is no posttonic syncope in this form.

Passive-induced lengthening targets the root or a derivational suffix in the Inner Stem. (99a) shows the derivational suffix *-rú* undergoing lengthening. The same base does not undergo vowel lengthening with the active past suffix *-li*.

(99) Past passive induced lengthening of Inner Stem suffix

- a. *na'ñi raki'rúuru*
na'ñi raki-'rú-ru
 here palm-gather-PST.PASS
 'Palms were gathered here.'
 'Aquí juntaron palmas.' < SFH 08 1:97/el >
- b. *ha'sínto raki'rúli*
ha'sínto raki-'rú-li
 Jacinto palm-gather-PST
 'Jacinto gathered palms.'
 'Jacinto juntó palmas.' < SFH 08 1:97/el >

The target of passive-induced lengthening includes the transitive suffixes in position S2, in the Derived Stem domain, as shown in (100).

- (100) Past passive induced lengthening of Derived Stem suffixes

- a. *mi'gél tʃáʔi'búuru si'kála*
*mi'gél tʃáʔi-'**bú-ru* *si'ká-la*
 Miguel get.stuck-TR-PST.PASS hand-POSS
 'Miguel's hand got stuck (by somebody else).'
 'Le atoraron la mano a Miguel.' < SFH 08 1:97/el >

b. *'má tʃíhanâari napátʃí*
'má tʃíha-nâ-ru *na'pátʃá*
 already scatter-TR-PST.PASS blouses
 'The blouses were thrown around.'
 'Ya desparramaron las blusas.' < SFH 07 1:17-21/el >

c. *'má rapa'nâaru*
'má rapa-nâ-ru
 already split-TR-PST.PASS
 'She was already operated (lit. cut).'
 'Ya la operaron (cortaron).' < SFH 08 1:84/el >

On the other hand, suffixes on the Syntactic Stem (and any later morphological stem domains) block lengthening of the stressed syllable in past passive constructions. In each example in (101), the past passive suffix does not trigger lengthening of an immediately preceding applicative suffix.

- (101) No past passive induced lengthening of Syntactic Stem suffixes

- a. *'nè ama'tfíkuru*
'nè ama'tfí-ki-ru
 1SG.NOM pray-APPL-PST.PASS
 'They were praying for me' (lit. 'I was being prayed for').
 'Me rezaron.' < SFH 05 2:105/el >

b. *'máni ba?i'rúkuru ba?wí*
'má=ni ba?i-'rú-ki-ru ba?wí
 already=1SG.NOM water-gather-APPL-PST.PASS water
 'They already brought me water.'
 'Ya me trajeron agua.' < SFH 08 1:84/el >

- c. *ni'hê ko'bísi 'pásiru*
ni'hê ko'bísi 'pá-si-ru
 1SG.NOM pinole throw-APPL-PST.PASS
 'They threw my pinole.'
 'Me tiraron el pinole.' < SFH 08 1:85/el >

There are no constructions in the corpus where the past passive suffix imposes lengthening on a base including the suffixes in positions S3–S4 either, which implies that the domain of lengthening is restricted to the suffixes up to position S2, the Derived Stem domain. As shown in (102), for at least some speakers, the past passive suffix is *-liru* when attaching to V-final stems, with the liquid flap syllabifying as coda of the preceding syllable (due to general post-tonic vowel deletion and reduction process described in §5.2, the suffix surfaces as [-lri] in the examples below).

- (102) a. [suku'tfūulri]
/suku'tfū-liru/
 scratch-PST.PASS
 'They were scratched.'
 'Fueron rasguñados.' <LEL 14 1:12/el >
- b. [ba'kiāalri]
/baki'jā-liru/
 offer.corn.beer-PST.PASS
 'They were offered corn beer.'
 'Les ofrecieron tesgüino.'²⁶ <LEL 14 1:13/el >
- c. [raki'būulri]
/raki'bū-liru/
 push-PST.PASS
 'They were pushed.'
 'Fueron empujados.' <LEL 14 1:13/el >
- d. [raki'rūulri]
/raki-'rū-liru/
 palm-gather-PST.PASS
 'Palm was gathered.'
 'Juntaron palma.' <LEL 14 1:13/el >

²⁶The Spanish translation given for this verb is 'franquear', which likely has a limited use in Northern Mexico among native Spanish speakers; the drinking referred to is ritual drinking in Rarámuri communities associated with community-based work, where the host of the community work offers invitees corn beer to share.

In these examples, the past passive suffix with the extra consonant not found with other speakers also triggers lengthening in the stressed syllable of the stem. This form of the suffix appears to reflect a more conservative form of this suffix and reveals the source of morphologically-conditioned lengthening in compensatory lengthening. The cognate suffixes in Mountain Guarajío and Norogachi Rarámuri are disyllabic *-reru* ~ *-riru* and *liri*, respectively (Miller 1996: 143; Brambila 1953). What this suggests is that the source of vowel lengthening associated with the Choguita Rarámuri past passive arose through compensatory lengthening upon vowel (and eventually syllable) deletion of the suffix.

9.4.3.4 Imperative singular stem formation: final stem stress shift and tonal alternations

As described in §9.3.1, the imperative may be marked as final stem stress. This marking is restricted to be realized in a domain that includes the Derived Stem domain. Transitive stems of change-of-state predicates (described in §9.1.6) have an imperative with stress on the transitive suffix. This is shown in (103a).

(103) Imperative stress shift

- a. *Imperative, transitive*
kasi'nâ
kasi-'nâ
 break-TR.IMP.SG
 ‘Break it!’
 ‘¡Rómpelo!’
- b. *Transitive stem + shifting suffix*
kasi'nâma
kasi-'nâ-ma
 break-TR-FUT.SG
 ‘S/he will break it.’
 ‘Lo va a romper.’
- c. *Transitive stem + neutral suffix*
ka'sinâli
ka'si-na-li
 break-TR-PST
 ‘S/he broke it.’
 ‘Lo rompió.’

Stress on the transitive suffix is characteristic of transitive stems in shifting constructions (103b), and contrasts with second syllable stress of the same transitive stems in neutral constructions (103c). The imperative of intransitive change-of-state predicates will, on the other hand, involve fixed second syllable stress plus an imperative singular suffix (as in (104)).

(104) Imperative of change-of-state predicates

- a. *ka'síka*
ka'sí-ka
 break-IMP.SG
 'Break yourself!'
 '¡Rómpete!' < SFH 08 1:98/el >
- b. *wa'tfíka*
wa'tfí-ka
 be.straight-IMP.SG
 'Straighten up!'
 '¡Enderézate!' < SFH 08 1:98/el >

Since the transitive suffixes of change-of-state predicates are part of the Derived Stem, we can identify final stem stress to mark imperative as a process restricted to this verbal zone.

9.4.3.5 Round harmony

Choguita Rarámuri has a round harmony process,²⁷ where non-round vowels of certain suffixes may become round when preceded by a stressed back stem vowel. The following examples show the role of stem stressed vowels as triggers of the rounding of the following suffix vowels: in (105a) and (105c), a stem final high, back vowel triggers rounding in the vowels of the causative, applicative and associated motion suffixes; in (105b) and (105d), on the other hand, there is no rounding of applicative suffix vowels with a stem final high, front vowel.

(105) Round harmony triggers

- a. *Round harmony*
bani'sútusuma
bani'sú-ti-si-ma
 pull-CAUS-MOT-FUT.SG
 'S/he will go along making them pull it.'
 'Los va a ir haciendo que lo jalen.' < SFH 07 2:67 rec487 /el >

²⁷I refer to this process as round harmony, although this process is gradient rather than categorical.

b. *No harmony*

ti't̪íksima

ti't̪í-ki-si-ma

comb-APPL-MOT-FUT.SG

‘S/he will go along combing her.’

‘Lo va a ir peinando.’ < SFH 07 2:67 rec487/el >

c. *Round harmony*

su'kúkupo

su'kú-ki-po

scratch-APPL-FUT.PL

‘They will scratch her.’

‘La van a arañar.’ < BFL 05 1:116/el >

d. *No harmony*

no'kèkilo

no'k-è-ki-li-o

move-APPL-APPL-PST-EP

‘S/he moved it for him.’

‘Se lo movió (a él).’ < BFL 05 1:116/el >

While round harmony in Choguita Rarámuri resembles other vowel harmony systems in its perseveratory, root-controlled nature, there is also evidence that harmony can be blocked or favored by the vocalic quality of an inflectional suffix following the target vowels (these suffixes are themselves outside of the domain of harmony). In (106a) and (106c), the applicative suffix *-ki* and the causative suffix *-ti* are realized with a round vowel after a stem with a final back vowel *if* the following inflectional suffix has a back vowel as well. The role of the final inflectional suffix in the harmony can be appreciated in (106b) and (106d), where the applicative and causative suffixes do not undergo round harmony when followed by an inflectional suffix with a high, front vowel.

(106) Anticipatory nature of round harmony

a. *kupu'rókuma*

kupu'ró-ki-ma

blink-APPL-FUT.SG

‘S/he will blink to her.’

‘Va a parpadearle.’ < BFL 05 2:22/el >

- b. *kupu'rókiki*
kupu'ro-ki-ki
 blink-APPL-PST.EGO
 'I blinked to her.'
 'Le parpadeó.' < BFL 05 2:22/el >
- c. *kupu'rótuma*
kupu'ró-ti-ma
 blink-CAUS-FUT.SG
 'S/he will make her blink.'
 'Va a hacer que parpadée.' < BFL 05 2:22/el >
- d. *kupu'rótiki*
kupu'ró-ti-ki
 blink-CAUS-PST.EGO
 'I made her blink.'
 'La hice parpadear.' < BFL 05 2:22/el >

This shows, then, than while clearly root-controlled, this process is also partially anticipatory. It also shows that back harmony is restricted to a subconstituent of the hierarchical structure of the verb. We have seen examples of round harmony targeting the vowels of causative *-ti* (S4), applicative *-ki* (S5), and associated motion *-simi* (S7). The examples in (107) show an array of suffixes undergoing rounding harmony. These suffixes belong in the Derived Stem, Syntactic Stem and Aspectual Stem domains.

(107) Round harmony in the Derived Stem and the Syntactic Stem

- a. Applicative *-si* (S3): Round harmony
páfuru
pá-si-ru
 throw-APPL-PST.PASS
 'It was thrown in my direction (for me).'
 'Me lo tiraron (hacia mi).' <RF 04 1:82/el >
- b. Applicative *-si* (S3): No harmony
pásiki
pá-si-ki
 throw-APPL-PST.EGO
 'I threw it for him.'
 'Se lo tiré.' < ROF 04 1:82/el >

- c. Applicative *-ni* (S4): Round harmony
'nè ko bi'lé tʃoma'lí si'rûnupa 'lé
'nè=ko bi'lé tʃoma'lí si'rû-ni-pa a'lé
 1SG.NOM=EMPH one deer hunt-APPL-FUT.PASS DUB
 'I will have a deer hunted.'
 'Me van a cazar un venado.' < SFH 05 1:136/el >
- d. Evidential *-tʃane* (S9: Round harmony)
*'sûuntʃuna*²⁸
'sû-nale-tʃane-a
 SOW-DESID-EV-PROG
 'It sounds like she wants to sow.'
 'Se oye como que quiere coser.' < SFH 07 1:9/el >
- e. Evidential *-tʃane* (S9: Round harmony)
mi'sútʃuna
mi'sú-tʃane-a
 catch-EV-PROG
 'It sounds like they are catching (mice).'
 'Se oye como que andan atrapando ratones.' < SFH 07 1:10/el >

There are cases where harmony appears to be blocked: in (108) there is no round harmony with the applicative and evidential suffixes, despite the presence of the trigger (a back, stressed vowel in the stem) and the following inflectional suffix with a back vowel. Instead, the back vowel of the evidential suffix has undergone height neutralization.

- (108) Blocked harmony

mi'súkitʃina
mi'sú-ki-tʃane-a
 catch-APPL-EV-PROG

'It sounds like they are catching (some mice) for somebody.'

'Se oye como que le están atrapando ratones.' < SFH 07 1:10/el >

We have seen that the [+round] feature can spread over more than one vowel (e.g. (107a)), so it cannot be argued that harmony is limited in its rightward (or

²⁸There is evidence that a following inflectional suffix with a front high vowel blocks the rounding harmony process: *'sû-n-tʃ an-i* / *'sû-ni-tʃane-i* / 'sow-APPL-EV-IMP' 'It used to sound like they were sowing stuff for her' 'Se oía como que le cosían' (< SFH 07 1:9/el >)

leftward) spreading. Instead, it is possible that this pattern has been rendered opaque by posttonic vowel height neutralization.

Finally, back round vowels also favor reduction of posttonic unstressed vowels to schwa. Posttonic vowel reduction to schwa occurs frequently when preceded by a back, stressed vowel. The examples below, however, show that reduction to schwa takes place after central (109a) and front, mid vowels (109b) as well.

(109) /i/ > ə / á, é __

- a. 'nârəma
'nâri-ma
ask-FUT.SG
'S/he will ask.'
'Va a preguntar.' < SFH 05 1:86/el >
- b. na'têpəma
na'têpi-ma
greet-FUT.SG
'S/he will greet her.'
'Va a saludarla.' < BFL 05 1:111/el >

The examples in (109) thus shows that the gradient process of unstressed vowel reduction to schwa and round harmony do not appear in the same vocalic environments.

In sum, rounding harmony in Choguita Rarámuri is stem-controlled but is simultaneously sensitive to outer inflectional suffixes, which are in turn out of the harmony domain. The targets of rounding harmony include the root and Inner Stem processes, as well as suffixes up to position S9. There is no evidence that other potential targets occurring in outer positions of the stem undergo rounding harmony. Thus, rounding harmony constitutes another phenomenon that contributes to creating less salient junctures between suffixes of certain inner domain of the verbal stem.

9.4.3.6 Stress and the morphologically complex verb: stress-shifting and stress-neutral suffixes

It has been shown so far that the agglutinating structure of the Choguita Rarámuri verb is not uniform with respect to its morpho-phonological properties. There is yet another important property of the verbal stem that suggests an internal, layered organization: the characterization of suffixes as stress-shifting and stress-neutral. This section discusses how suffixes are grouped into layers in the

verb according to their stress properties. Stress-shifting suffixes combine with the Inner Stem and conform the stress domain, while non-shifting suffixes are outside the stressable domain. The stress properties of Choguita Rarámuri suffixes align with other properties that define the stem levels or domains, since stress-shifting and stress-neutral suffixes are grouped in interleaved layers in the morphological structure of the stem.

It has been proposed that accent systems where the interaction between pre-specified information and word formation processes yields competing lexical accents, prosody is determined by morphology: a “headmost” accent wins, and the phonological properties of this morphological head percolate to the word level (Revithiadou 1998: 3–4). Under this account, “heads” are characterized as derivational morphemes (not inflectional ones). In Choguita Rarámuri there is no correlation between the suffixes’ prosodic properties and their status as derivational or inflectional morphology.

9.5 The verbal complex: clitics and modal particles

As described in Chapter 10, pronominal forms have corresponding enclitic forms, which are prosodically dependent on their host that do not carry any restrictions about the syntactic category of the words they attach to (Bickel & Nichols 2007). Table 9.13 lists the clitic pronominal forms (free pronouns are given in parenthesis). Third person is marked with a demonstrative *mi*, both as a free form and as an enclitic.

Table 9.13: Pronominal enclitic forms

	Subject	Object
1SG	=ni (ne'hê)	(ta'mí)
2SG	=mi (mu'hê)	('mí)
1PL	=ti (tamu'hê/ta'mò)	(ta'mí)
2PL	=timi ('émi)	('mí)

Choguita Rarámuri also has epistemic modality markers (the morphological characteristics of these markers are addressed in Chapter 10). Epistemic modality, or the expression of the degree of certainty speakers have towards the actuality of an event, is marked in Choguita Rarámuri through two modal particles that follow inflected verbs: *a'lé*, which expresses doubt and uncertainty (110a), and *o'lá*,

which marks certainty, and often volition (110b). Forms lacking such particles have a neutral interpretation with respect to the speaker's commitment to the truth value of the proposition.

(110) Epistemic modality markers

- a. *'nârma 'lé*
'nâri-ma a'lé
 ask-FUT.SG DUB
 '(He) will probably ask.'
 'Probablemente va a preguntar.' <BL 05 1:152/el >
- b. *'nârmo 'lá*
'nâri-ma o'lá
 ask-FUT.SG CER
 'S/he will definitely ask.'
 'Seguramente que va a preguntar.' <BL 05 1:152/el >

As the examples in (110) show, these particles have the phonological effect of inducing vowel deletion of the final vowel of the singular future suffix. This phenomenon has led some to describe these epistemic elements as "suffixes with independent stress" in other Rarámuri dialects (Burgess 1984). These particles, however, show their independent-word status through their prosodic independence, and their ability to appear after person clitics. In a strong hypothesis of syntax-phonology interactions, cliticization follows syntax, which predicts that clitics are able to attach to other clitics, but affixes cannot attach to clitics (Zwicky & Pullum 1983).

Finally, deletion between the final future suffix and the epistemic particles takes place with an intermediate enclitic that has lost its vowel. This is exemplified in (111).

(111) Vowel deletion induced by epistemic markers

- a. *t̪â?i'mêon 'lá*
t̪â?i-'mêa=ni o'lá
 stuck-FUT.SG=1SG.NOM CER
 'I will get stuck.'
 'Me voy a atorar.' < BFL 05 1:133/el >

- b. *ba'hîmon o'lá*
ba'hî-ma=ni *o'lá*
 drink-FUT.SG=1SG.NOM CER
 'I will drink.'
 'Voy a tomar.' < AHF 05 2:101/el >
- c. *ri'kùman 'lé*
ri'kù-ma=ni *'lé*
 be.drunk-FUT.SG=1SG.NOM DUB
 'I will probably get drunk.'
 'Probablemente me voy a emborrachar.' < BFL 05 2:120/el >
- d. *ri'kùmon o'lá*
ri'kù-ma=ni *o'lá*
 be.drunk-FUT.SG=1SG.NOM CER
 'I will get drunk.'
 'De seguro me voy a emborrachar.' < BFL 05 2:120/el >

Vowel deletion takes place post-lexically after the intermediate person clitic loses its vowel.

9.6 Summary

The verbal structure of Choguita Rarámuri displays morphotactic, prosodic and morpho-phonological properties that define a concentric organization of suffixes, with more fused suffixes closer to the root and more separable suffixes in the outer layer of the verb. The verbal structure scheme proposed in this chapter is repeated in Table 9.14.

Despite having mostly a fixed position, the ordering of suffixes is not arbitrary and conforms to general principles. There are no discontinuous dependencies across suffix positions, as is frequent in position class morphologies. The structure proposed, instead, fits Bybee's lexical-derivational-inflectional continuum, and generally conforms to the universal principles of relevance, derivation within inflection and scope. This is a property attributed to layered morphologies vs. templatic or position class morphologies, where general semantic and syntactic principles do not determine the whole range of affix ordering facts (Bickel & Nichols 2007, Stump 1993). In the analysis proposed here, the layered structure of the Choguita Rarámuri verb accounts for a zone of variable order, multiple exponence in the Syntactic Stem, and the fixed order in the rest of the zones.

Table 9.14: Choguita Rarámuri verbal stem domains

Positions	Categories	Stem domain
	Root + unproductive and semiproductive processes	Inner Stem
S1	Inchoative	Derived Stem
S2	Transitive	
S3	Applicative	Syntactic Stem
S4	Causative	
S5	Applicative	
S6	Desiderative	Aspectual Stem
S7	Associated Motion	
S8	Auditory Evidential	
S9	Voice/Aspect/Tense	Finite Verb
S10	Mood	
S11	TAM	
S12	Deverbal morphology	Subordinate Verb

10 Minor word classes

This chapter addresses the properties of Choguita Rarámuri minor word classes. Minor word classes can be classified into two groups, depending on whether they may head noun phrases or combine with head nouns in noun phrases and those that cannot. The first group includes pronouns (§10.1), demonstratives (§10.2), adjectives (§10.3), numerals (§10.4), quantifiers (§10.5), and definite articles (§10.6). The second class of minor word classes includes adverbs (§10.7) and a set of particles and enclitics that bear a range of discourse pragmatic functions (§10.8).

From these word classes, adjectives and adverbs are the ones that have the largest sets of forms, though they both have significantly fewer lexical items than major word classes. As documented for other Uto-Aztecan languages (e.g., Cupeño (Takic; Hill 2005), underived adjectives in Choguita Rarámuri comprise a limited set, with most property concepts encoded by words derived by regular derivational mechanisms from verbs (addressed in Chapter 9). In contrast, there is an elaborate system of adverbial free and bound morphemes, and a particularly developed system encoding direction/location, as documented in closely related Mountain Guarijío (Taracahitan; Miller 1996). This chapter provides an overview of the morphological properties of these small word classes, while their syntactic behavior is addressed in other chapters.

10.1 Pronouns

In contrast to nouns, free personal pronouns and pronominal enclitics are case-marked. Four different sets of pronouns are described: free personal pronouns in §10.1.1, pronominal enclitics in §10.1.2, emphatic pronouns in §10.1.3 and interrogative pronouns in §10.1.4.

10.1.1 Personal pronouns

Choguita Rarámuri personal pronouns distinguish two person values (first and second) and two numbers (singular and plural). In addition to these distinctions, pronouns may encode a binary nominative-accusative case distinction. Nominative pronouns encode subjects of both matrix clauses and subordinate clauses,

as well as possessors in noun phrases. Accusative pronominal forms are used to encode single objects of transitive predicates and both primary and secondary objects of ditransitive predicates.¹ A subset of pronominal forms, namely first person forms and the second singular form, are morphologically complex and composed of person forms reconstructed from Proto-Uto-Aztecán (Langacker 1977) and a *'hē* formative that appears to function as a demonstrative in a limited set of contexts. This *'hē* formative may be lacking in reduced forms of these pronominal forms.² The second singular and first plural subject pronominal forms also exhibit a change in the final vowel of the reduced form (from [u] to [o]), a change also attested in the first plural object pronominal form. The paradigm of Choguita Rarámuri free personal pronouns is shown in Table 10.1.

Table 10.1: Free personal pronouns

	Subject	Object
1SG	ne' <i>hē</i> , 'nè	ta'mí
2SG	mu' <i>hē</i> , 'mò	'mí
1PL	tamu' <i>hē</i> , ta'mò	ta'mò
2PL	'émi	'mí

Reduced pronominal forms ('nè, 'mò and *ta'mò*) are prosodically independent: they are stressed and may host enclitics. Reduced pronouns for first and second singular pronouns are monosyllabic and do not undergo lengthening as attested with monosyllabic inflected verbs, i.e., these pronominal forms are exempt from the minimality requirement described in §11.2 that applies to verbs stems. Examples of free personal pronouns in main clauses, both unreduced and reduced, are provided in (1).

¹Nominative/accusative case distinctions in pronominal forms are documented for other Rarámuri varieties, including Norogachi Rarámuri (Brambila 1953), and Rochéachi Rarámuri (Morales Moreno 2016). For closely related Mountain Guarajío, Miller (1996) reports a binary distinction between subject pronominal forms and oblique pronominal forms, with the latter employed to encode objects of transitive and ditransitive clauses, subjects of subordinate clauses and nominal possessors (1996:230).

²Contexts where *'hē* appears to function as a demonstrative are described in §10.2 below. Villalpando-Quiñonez (2019) documents a similar pattern in Norogachi Rarámuri free pronouns (2019: 37).

(1) Free personal pronouns

- a. *ne'hê 'pé o'kwâ ra?i'tfâma kori'má 'hítara*
ne'hê 'pé o'kwâ ra?i'tfâ-ma kori'má 'hítara
 1SG.NOM just couple speak-FUT.SG fire.bird about
 'I'll speak a little about the *korima* (the fire bird). '
 'Yo voy a hablar poquito del pájaro *korimá* (el pájaro de fuego).' {LEL
 tx5:00:22.9}
- b. *"nè si'mêo 'lá na?pôfia", 'hê a'ní*
'nè si'-mêa o'lá na?pô-si-a 'hê a'ní
 1SG.NOM go-FUT.SG CER weed-MOT-PROG DEM say.PRS
 "I'm going to weed", it is said like that.
 "Voy a escardar", así se dice.' {JLG el1274:17:17.5}
- c. *no'rînima 'étfi bi'léara tñ'kêami ta'mí ru'wêfia*
no'rîni-ma 'étfi bi'léara tñ'kêami ta'mí ru'wê-si-a
 arrive-FUT.SG DEM another bet.settler 1SG.ACC tell-MOT-PROG
 'The other bet settler (of *ariweta* race) arrives to tell me.'
 'Viene la otra chokéami (apuntadora de carrera de *ariweta*) a
 decirme.' {LEL tx19:01:17.9}
- d. *a?li tamu'hê 'má ... 'má a?li ra'wè 'má ti napa'wí ... hi'râmia*
a?li tamu'hê 'má a?li ra'wè 'má=tí napa'wí
 and 1PL.NOM then then later day already=1PL.NOM gather
hi'râ-mi-a
 bet-MOV-PROG
 'And then we gather that day to bet.'
 'Entonces nosotros ese día ya nos juntamos para apostar.' {LEL
 tx19:01:32.3}
- e. *kíti ku ta'mò ra'làmuli 'pé ku'rì o'tséríkam 'hú ta'mò ko*
kíti ku ta'mò ra'làmuli 'pé ku'rì o'tsérá-kame 'hú
 because EMPH 1PL.NOM Rarámuri just recently grow-PST.PTCP COP
ta'mò=ko
 1PL.NOM=EMPH
 'Because us the Rarámuri have grown up just recently, our people.'
 'Porque hace poco que crecimos nosotros los rarámuri, la gente
 como nosotros.' {FLP in243:18:57.8}

- f. *aʔlì 'má ke i'téo 'lá 'nà 'háp ta'mò tʃíri'ká ru'jéma ko*
aʔlì 'má ke i'té o'lá 'nà 'hápí ta'mò 'étfí ri'ká
 and already NEG not.exist CER PROX SUB 1PL.ACC DEM like
ru'-è-ma=ko
 say-APPL-FUT.SG=EMPH
 'And then there is nothing for us to be told.'
 'Y luego ya no hay para que nos digan a nosotras.' {GFM
 tx905:02:04.1}

Second person pronouns do not encode a number distinction in their accusative form (this is also reported in closely related Mountain Guarajío (Miller 1996)). Examples of second person pronominal forms are provided in (2).

(2) Second person free personal pronouns

- a. *mu'hé 'má ke 'tʃí 'bíri rimu'rú 'hípi ko ba?*
mu'hé'má ke 'tʃí 'bíri rimu'-rú 'hípi=ko ba?
 2SG.NOM anymore NEG which kinds dream-PRS today=EMPH CL
 'And you don't dream many things anymore?'
 '¿Y ahora ya no sueñas muchas cosas?' {MDH co1136:16:38.4}
- b. *mò 'wé bi'nè 'étfí*
mò 'wé bi'nè 'étfí
 2SG.NOM INT know.PRS DEM
 "You know a lot about that..."
 "Tu sabes mucho de eso..." {LEL tx5:05:18.9}
- c. *baʔa'ríni 'mí 'àma*
baʔa'rí=ni 'mí 'à-ma
 tomorrow=1SG.NOM 2SG.ACC look.for-FUT.SG
 'I'll look for you tomorrow.'
 'Mañana te busco.' <LEL 09 1:70/el>
- d. *aʔlì 'étfí 'mín a'nèma aʔlì*
aʔlì 'étfí 'mí=ni a'n-è-ma aʔlì
 and DEM 2SG.ACC=1SG.NOM say-APPL-FUT.SG later
 "And then I'll tell you"
 "Y entonces te digo" {LEL tx19:01:13.5}

- e. *ku'rí o'tférirami 'émi ko ba*
ku'rí o'tférí-r-ame 'émi=ko ba
 recently grow-PST.PASS-PTCP 2PL.NOM=EMPH CL
 'You all who have recently grew up.'
 'Ustedes los crecidos hace poco' {FLP in61:00:38.3}
- f. *'émi ko 'nè a?lá 'nâtami 'níbo 'lá ba*
'émi=ko 'nè a?lá 'nât-ame 'ní-bo o'la ba
 2PL.NOM=EMPH INT well think-PTCP COP-FUT.PL CER CL
 'You all must think well.'
 'Ustedes piensen bien.' {SFH tx12:11:40.4}
- g. *'pé bi'lá tʃutʃú'rú 'nà 'mí ru'wè 'émi 'kini 'kútʃuwa ba 'ne*
'pé bi'lá tʃutʃú'rú 'nà 'mí ru'-è 'émi 'kini 'kútʃuwa
 just really that.much DEM 2PL.ACC say-APPL 2PL.NOM 1POSS children
ba 'ne
 CL CL
 'Just that much I say to you all, you, my children.'
 'Nomás de ese tanto les digo, ustedes, mis hijos.' {SFH tx12:12:46.1}³

Third person arguments may be left unmarked (3a), or they may be encoded through demonstratives (e.g., the demonstrative *'étfí* in (3b)) or through an emphatic pronoun (e.g., *bi'nôi* 'himself' in (3c)).

- (3) a. *a?lì ke mu'ríwia ru'wá*
a?lì ke mu'ríwi-a ru-'wá
 and NEG get.close-PROG say-MPASS
 'And they say they didn't get close.'
 'Y dicen que ellos no se arrimaban.' {LEL tx109:02:14.2}
- b. *a?lì 'étfí ta'mí "ku'mûtʃí" a'nèma ba?*
a?lì 'étfí ta'mí ku'mûtʃí a'n-è-ma ba
 and DEM 1SG.ACC younger.maternal.uncle say-APPL-FUT.SG CL
 'And will they call me "kumuchi" (younger maternal uncle)?'
 '¿Y ellos me van a decir "kumuchi" (tío materno menor que la mamá)?' {SFH in484:13:59.4}
- c. *'ápi a?lì bi'nôi wika'râ ko 'hê a'ní 'rú*

³As discussed in Chapter 12 (§12.2.2), Choguita Rarámuri has a dedicated pronominal form, namely *'kini*, which encodes first person possessors (singular or plural) of kinship terms.

'ápi aʔlì **bi'nōi** wika'râ=ko 'hê a'ní 'rú
 SUB then himself sing.PRS=EMPH DEM say.PRS say.PRS
 'when he sings he says this'
 'cuando canta él así dice' {LEL tx71:03:15.7}

The use of demonstratives to refer to third person arguments is discussed in more detail in §10.2 below.

10.1.2 Pronominal enclitics

Free subject pronouns have corresponding enclitic forms, phonologically bound formatives that are prosodically dependent on their host and are unrestricted regarding the syntactic category of the words they attach to, two properties that may serve as diagnostics of clitics cross-linguistically (Bickel & Nichols 2007). Choguita Rarámuri pronominal enclitics are unstressed, monosyllabic forms with high front vowels, a trait that may be attributed to general processes of post-tonic vowel reduction (as described in §5.2). Table 10.2 illustrates the clitic pronominal forms (free subject and object pronouns are given in parenthesis).

Table 10.2: Pronominal enclitic forms

	Subject	Object
1SG	=ni (ne'hê, 'nè)	(ta'mí)
2SG	=mi (mu'hê, 'mò)	(mí)
1PL	=ti (tamu'hê, ta'mò)	(ta'mò)
2PL	=timi ('émi)	(mí)

Choguita Rarámuri person enclitics can attach to verbs and hosts of virtually any category, and, like many other Uto-Aztecán languages (Steele 1976) and other Rarámuri varieties (Morales Moreno 2016), are generally in what is traditionally called the Wackernagel position, immediately after the first accented phrase or sub-constituent of a phrase (Bickel & Nichols 2007). The following examples illustrate the distribution of person enclitics hosted by a wide range of word classes in a variety of syntactic contexts: (i) subordinating morphemes in subordinate clauses (4a); (ii) demonstratives (including definite articles) within Noun Phrases (4b); (iii) preposed particles (4c); (iv) negative adverbs (4d); (v) epistemic particles (4e); (vi) nouns (4f); and (vii) free person pronouns (4g). As shown in these examples, pronominal enclitic forms may undergo vowel deletion. Clitic hosts are underlined.

(4) Person enclitic hosts

a. Subordinator

ri'mùini 'náptim no'káo
ri'mù-i=ni [nápi=timi no'ká-o]
 dream-IMPF=1SG.NOM SUB=2PL.ACC move-EP
 'I used to dream that you all were moving.'

'Yo soñaba que ustedes se movían.' < BFL 05 1:114/el >

b. Demonstratives (within a noun phrase)

'tin to'rí si?rítimo 'lá
'ti=ni to'rí si?rí-ti-ma o'lá
 DEF.BAD=1SG.NOM chicken drown.INTR-CAUS-FUT.SG CER
 'I will drown the chicken.'

'Voy a ahogar al pollo.' < BFL 05 2:49/el >

c. Preposed particles

a?lì 'kun no'rínima
a?lì 'ku=ni no'ríni-ma
 later REV=1SG.NOM return-FUT.SG

'I will come back later.'

'Al rato vuelvo.' < BFL 05 2:49/el >

d. Negative adverbs

keni 'tâsi 'tʃó ma'nâ ba'þtâri
ke=ni 'tâsi 'tʃó ma'nâ ba'þtâri
 NEG=1SG.NOM NEG yet make.beverage corn.beer
 'I haven't made corn beer yet.'

'No he hecho tesgüino todavía.' < BFL 05 2:56/el >

e. Epistemic particles

no'keli lén 'máo
no'k-è-li a'lé=ni 'má-o
 move-PST DUB=1SG.NOM maybe-EP
 'Maybe I moved him.'

'A lo mejor lo moví.' < BFL 05 1:114/el >

f. Nouns

- napaʔlì no'káli rono'tfíni oʔ'kô*
'nápi aʔlì no'ká-li [rono'tfí=ni oʔ'kô]
 SUB later move-PST legs=1SG.NOM hurt
 'When I moved, my legs hurt.'
- 'Cuando me moví me dolieron las piernas.' < BFL 05 1:114/el >

g. Full pronouns

- 'pé ta'mòm na'hâta i'sí*
'pé ta'mò=mi na'hâta i'sí
 just 1PL.ACC=DEM follow do.PRS
 'It went like that, following us around.'
- 'Así anduvo siguiéndonos.' < BFL 05 text 2/tx>

Although the list of possible hosts in (4) is not exhaustive, it illustrates clearly the unrestrictedness of possible hosts for the person enclitics in Choguita Rarámuri.

10.1.3 Emphatic pronouns

There are two emphatic pronominal forms in Choguita Rarámuri, listed in (5).

(5) Emphatic pronouns

- a. *bi'nôi* - singular
 b. *a'bôi* - plural

These pronominal forms focus attention on the participants encoded as subjects in contexts where other potential arguments could be subjects. This is exemplified in (6).

- (6) a. *aʔlì 'étfí 'nápu ro'wéma 'lé ko bi'nôi bi'lá a'ní "jénan 'á sa'jéríma" 'á a'ní*
aʔlì 'étfí 'nápu ro'wé-ma a'lé=ko bi'nôi bi'lá
 and DEM SUB women.race-FUT.SG DUB=EMPH EMPH.SG really
a'ní "jéna a=ni 'á sa'jérí-ma" 'á a'ní
 say.PRS yes indeed=1SG.NOM indeed take.on-FUT.SG indeed say.PRS
 'And then the one who will run, herself, says: "yes, I will take on the challenge".'
 'Y entonces la que va a correr ella misma dice "sí le voy a entrar".'
 {LEL tx19:00:39.8}

- b. *'nápu ri'ká 'ne aʔ'lá be'nérpo tʃó kíni kütʃuwa tʃó kütʃuwa tʃó 'émi a'bói ba ni'bí*
'nápu ri'ká 'ne aʔ'lá be'nè-ri-po tʃó kíni kütʃuwa tʃó
 SUB like INT well learn-CAUS-FUT.PL also my children also
kütʃuwa tʃó 'émi a'bói ba ni'bí
 children also 2PL.NOM EMPH.PL CL nibí
 'So that we can teach well our children, children, you all.'
 'Para enseñarles bien a nuestros hijos, los hijos, ustedes mismos.'
 {SFH tx12:05:30.0}

In example (6a), the singular emphatic pronoun *bi'nói* makes clear that the runner, and not other potential actors, is the source of the quoted speech. In (6b), the plural emphatic pronoun *a'bói* is used to emphasize the addressees, the children of the speaker who he is giving advice to.

10.1.4 Interrogative pronouns and phrases

Choguita Rarámuri has a set of interrogative pronouns and phrases, most of which are morphologically complex. Of this set, only four forms are morphologically simplex. This inventory also includes the interrogative pronoun (*he*)'kwâ, where the *hê* formative present in pronominal forms (see Table 10.2) is optional in the interrogative pronoun. These are provided in Table 10.3.

Table 10.3: Choguita Rarámuri interrogative pronouns: basic forms

Forms	Gloss
<i>tʃú?</i>	How? (¿Cómo?)
<i>'píri?</i>	What? (¿Qué?)
<i>(he)'kuâ</i>	Who? (¿Quién?)
<i>'kámi?/kúmi?</i>	Where? (¿Dónde?)
<i>ka'bú?</i>	When? (¿Cuándo?)

A recurrent pattern in morphologically complex question words and phrases involves the interrogative word *tʃú* followed by another morpheme, whether bound (e.g., *-rupi* in *tʃú 'rupi* 'How much?') or free (e.g., a demonstrative (e.g., (*nà-ti* 'that-with' in *tʃú 'nà-ti* 'with what?')). The set of morphologically complex question words is shown in Table 10.4.

Table 10.4: Choguita Rarámuri interrogative pronouns

Forms	Gloss
<i>tʃú (tʃe) ri'ká?</i>	How? (¿Cómo?)
<i>tʃí 'jíri?</i>	Which kind? (¿Qué tipo?)
<i>(tʃú) 'kípi?</i>	How many? (¿Cuántos?)
<i>tʃú 'rúpi?</i>	How much? (¿Qué tanto?)
<i>tʃú 'jéni?</i>	How much? (¿Qué tanto?)
<i>tʃú tʃurú?</i>	How much? (¿Qué tanto?)
<i>tʃú i'kíana?</i>	How many places? (¿Cuántos lugares?)
<i>tʃú ki'nápi?</i>	At how many places? (¿Qué tantos lugares?)
<i>tʃú ri'kó?</i>	When? (¿Cuándo?)
<i>tʃú (tʃe) o'lá?</i>	Why? (¿Por qué?)
<i>tʃú 'jéni?</i>	At what time? (¿A qué hora?)
<i>tʃú ki'rípi?</i>	How long? (¿Cuánto tiempo?)
<i>tʃú 'nà-ti?</i>	With what? (¿Con qué?)
<i>'píri 'nà-ti?</i>	With what? (¿Con qué?)
<i>(he pi) 'kwâ 'júa?</i>	With whom? (¿Con quién?)

In contrast to free pronominal forms, interrogative pronouns are not case marked, except for the forms *'píri 'nà-ti?* and *tʃú 'nà-ti?* ‘with what’, where the question words (*'píri* and *tʃú* are followed by the proximal demonstrative *'nà* bearing the *-ti* instrumental case marker.

In contrast to closely related Mountain Guarajío (Miller 1996), Choguita Rarámuri does not deploy interrogative pronouns as indefinite pronouns.

10.2 Demonstratives

Demonstratives are defined here as a set of deictic elements that may refer or restrict reference to referents in a situational (exophoric) usage, identifying entities in a surrounding physical situation, but also may be used endophorically in discourse and recognitional deixis (Himmelmann 1996, Enfield 2003). Demonstratives in Choguita Rarámuri may function anaphorically as pronouns (§10.2.1) or modifying a nominal element (§10.2.2). Both sets involve the same set of forms, and are distinguished in the following sections in terms of their function. Other

potential uses of demonstratives in discourse are yet to be examined and are left out of the scope of this grammar.

10.2.1 Demonstrative pronouns

As described in §10.1.1, reference to third person arguments may be achieved through demonstrative pronouns. Two degrees of distance and orientation with respect to the speaker/addressee is encoded by these forms, listed in (7):

(7) Demonstrative pronouns

- a. *'nà* 'this one' - proximal, close to the speaker
- b. *'ét̄i* 'that one' - proximal, close to the addressee or the speaker

The use of both proximal demonstrative pronouns is frequently attested in the Choguita Rarámuri corpus. Examples of these demonstrative pronouns is provided in (8).

(8) Demonstrative pronouns

- a. *'pé 'nàbi t̄f̄e t̄f̄éti ko'lí bi'tíam ku*
'pé 'nà=bi t̄f̄e t̄f̄éti ko'lí bi'tí-ame ku
just this.one=just also DET.PL over.there lie.down.PL-PTCP REV
'Just these ones (the dead people) who are lying down over there also.'
'Nada más estos que están (acostados) ahí por de aquel lado (los muertos).' <FLP 07 in243(511)/in>
- b. *"nà ko 'pâalichi pa'kótami" h̄e bi'lá a'ní ba a'ní*
'nà=ko 'pâalichi pa'kó-t-ame" h̄e bi'lá a'ní ba
this.one=EMPH priest wash-PACIENT-PTCP DEM really say.PRS CL a'ní
say.PRS
"This one is baptized by a priest" that's what they say.'
"Este es bautizado por padre" así dicen.' {SFH tx475:08:03.9}
- c. *'ét̄i ko t̄f̄o'mí t̄f̄ó mu'tsúwi*
'ét̄i=ko t̄f̄o'mí t̄f̄ó mu'tsúwi
those.ones=EMPH there also sit.PL.PRS
'They were (sitting) also over there.'
'Ellos también estaban allá.' <FL 06 in61(302)/in>

- d. *'étfi ko 'wé a'nátſa*
'étfi=ko 'wé a'nátſa
 that.one=EMPH INT endure.PRS
 'That one really endures (to run).'
 'Ese aguanta mucho (correr).' {JLG el1278:03:59.6}

In addition to these demonstrative pronouns, there is a third, more restricted demonstrative pronoun *'hē*. This demonstrative pronoun is exclusively found as the pronominal complement of utterance predicates ('say', 'tell'), as well as other predicates that express a positive attitude regarding the truth of the proposition expressed as their complement ('think', 'believe'). Crucially, this formative appears in contexts where there is quoted speech, and its function appears to be to index the direct speech. Relevant examples are provided in (9).

(9) Demonstrative *'hē* in quoted speech contexts

- a. *aʔlì 'hē a'níli: "nè ko a ma'tfí 'kúmi 'jéna bi'té 'étfi o'hi"*
aʔlì 'hē a'ní-li 'nè=ko a ma'tfí 'kúmi 'jéna
 and DEM say-PST 1SG.NOM=EMPH indeed know.PRS where indeed
bi'té 'étfi o'hi"
 live.PRS that bear
 'And they said: "I do know where the bear lives".'
 'Y entonces dijeron: "yo sí se dónde vive el oso".' {LEL tx32:02:11.0}
- b. *aʔlì 'hē a'ní 'tío: "a ri'wèsi, 'kítí bi'lé tʃapi'sì 'étfi"*
aʔlì 'hē a'ní 'tío: "a ri'wè-si, 'kítí bi'lé tʃapi-'sì
 and DEM say.PRS uncle indeed leave-IMP.PL NEG.IMP one grab-IMP.PL
'étfi"
 that
 'And my uncle said: "leave it, don't touch it".'
 'Y dijo mi tío: "déjenlo no lo tienten".' {LEL tx84:05:43.6}

The cognate of the *'hē* demonstrative in Norogachi Rarámuri is described as a proximal demonstrative in (Villalpando-Quiñonez 2019). Examples provided of this formative in Brambila (1953) and Villalpando-Quiñonez (2019) appear in the same environments as in Choguita Rarámuri, namely in the context of utterance and other predicates that introduce quoted speech.

10.2.2 Adnominal demonstratives

The two demonstrative forms that may be used pronominally may also be used as adnominal demonstratives: *'nà* ‘this, speaker-proximate’ and *'étfi* ‘that, speaker or addressee proximate’. As shown in the examples in (10), adnominal demonstratives precede the head noun (further details relating the syntactic order of elements within noun phrases is addressed in Chapter 12).

- (10) a. “*píri t'sétimi o'lá ta'mí ke bi'lé 'pé ta uku'wèami u pa?*” *'hê ri'ká bi'lá ijòani 'étfi Patricio, 'á bi'lá ko*
'píri t'sé=timi o'lá ta'mí ke bi'lé 'pé ta uku'wè-ame
why why=2PL.NOM why 1SG.ACC NEG one just little ukuwea-PTCP
'hu pa? 'hê ri'ká bi'lá ijòani ['étfi Patricio] 'á
COP CL DEM like really angry.PRS that Patricio indeed
bi'lá=ko
really=EMPH
“Why didn't you do that ukuweruwa thing?” says sometimes
Patricio.’
“¿Porqué ustedes no me hicieron eso del ukuwérwa?” a veces nos
dice Patricio enojados.’ {SFH tx475:09:16.8}
- b. *a?lì ko 'má wi'lí si'kötfi 'úmiri 'étfi kori'má*
a?lì=ko 'má wi'lí si'köt-fi 'úmiri ['étfi kori'má]
and=EMPH already stand.SG.PRS corner-LOC long.time this fire.bird
*‘And then that *korima* (fire bird) had been standing in the corner*
already for a long time.’
*‘Y entonces ya andaba mucho rato ahí por el rincón el *korimá**
(pájaro de fuego).’ {LEL tx5:01:28.4}
- c. *'nà le'hidotfi 'tʃó 'máti wa'ná 'nà ro'hàna 'tʃó*
['nà le'hidotfi] 'tʃó 'má=ti wa'ná 'nà ro'hà-na 'tʃó
this ejido also already=1PL.NOM aside this separate-TR.PRS also
*‘This *ejido* also, we were separated.’*
‘Este ejido también, ya nos apartaron.’ {JMF tx817:01:03.0}
- d. *ti'wé 'nà 'tʃìkle ko'yalí*
ti'wé ['nà 'tʃìkle] ko'yalí
girl this gum eat-PST
‘The girl chewed this gum.’
‘La niña se comió este chicle.’ {SFH el1028:04:15.8}

As shown in these examples, the “addressee/speaker-proximate” demonstrative *'et̪fi* ‘that’ indexes an object or person accessible to the addressee and/or the speaker: in the case of (10a), the speaker’s son, known also to me, the addressee; in the case of (10b), the topic of the narrative, the *korima* (fire bird) that has been previously introduced in discourse. The ‘speaker-proximate’ demonstrative *'nà* ‘this’ is used to index an entity accessible to the speaker, e.g., the *ejido* of Choguita in (10c).

Cross-linguistically, demonstratives encode more than aspects of the spatial configuration, and their use is determined by interactional, cognitive and discourse pragmatic factors (Enfield 2003, Hanks et al. 2005). Future research will reveal in which ways these factors may determine the use and function of demonstratives in Choguita Rarámuri.

10.3 Adjectives

Adjectival forms in Choguita Rarámuri are encoded through a small, close set of words, primary adjectives (described in §10.3.1) and a set of morphologically derived forms from verbs through participial suffixes (described in §10.3.2) (Islas Flores (2010) presents a description and analysis of adjectives and morphologically derived forms that encode property concepts in Choguita Rarámuri).

10.3.1 Primary adjectives

Primary adjectives in Choguita Rarámuri are monomorphemic (underived) lexical items that denote property concepts and may appear as modifiers of head nouns in noun phrases (see Chapter 12). Primary adjectives are not derived from other morphemes. A comprehensive, though non-exhaustive list of primary adjectives is provided in (11). As discussed in §10.7, *waʔlù* ‘big, sg.’ may be used adverbially to modify predicates.

(11) Choguita Rarámuri primary adjectives

- a. *kút̪fi* ‘little, small, pl.’
- b. *tàa* ‘little, small, sg.’
- c. *waʔlù* ‘big, sg.’
- d. *(i/o)ʔwéri* ‘big, pl.’
- e. *tfáti* ‘ugly’
- f. *wa'̪ina* ‘fast, light’

- g. *na'sína* ‘lazy’
- h. *se'máti* ‘beautiful’
- i. *wi'rì* ‘long’

As shown in these examples, some primary adjectives have suppletive forms for singular and plural (e.g., *kút̪i* ‘little, small, pl.’ (11a) vs. *tàa* ‘little, small, sg.’ (11b)), but not all primary adjectives encode number distinctions (e.g., *na'sína* ‘lazy’ (11g)). Among a number of morphological mechanisms to encode singular-plural contrasts, number-sensitive suppletion is attested across Uto-Aztecán for both nouns (Hill & Hill 2000) and verbs (Haugen & Everdell 2015). As discussed in Chapter 9 and Chapter 8, number suppletion is attested in Choguita Rarámuri verbs and nouns in limited instances.⁴

Primary adjectives are morphologically characterized for their ability to take on degree morphology: as shown in (12), primary adjectives may attach the suffix *-bē*, a stress-shifting, HL-toned suffix that encodes a high degree of the property encoded by the adjective.

(12) Degree morphology with primary adjectives

- a. *ka t̪é wi'ka'bé ri'hòoru ba*
ka *t̪é* *wi'ka-****bé*** *ri'hò-li* *ba*
 because.NEG because.NEG many-more inhabit.PL-PST CL
 ‘Because there were not that many more people living here.’
 ‘Porque no había mucha más gente.’ {JMF tx817:00:36.9}
- b. *'níma be 'lào 'pé a wili'bé i'náma 'lé 'mò ko ba*
'ní-ma *be 'lào* *'pé a* ***wili-****bé***** *i'ná-ma* *a'lé*
 COP-FUT.SG be think-EP just AFF long-more go.along.SG-FUT.SG DUB
'mò=ko *ba*
 2SG.NOM=EMPH CL
 ‘I think so, you will be around (live) for a longer time.’
 ‘Yo creo que si, tu si vas a andar mucho tiempo.’ <FL 06 in61(704)/in>

Primary adjectives with and without degree morphology may undergo further affixation, as shown in (13), where adjectives marked with *-bē* (13a–b) or without degree morphology (13c) may additionally attach the progressive *-a* suffix followed by a nominalizer suffix (stress-shifting *-ra*) in superlative forms.

⁴Closely related Mountain Guarajío has a small class (about a dozen lexical items) of primary adjectives that include cognate forms of the Choguita Rarámuri primary adjectives, e.g., *werumá* ‘long’, *weré* ‘wide’ (Miller 1996: 238). In contrast to Choguita Rarámuri, primary adjectives in Mountain Guarajío do not exhibit number suppletion, and instead encode number contrasts through a productive process of prefixing reduplication (1996: 238).

(13) Superlative forms

- a. *aʔlì 'ét̪i ta'bēara bini'lâ ko 'á ri'pili*
aʔlì 'ét̪i ta-'bē-a-ra *bini-lâ=ko* 'á
 and DEM small-more-PROG-NMLZ small.sister-POSS=EMPH AFF
ri'pî-li
 stay-PST
 'And then the youngest sister stayed.'
 'Y entonces la hermana menor se quedó.' {LEL tx32:04:05.0}
- b. *sere'bêrio be ko ri'wèi ta'bêara ko*
sere'bêrio be=ko *ri'wè-i* *ta-'bê-a-ra=ko*
 Silverio be=EMPH be.named-IMPF small-more-PROG-NMLZ=EMPH
 'Silverio was the name of the youngest one.'
 'Se llamaba Silverio el más chico.' <FL 06 in61(286)/in>
- c. *baʔa'rîna ri'kó 'má waʔ'lûara kotfîlâ ko si'míli 'tsîba 'mèra*
baʔa'rî-na *ri'kó* *'má* *waʔ'lú-a-ra*
 tomorrow-DISTR EMPH already big-PROG-NMLZ
kotfî-lâ=ko *si'mí-li* *'tsîba* *'mèra*
 daughter-POSS=EMPH go.SG-PST goat herd.PRS
 'The next dat the oldest daughter went to take care of the goats.'
 'Al otro día la hija más grande se fue a cuidar a las chivas.' {LEL
 tx32:03:57.6}

I posit that primary adjectives in superlative forms undergo a zero conversion process, which allows them to take tense morphology before being nominalized. Alternatively, and given that very few forms present this morphological pattern, it could be hypothesized that these forms are lexicalized and not a productive sequence of morphemes available to all primary adjectives. These questions remains open for further research.

10.3.2 Property concepts derived from verbs

Most property concepts in Choguita Rarámuri are derived from verbs through participial suffixes (*-ame* and *-kame*), which are also attested in the derivation of nouns from verbal bases (see §8.5.1). Examples of derived adjectives are provided in (14).

(14) Derived adjectives

- a. *ro'sâ-kame* 'white, sg.'

- b. *to'sâ-kame* ‘white, pl.’
- c. *si'tâ-kame* ‘red, sg.’
- d. *i-si'râ-kame* ‘red, pl.’
- e. *na'jú-ami* ‘sick’
- f. *i'wê-ami* ‘strong’

The cognate forms of these participial suffixes (*-me* and *-kame*) are documented in Mountain Guarajío (Miller 1996), and are analyzed by Miller as lacking tense marking in the case of *-me* and as encoding past tense in the case of *-kame* (1996: 180). As discussed in §8.5.1, there are clear instances of Choguita Rarámuri participial forms derived through *-kame* that encode a past tense meaning and forms derived with *-ame* that lack a similar tense specification. However, in the case of property concepts, such TAM contrasts are not identifiable, which suggests that *-ame* and *-kame* function as suppletive allomorphs in the derivation of these forms. The role of participial suffixes in deriving relative clauses in Choguita Rarámuri is discussed further in §15.3.

As described in §8.2 in Chapter 8, Choguita Rarámuri verbs encode event plurality or pluractionality through a number of morphological mechanisms, including prefixation, consonant mutation or both prefixation and consonant mutation in a pattern of multiple exponence. This is exemplified in the derived adjectives above, where the contrast between (14a) and (14b) shows a number distinction marked through mutation of the first stem consonant (/r/-/t/), while the contrast between (14c) and (14d) shows the number distinction marked through both prefixation and mutation of the second root consonant.

10.4 Numerals

Choguita Rarámuri numerals constitute a separate word-class defined morphologically by the ability to take multiplicative/frequentative, inclusive and collective morphology. Syntactically, numerals may modify head nouns in noun phrases or head noun phrases as described in Chapter 12. The numeral system can be characterized as an arithmetic base-10 system. The basic numerals are shown in Table 10.5. From the lower numbers in this set (one to ten), two forms are morphologically complex, namely ‘eight’ (*o'sá na'ó* ‘two times four’)⁵ and ‘nine’ (‘not nine’), while the rest are monomorphemic. Higher numbers are all

⁵The word for number ‘four’ exhibits inter-speaker variation in its pronunciation with an optional palatal glide as an onset of the stressed syllable (*na'ó* ~ *na'jó*)

morphologically complex and involve derivation of the lower numerals in the expression of the tens-series. Speakers exhibit a strong tendency to use Spanish loanwords for numbers above ten, including adoption of the Spanish words *ciento* and *mil* for ‘one hundred’ and ‘one thousand’, respectively.

Table 10.5: Choguita Rarámuri numerals

Forms	Gloss
<i>bilé</i>	‘One’
<i>o'kwâ</i>	‘Two’
<i>bi'kiá</i>	‘Three’
<i>na'ó ~na'jó</i>	‘Four’
<i>ma'ri</i>	‘Five’
<i>u'sâni</i>	‘Six’
<i>ki'tfâo</i>	‘Seven’
<i>o'sá na'ó ~o'sá na'jó</i>	‘Eight’ (‘two times four’)
<i>ki ma'kò</i>	‘Nine’ (‘not ten’)
<i>ma'kò</i>	‘Ten’
<i>ma'kò bilé</i>	‘Eleven’
<i>o-'sá ma'kò</i>	‘Twenty’
<i>be-'sá ma'kò</i>	‘Thirty’
<i>bilé 'siénto</i>	‘One hundred’
<i>bilé 'mili</i>	‘One thousand’

Numeral bases may be derived with a multiplicative/frequentative suffix (stress-shifting *-sá*), which encodes the meaning ‘x-times’. This suffixing construction is exemplified in (15).

(15) Multiplicative/frequentative numerals

- a. *be'sá na'hùura 'ruá 'á 'rú*
be-'sá na'hù-ra ru-wá 'á 'rú
 three-MLTP fall-REP say-MPASS AFF say.PRS
 ‘They say (the earth) fell down three times.’
 ‘Dicen que se cayó (la tierra) tres veces.’ {FLP in243:18:51.7}
- b. *'má na'ósa ku a'wíli 'nè*
'má na'ó-sa ku a'wí-li 'nè
 already four-MLTP again dance-PST 1SG.NOM
 ‘I already danced four times.’
 ‘Ya bailé cuatro veces yo.’ {MDH co1136:12:40.6}

Numerals may also attach an ‘inclusive’ suffix (H-toned, stress-shifting suffix *-ná*), which encodes the meaning ‘all of N’, where N equals the total number of entities referred to by the head noun. Examples of this construction are shown in (16).

(16) Inclusive numerals

- a. *oko'ná si'kâla*
oko'-ná se'kâ-la
 two-INCL hand-POSS
 ‘in both hands’
 ‘en las dos manos’ < BFL 09 1:34/el >
- b. *naʔ'sòoka koʔ'pô oko'ná koʔ'pô bi'lá ba*
naʔ'sò-wi-ka koʔ'-pô oko'-ná koʔ'-pô bi'lá ba
 mix-MPASS-GER eat-FUT.PL two-INCL eat-FUT.PL indeed CL
 ‘One must eat mixing it, one must eat the two foods.’
 ‘Hay que comer revolviendo, hay que comer de las dos comidas.’
 {MDH co1136:00:29.2}
- c. *'nè biki'ná ma'kúsarani tʃí'wí ko*
'nè biki'-ná makúsá-ra-ni tʃí'wí ko
 1SG.NOM three-INCL fingers-POSS=1SG.NOM hit EMPH
 ‘I hit myself in the three fingers.’
 ‘Me pegué en los tres dedos.’ < BFL 09 1:34/el >
- d. *u'sànnna 'á ma'ní baʔ'wí*
u'sàni-na 'á ma'ní baʔ'wí
 six-INCL AFF be.liquid water
 ‘There is water at six places.’
 ‘En seis partes hay agua.’ < BFL 09 1:35/el >

Numeral bases may also attach the stress-neutral collective suffix (a toneless *-ka* suffix) to mean that an activity is performed jointly by a given number of participants. This construction is exemplified in (17).

(17) Collective numerals

- a. *o'kwâka 'túpisi baʔ'wí*
o'kwâ-ka 'tú-pi-si baʔ'wí
 two-COLL bring.IMP-MOT.IMP .PL water
 ‘Bring water between the two of you!’
 ‘Traigan agua entre los dos!’ < BFL 09 1:34/el >

- b. *'má bi'láti a'bôi o'kwâka ka a'ní tamu'hê t̪o'kêami 'pîri ra'wé ro'wéma umu'kî*
'má bi'lá=tí a'bôi o'kwâ-ka ka a'ní tamu'hê
 already indeed=1PL.NOM EMPH.PL two-COLL EMPH say.PRS 1PL.NOM
t̪o'kêami 'pîri ra'wé ro'wé-ma umu'kî
 bet.settlers which day race.women-FUT.SG women
 'Then us two, the bet settlers, we say which day the women will race.'
 'Ya entre las dos decimos, nosotras las chokéami que día van a correr las mujeres.' {LEL tx19:01:23.6}

Table 10.6 provides the multiplicative, inclusive and collective derivation of basic numerals (data on inclusive derivations is from < BFL 09 1:34/el >). Some derived forms are unattested in the corpus, and these are marked with “-”.

Table 10.6: Numerals and derived forms

Forms	Gloss	Multiplicative	Inclusive	Collective
<i>o'kwâ</i>	'Two'	<i>o'-sá</i>	<i>oko'-ná</i>	<i>o'kwâ-ka</i>
<i>bi'kiá</i>	'Three'	<i>be'-sá</i>	<i>biki'-ná</i>	<i>bi'kiá-ka</i>
<i>na'(j)ó</i>	'Four'	<i>na'(j)ó-sa</i>	-	<i>na'(j)ó-ka</i>
<i>ma'rí</i>	'Five'	<i>ma'rí-sa</i>	-	<i>ma'rí-ka</i>
<i>u'sâni</i>	'Six'	<i>u'sâñ-sa</i>	<i>u'sâñ-na</i>	<i>u'sâñ-ka</i>
<i>ki'tfâo</i>	'Seven'	-	<i>ki'tfâo-na</i>	<i>ki'tfâo-ka</i>
<i>o'sa na'(j)ó</i>	'Eight'	<i>o'sa na'(j)ó-sa</i>	-	<i>o'sa na'(j)ó-ka</i>
<i>ki ma'kò</i>	'Nine'	<i>ki ma'kò-sa</i>	<i>ki ma'kò-na</i>	<i>ki ma'kò-ka</i>
<i>ma'kò</i>	'Ten'	<i>ma'kò-sa</i>	<i>ma'kò-na</i>	<i>ma'kò-ka</i>

Finally, numeral bases may undergo multiple suffixation and attach both the inclusive and collective suffixes. The inclusive *-ná* suffix attaches directly to the numeral root and the collective *-ka* suffix attaches to the inclusive-marked numeral base. Relevant examples are shown in (18).

(18) Multiple suffixation with numeral bases

- a. *'ápi i'sêlikami 'ká 'lé bi'kiánika su'wâba ma'jôra ma*
'ápi i'-sêrikami 'ká a'lé bi'kiá-ni-ka su'wâba ma'jôra
 SUB PL-governor.PL COP.IRR DUB three-INCL-COLL all mayor

- ma*
also
 ‘Like the governors, all three of them, all of the mayors, too.’
 ‘Así como los gobernadores, los tres, todos los mayores también.’
 {JMF tx816:00:36.7}
- b. *étfó 'nà bi'tfèti si'mibiki na'jónka ka*
étfi tfo'nà bi'tfè=ti si'mibi-ki na'jó-na-ka ka
 DEM there there=1PL.NOM go.PL.PST-PST.EGO four-INCL-COLL EMPH
 ‘Over there all four of us went.’
 ‘Allí fuimos los cuatro.’ {LEL tx84:04:47.9}

In the case of (18a), the numeral marked with the inclusive and the collective refers to the three governors of the local, traditional government performing an event collectively. In (18b), the numeral refers to a group of four people that includes the speaker, a referent established previously in discourse.

10.5 Quantifiers

There is a small set of quantifiers in Choguita Rarámuri. They are listed in (19). These quantifiers do not take any morphological marking, though they may be morphologically complex themselves. From this list, two quantifiers are derived from numerals: *o'kwâ* ‘few’ is derived from the numeral ‘two’, while *i'biri* ‘some, a few’ is derived from the pluractional form of the numeral one (*bi'lé*) (see §9.3.1.2 for details on pluractional marking). In contrast to their numeral sources, numeral quantifiers do not take any inclusive, collective or other morphology that numerals may take (as described in §10.4 above).

(19) Choguita Rarámuri quantifiers

- a. *wi^hkâ* ‘many’
- b. *o'kwâ* ‘few’
- c. *i'bíli* ‘some, a few’
- d. *su'wâba* ‘all’
- e. *si'nêami* ‘everyone’
- f. *su?u'ma* ‘everywhere’

As shown in (20), these quantifiers can function as modifiers of head nouns in noun phrases, and are compatible with demonstrative pronouns used as definite articles, as in (20b) (the syntactic behavior of these quantifiers is further addressed in Chapter 12).

- (20) a. *aʔlì 'hípi ko bi'lá 'má 'béti wi^h'kâ ri'hòi 'hípi ko*
aʔlì 'hípi=ko bi'lá 'má 'bé=tí wi^h'kâ ri'hòi
 and today=EMPH really already EMPH=1PL.NOM many people
'hípi=ko
 today=EMPH
 'And today there is a lot of us people.'
 'Ahora ya tenemos mucha gente.' {SFH tx12:01:00.5}
- b. *aʔlì 'ét̪í si'néami ra'làmuli ko 'hê a'níli*
aʔlì 'ét̪í si'néami ra'làmuli=ko 'hê a'ní-li
 and DEM everyone men=EMPH DEM say-PST
 'And then all of the men said.'
 'Entonces todos los hombres dijeron.' {LEL tx32:06:32.5}
- c. *su'wâba na'mûti raʔla'ká 'ká ru'wá bi'lá tʃo'nà?*
su'wâba na'mûti raʔla'ká 'ká ru-'wá bi'lá tʃo'nà
 all things buy-GER COP.IRR say-MPASS really there
 'Everything is bought there?'
 '¿Todo es comprado allá?' {MDH co1137:12:20.8}

Quantifiers may also be used pronominally and fill an argument slot subcategorized for by the verb. This is shown in (21), where quantifiers may fill the agent-subject role in (21a–b) or the object-theme in (21c).

- (21) a. *si'néami 'énili tʃo'nà 'nènia*
si'néami 'éní-li tʃo'nà 'nèni-a
 everyone go.around.PL-PST DEM watch.PL-PROG
 'and then they were all going around seeing'
 'y entonces andaban todos ahí viendo' {LEL tx32:07:11.5}
- b. *oh! 'nápi aʔlì wi^h'kâ si'sâa bi'lá be'lá ku 'mèta ba*
oh! 'nápi aʔlì wi^h'kâ si-'sâa be'lá be'lá ku 'mèt-a
 yes SUB then many arrive.PL-COND really really REV drive-PROGR
ba
CL
 'Yes, when many arrive they go back driving.'
 'Si, cuando llegan muchos se van todos otra vez manejando.' {MDH co1136:08:08.4}

- c. *'máti su'wâba ru'jè 'ét̪i 't̪io ba*
'má=tí su'wâba ru-’è 'ét̪i 't̪io ba
 already=1PL.NOM all say-APPL DEM uncle CL
 'And we told everything to the uncle.'
 'Y ya le dijimos todo al tío.' {LEL tx84:04:29.6}

10.6 Definite articles

Choguita Rarámuri possesses a set of definite articles that encode a definite referent in a noun phrase. These definite articles encode number (singular vs. plural) and affective stance (positive/neutral vs. negative). The Choguita Rarámuri definite articles are listed in (22).

- (22) Choguita Rarámuri definite articles
- 'tá* (lit. 'small, SG') – Singular article, positive or neutral evaluation
 - 'tí* – Singular article, negative evaluation
 - 'kút̪í* (lit. 'small, PL') – Plural article, positive or neutral evaluation
 - 'sféti* – Plural, negative evaluation

As stated above, definite articles in this language may encode affective stance. "Affect" is defined here as: "... a broader term than emotion, to include feelings, moods, dispositions and attitudes" (Ochs & Schieffelin 1989: 7); see also Neely (2019). In the case of Choguita Rarámuri definite articles, choice of the definite article involves a positive/neutral or negative evaluation of the referent of the head noun of the noun phrase. The positive/neutral article forms are derived from the adjective 'small', which also encodes number distinctions and is also used to mean literal small size. The contrast between positive and negative affective stance in definite articles is exemplified in (23).

- (23) Positive vs. negative affective stance in definite articles
- CONTEXT: the speaker announces the arrival of an acquaintance with whom they have a good/neutral relationship.
'tá mu'kî na'wàli
'tá mu'kî na'wà-li
 DEF.GOOD woman arrive-PST
 'The woman arrived.'
 'La mujer llegó.'

- b. CONTEXT: the speaker announces the arrival of an acquaintance who they dislike.

'tí mu'kî na'wàli
'tí mu'kî na'wà-li
 DEF.BAD woman arrive-PST
 'The woman arrived.'
 'La mujer llegó.'

In this pair of examples, the choice of definite article encodes affective stance toward the referent, either a positive or neutral one with the definite article *ta* (23a) or a negative one with the definite article *ti* (23b).

Positive/neutral evaluation articles are further exemplified in (24).

(24) Positive/neutral evaluation definite articles

- a. *aʔlì bi'lá ko 'má nata'kêli 'lé 'tá ko'tʃí*
aʔlì bi'lá=ko 'má nata'kê-li a'lé 'tá ko'tʃí
 and really=EMPH already faint-PST DUB DEF.NEUTRAL dog
 'And then the dog fainted.'
 'Y luego se desmayó el perro.' {SFH tx152:02:49.0}
- b. *'wé 'á riti'wî o'lá 'kútʃí u'mûri ko*
'wé 'á riti'wî o'lá 'kútʃí u'mûri=ko
 INT AFF see.MPASS CER DEF.GOOD great.grand.parents=EMPH
 'One indeed gets to see (meet) the great grandparents.'
 'Uno si ve (conoce) a los bisabuelos.' {ME in485:05:17.0}

In (24a), from the Frog Story narrative, the singular definite article *ta* (from the noun phrase *ta ko'tʃí* 'the dog') refers to an argument that was already introduced in discourse where the speaker expresses a neutral stance. In (24b), the plural definite article *'kútʃí* is used with a positive stance, encoding respect and affection towards elders (*u'muri*, the great grand parents).

Negative evaluation articles are further exemplified in (25).

(25) Negative evaluation definite articles

- a. *ke bi'lé wi'tʃíami 'hú es 'tí ritʃá'ní ri'pári mo'én-a ba*
ke bi'lé wi'tʃí-ame 'hú etʃí 'tí ritʃá'ní ri'pá-ri
 NEG indeed fall-PTCP COP.PRS DEM DEF.BAD giant above-ALL
mo'én-a ba
 go.up-PRS CL
 'He wouldn't fall the giant (richaní) when he would climb up.'

‘No se caía el gigante (richaní) cuando se iba para arriba.’ {SFH tx43:02:52.7}

- b. *'nàa aki'ná no'rínima 'lé 'tſéti na'kôam pa
 nà aki'ná nò'ríní-ma a'lé 'tſéti na'kô-ame pa*
 then over.here arrive-FUT.SG DUB DEF.BAD fist.fight-PTCP CL
 ‘Then the fierce ones will arrive.’
- ‘Entonces van a llegar los que pelean.’ {LEL tx221:03:17.8}

In (25a), the singular article *ti* is used derogatorily in reference to *ritſa'ni*, a giant in a myth of creation that kidnapped a woman and would eat children. In (25b), the plural definite article *'tſéti* encodes a negative evaluation of a group of people who are fierce and combative.

There are also instances of *ti* and *'tſéti* attested in the corpus where these forms do not convey a negative stance, but rather seem to be deployed in a stance-neutral way. Examples of this are provided in (26).

- (26) *aʔlì bi'lá 'hípi bi'lá 'má no'kí ma'kò ma'rí bam'páma 'lé **ti** ti'wé ni'hê 'kútſara
 ba't̪áwara ba
 aʔlì bi'lá 'hípi bi'lá 'má no'kí ma'kò ma'rí*
 and indeed now indeed already almost ten five
*bam'-pá-ma a'lé [**ti** ti'wé] ni'hê 'kútſa-la*
 have.birthday-INCH-FUT.SG DUB DEF.SG girl 1SG.NOM child-POSS
ba't̪á-wa-la ba
 first-VBLZ-POSS CL
 ‘And now the girl, my daughter, will turn fifteen, my oldest child.’
 ‘Pues ahora ya mi hija ya va a cumplir quince años mi hija la más grande.’
 {SFH tx43:04:05.6}

10.7 Adverbs

Choguita Rarámuri has an elaborate system of adverbial elements, which are formally and semantically heterogeneous. This word class is identified primarily by the function of modifying predicates. Formally, they are characterized by a relatively unrestricted distribution and, in a number of cases, the boundary between adverbs and particles is tenuous (see, e.g., discussion of evidential and epistemic particles, addressed in §10.8). Given the formal and semantic diversity that adverbs exhibit, this section addresses the morphological properties of individual adverbial subclasses in terms of their meaning. These subclasses include spatial adverbs (§10.7.1), temporal adverbs (§10.7.2), and manner adverbs (§10.7.3).

10.7.1 Spatial adverbs

The spatial adverb subclass is the most elaborate in Choguita Rarámuri, both in terms of the number of semantic contrasts encoded and the different morphological status of individual forms. This subclass also exhibits formal and semantic similarities with demonstratives (described in §10.2 above), though the diachronic developments that led to these similarities is left out of the scope of this grammar. Spatial adverbs can be further classified into deictic (§10.7.1.1) and directional (§10.7.1.2).

10.7.1.1 Deictic adverbs

The subclass of deictic adverbs is defined as the set of elements that situate an event with respect to the deictic center. The set of Choguita Rarámuri deictic adverbs is provided in (27).

(27) Deictic adverbs

- a. *na'ñi* ‘here’
- b. *'mí* ‘there’
- c. *mi'ká* ‘far’
- d. *aʔ'mí* ‘over there, far away’
- e. *waʔ'mí* ‘over there, far away’
- f. *ka'ʔé* ‘very far away’
- g. *mu'rípi* ‘close’
- h. *muru'bê* ‘close’

The adverbs *mi'ká* ‘far’ (27c) and *aʔ'mí*, *waʔ'mí* ‘over there, far away’ (27d) appear to be morphologically derived from *mi* ‘there’ (27b). None of the deictic adverbs take any morphology. Examples of these deictic elements are provided in (28).

- (28) a. *'etjí ba'tfá o'tfērami 'am tʃa'nia atʃa'ni' mí ka'ʔé ka'nótʃí*
'etjí ba'tfá o'tfē-r-ame 'a=m tʃ=a'ni-a atʃa'ni' mi
 DEM first grow.up-r-PTCP AFF=DEM that-say-PROG say.PRS there
ka'ʔé ka'nótʃí
 very.far.away Kanochi
 ‘those that lived (grew up) first there, very far away, in Kanochi,
 they say’

- ‘esos los que vivieron (crecieron) mucho primero allá lejos en kanochi, dicen’ {SFH tx43:10:45.1}
- b. *'nápu ri'ká ha'ré t̪ó aʔ'mí ra'bô pi'rêami
'nápu ri'ká ha'ré t̪ó aʔ'mí ra'bô pi'rê-ami*
SUB like some also over.there Rayebó live.PL-PTCP
‘Like others who live there in Rayebó.’
- ‘Así como otros los de allá de Rayebó.’ {SFH tx43:00:37.6}
- c. *aʔ'mi bi'lá, aʔ'mí 'wé mi'ká si'míbira, aʔ'mí bi'léana, bi'léana
aʔ'mí bi'lá, aʔ'mí 'wé mi'ká si'míbira, aʔ'mí*
over.there really over.there very far go.PL.PST over.there
bi'léana, bi'léana
another.place another.place
‘Over there very far they went, over there to another place, another place.’
- ‘Allá muy lejos se fueron, allá a otra parte, a otra parte.’ {LEL tx88:01:30.1}

As shown in these examples, deictic adverbs exhibit a very unrestricted distribution, and some may be combined with one another (e.g., *mi ka'?* in (28a)) and/or with other adverbs (e.g., *we mi'ká* in (28c)), but possible combinations and their collocations are restricted, i.e., while *mi* and *ka'?* are frequently compounded, there are no attestations in the corpus of these adverbs with an alternative order.

10.7.1.2 Directional adverbs

Choguita Rarámuri possesses a geomorphic spatial reference system, a type of system where the anchor is defined by a feature or gradient of the environment, e.g., rivers, mountains or other inclinations (O’Meara & Pérez Báez 2011: 842).⁶ As noted below, frames of reference where the anchor is the speaker and/or addressee (egocentric intrinsic) are also available to Choguita Rarámuri speakers. As in other geomorphic systems, the orientation of the anchor is relevant, e.g., whether an object is located upstream or downstream from a river depends on which direction the river is flowing. In the case of Choguita Rarámuri, one central anchor is a creek that cross-cuts the valley where Choguita is located. In the following examples (in (29)), the speaker instructs a young child to pull a door lock in opposite directions.

⁶Geomorphic spatial reference systems are subsumed under the ‘intrinsic’ category of other spatial reference systems classifications (see Levinson 1996).

- (29) a. *ka'yo raki'bú!*
ka'yo *raki'bú!*
 upstream pull.IMP.SG
 'Pull it upstream!'
 'Jálalo río arriba!' <BFL 09 2:93/el >
- b. *tû-na raki'bú!*
tû-na *raki'bú!*
 downstream-toward pull.IMP.SG
 'Pull it downstream!'
 'Jálalo río abajo!' <BFL 2011 1:3/el >

Speakers anchor the events which they describe in narratives and conversations through a set of directional and locative roots and a set of directional bound markers that encode movement through a path or from a source. The Choguita Rarámuri directional system bears some resemblances with that of Mountain Guarajío, described in Miller (1996), a language spoken in a similar ecological context (the rugged, mountainous areas of the Sierra Madre Occidental in Northern Mexico).

A non-exhaustive list of directional and locative roots is provided in (30). This list includes terms that involve an egocentric frame of reference, e.g., *bo'yo* 'opposite bank' (from the speaker and/or addressee perspective) in (30e).

(30) Directional and locative roots

- a. *ka'yo* 'upstream', 'río arriba'
- b. *tû* 'downstream', 'río abajo'
- c. *ri'pá* 'up', 'arriba'
- d. *re'reé* 'down', 'abajo'
- e. *bo'yo* 'opposite bank',⁷ 'por la otra banda'
- f. *pa'tfá* 'inside', 'adentro'
- g. *ma'tfí* 'outside', 'afuera'
- h. *na'sípa* 'middle', 'en medio'
- i. *su'wé* 'edge', 'orilla'
- j. *si'kôtñi* 'corner', 'esquina'

⁷From the speaker and/or addressee perspective.

The directional vocabulary and grammar of Choguita Rarámuri includes landscape terms that reflect the local ecological context of its speakers. A non-exhaustive list of these terms is provided in (31), with both English and Spanish approximate translations.

(31) Landscape vocabulary

- a. *pa'ni*
'slight elevation'
'pequeña subida'
- b. *re'ré*
'slight depression'
'pequeña bajada'
- c. *ko'lì*
'around the corner' (diagonally placed in reference to an object and out of sight)
'a la vuelta (diagonalmente ubicado en referencia a un objeto y fuera de vista)'
- d. *na'pütʃi*
'slight land depression (descent followed by a rise)'
'pequeña depresión en el terreno'
- e. *bo'ýori/bo'ýora*
'slight slope (rise followed by a descent)'
'pequeña subida en el terreno'
- f. *ri'ñtʃi*
'ridge line'
'reliz'
- g. *i'pô*
'valley'
'valle'
- h. *roko'áta, ro'káata*
'canyon'
'barranca'
- i. *riso'ñtʃi*
'cave'
'cueva'
- j. *ka'wì*
'mountain, sierras, world'
'monte, sierra, mundo'

Directional and landscape roots may combine with a set of directional bound morphemes that encode motion toward a goal or away from a source. An example is provided in (32), where the *-ki* suffix ‘on top of, on the surface of’ attaches to the directional root *ri'pá* ‘up’.

- (32) “*ri'páki riso t̪í bi'té*” *a'níli*
ri'pá-ki riso t̪í bi'té *a'ní-li*
 up-SUPE cave inhabit.PRS say-PST
 “‘He lives up on top of a cave’, he said.’
 “‘Vive por arriba en una cueva’, dijo.’ {LEL tx32:02:39.2}

Directional suffixes encode allative (motion towards), superessive (motion or location on the surface of), and ablative (motion away from) meanings, as well as overall orientation of referents (here labelled as adessive). Table 10.7 lists the directional suffixes identified in the Choguita Rarámuri corpus with relevant examples.

The following examples (in (33)) illustrate the allative *-mi*, *-ri* and *-na* suffixes.

- (33) Allative suffixes

- a. *'má pa t̪ámi iʔ'nífilo*
'má pa t̪á-mi iʔ'nísi-li-o
 already inside-ALL fly-PST-EP
 ‘It already flew inside.’
 ‘Ya voló hacia adentro.’ < BFL 09 1:49/el >
- b. *riʔ'lémi 'jéat̪í si'míriilo bi'lé t̪furu'kí*
reʔ'lé-mi 'jéa-t̪í si'míri-li-o bi'lé t̪furu'kí
 down-ALL door-LOC pass-PST-EP one bird
 ‘A bird passed through under the door.’
 ‘Un pájaro pasó por debajo de la puerta.’ < BFL 09 3:66/el >
- c. *ri'pári iʔka'níisia a'kíbo*
ri'pá-ri iʔka'ní-si-a a'kíbo
 up-ALL fly-MOT-PROG left
 ‘It left by flying upward.’
 ‘Voló hacia arriba’ (lit. ‘Se fue volando hacia arriba’)
 < BFL 09 1:49/el >

Table 10.7: Directional suffixes

Suffix	Meaning	Example
<i>-ka</i>	orientation (adessive) (specialized marker for directional roots)	<i>reʔré-ka tʃukú</i> down-AD to.be.curved.PRS 'it is down' < BFL 2011 1:3>
<i>-ki</i>	superessive	<i>ri'pá-ki ˈhúm-a ika'ní-a</i> up-SUPE go.SG-PROG fly-PROG 'it is flying on top' < BFL 2011 1:2>
<i>-mi</i>	allative	<i>reʔré-mi ˈjéa-tʃi</i> down-ALL door-LOC 'toward under the door' < BFL 09 3:66>
<i>-ri</i>	allative, ablative	<i>ri'pá-ri iʔka'ní-si-a a'kibo</i> up-ALL fly-MOT-PROG go.PST 'It flew upward.' < BFL 09 1:49/el > <i>reʔré-ri i'nâ-ro</i> down-ABL go.SG-MOV 'It comes from downward.' < FMF 09 2:65>
<i>-na</i>	allative, ablative	<i>ri'pá-na</i> up-ABL 'from upward' < BFL 2011 1:1> <i>'mí reʔré-na i'nâ-ro</i> DIST down-ALL go.SG-MOV 'It goes downward (downhill).' < FMF 09 2:65/el >

- d. *'mí riʔléna i'nâlo bi'lé re'hòi*
'mí reʔlé-na i'nâ-li-o bi'lé re'hòi
 DIST down-ALL go-PST-EP one man
 'A man is going down there (downhill).'
 'Un hombre va para abajo (cerro abajo).' < FMF 09 2:65/el >

The example in (34) shows that the *-ri* suffix can also be used to encode motion away from a source, an ablative meaning.

- (34) *reʔréri i'nâlo*
reʔré-ri i'nâ-li-o
 down-ABL go.SG-PST-EP
 'He comes from below.'
 'Viene de abajo.' < FMF 09 2:65 >

The following pair illustrates the difference between the description of a static location (in this instance morphologically unmarked) (35a) and description of motion toward a goal, marked with the allative suffix (35b).

- (35) Static location vs. motion toward a goal

- a. *ma t̪í wi'lí to'wí*
ma t̪í wi'lí to'wí
 outside stand.PRS boy
 'The boy stands outside.'
 'El niño está parado afuera.' < FMF 09 3:26/el >
- b. *ma t̪ími*
ma t̪í-mi
 outside-ALL
 'toward outside'
 'hacia afuera' < FMF 09 3:26/el >

The superessive *-ki* suffix and the allative/ablative *-na* suffix may co-occur in some forms where motion involves motion on top of a surface and towards a goal or away from a source. This is exemplified in (36).

- (36) a. *'tûkuna*
'tû-ki-na
 downriver-SUPE-ALL
 'Going downward (downriver)'
 'De bajada (río abajo)' < FMF 09 2:65/el >, {ME in485:07:31.4}

- b. *ri'pákina* 'ku *tʃukúl* *ti tʃimo'lí* *ko iʔnèka* *tʃú o'lásá*
ri'pá-ki-na 'ku *tʃukú-li* *ti tʃimo'lí=ko*
 up-SUPE-ALL REV to.be.curved-PST DEF.BAD squirrel=EMPH
iʔnè-ka *tʃú o'lá-sa*
 watch-PTCP what do-COND
 'From up above the squirrel was watching, what will it do.'
 'Desde por arriba estaba la ardilla viendo, a ver qué estaba haciendo.'
 {BFL tx191:03:37.6}

As shown in (36a), the superessive *-ki* suffix may undergo round vowel harmony in specific phonological contexts (details of the process of round vowel harmony is discussed in §9.4.3.5).

10.7.2 Temporal adverbs

Temporal adverbs can be classified as deictic or non-deictic. Deictic temporal adverbs are defined as those that situate the event in time with respect to the speech event or another reference point. A list of deictic temporal adverbs is provided in (37).

(37) Deictic temporal adverbs

- a. *'hípi* 'today, now, nowadays' 'hoy, ahora, estos tiempos'
- b. *baʔa'rî* 'tomorrow' 'mañana'
- c. *ra'pâko* 'yesterday' 'ayer'
- d. *tʃa'bè* 'long ago' 'antes, hace mucho tiempo'
- e. *ku'rí* 'recently' 'apenas, hace poco'

In contrast to deictic temporal adverbs, non-deictic temporal adverbs situate events within periods of time, whether concerning the diurnal cycle (38) or the seasonal cycle (39).⁸

(38) Non-deictic temporal adverbs - diurnal cycle

- a. *ro'kò* 'night, nighttime' 'noche'
- b. *ra'wé* 'day, daytime' 'día'
- c. *biʔà* 'early, morning time' 'temprano, de mañana'
- d. *biʔà ro'kò* 'early morning' 'madrugada'
- e. *aʔli* 'late in the day' 'tarde en el día'

⁸The form *biʔà ro'kò* 'early morning' (lit. 'early night') in (38d) refers to the time of the day before sunrise.)

- f. *(pe) 'tèri* ‘a (little) while’ ‘un rato corto’
 g. *na'sipa ra'wé* ‘noon’ (lit. ‘half day’) ‘mediodía’
 h. *na'sipa ro'kò* ‘midnight’ (lit. ‘half night’) ‘medianocche’
- (39) Non-deictic temporal adverbs - seasonal cycle
- a. *ba'rà* ‘rainy season’ ‘tiempo de lluvias’ {GFM tx904:2:02.4}
 b. *ro'mò* ‘cold season’ ‘tiempo de frío’ {GFM tx904:1:38.8}
 c. *ku'wè* ‘hot/dry season’ ‘tiempo de calor/seco’ {GFM tx904:1:47.0}

Some temporal adverbs are morphologically related to other word classes: this is the case with *ba'rà* ‘rainy season’ (39a), which is related to the verb *ba'râmi* ‘be thirsty’. None of the temporal adverbs takes any morphological marking.

10.7.3 Manner adverbs

Choguita Rarámuri has a small set of manner adverbs, some of which are exemplified in (40). As described in §10.3, the root *wa?rû* may function both as an adverb modifying predicates (‘greatly, a lot’) or as an adjective modifying nouns (‘big, sg.’).⁹

- (40) Manner adverbs
- a. *(k)a?lá* ‘well’ ‘bien’
 b. *sa'pù* ‘fast’ ‘rápido’
 c. *ki'rì* ‘slowly, peacefully’ ‘despacio, tranquilamente’
 d. *bi'lá* ‘truly’ ‘verdaderamente’
 e. *(étfi) ri'ká* ‘like this, thus’ ‘así’
 f. *ra'síra* ‘strongly’ ‘fuerte, recio’
 g. *tfâti* ‘badly’ ‘mal’
 h. *wa?rû* ‘greatly, a lot’ ‘mucho’
 i. *'wé* ‘very’ ‘muy’

Manner adverbs do not take any inflectional or derivational morphology, nor do they appear to be morphologically derived from other word classes. As discussed in Chapter 12 (§12.1.5), adverbs may also modify adjectives in noun phrases.

10.8 Discourse particles and enclitics

From all the minor word classes, discourse particles and enclitics constitute a set of heterogeneous word classes that are closed and morphologically simple,

⁹Some of the forms in this list are homophonous with forms in other word classes, such as *tfâti*, which is homophonous with adjective *tfâti* ‘ugly’.

bearing no inflection or derivation. Each class of particles is composed of fewer than a dozen members per class. Particles have a wide range of functions and meanings. Some, but not all, particles are also characterized by being phonologically reduced, and not being subject to the minimality requirement that holds for verbs (see §11.2 for discussion of minimality effects in Choguita Rarámuri).

10.8.1 Interjections

Interjections are characterized by their ability to be uttered in isolation as a complete utterance, and as not belonging to any other word class. The inventory of interjections attested in the Choguita Rarámuri corpus is provided in (41) with approximate English and Spanish translations (some forms from this set are loanwords from Spanish, e.g. (41f)).

- ### (41) Interjections

a. <i>u'rí</i>	'yes'	'sí'
b. <i>kuíra (ba)</i>	'hello'	'hola'
c. <i>ni'bí</i>	'look!' (entails surprise)	'¡mira! (con sorpresa)'
d. <i>'hémi</i>	'get away (to dog)'	'¡fuera! (a un perro)'
e. (ho) <i>'ú?nuko (le)</i>	'all right'	'órale'
f. <i>a'riòsi ba</i>	'goodbye'	'adiós'
g. <i>'né</i>	'you don't say!'	'a poco'
h. <i>ma'tétala ba</i>	'thank you'	'gracias'

Interjections tend to appear as independent clauses and appear separated from the rest of a larger utterance through a pause (indicated as <...> pr <,>). This is exemplified in (42) (which represents a section of a dialogue) and (43).

- (42) a. [ME]: *boni'lâ...*
boni-'lâ
 be.younger.brother-POSS
 'younger brother'
 'hermano menor'
 b. [SFH]: *bo'nèsə ba?*
bo'nè-sa *ba?*
 be.younger.brother-COND CL
 'As if he were a younger brother?'
 'Como si fuera hermano menor?'

- c. [ME]: *u'rí boni'lâ 'nísa 'lá ba 'ni*
u'rí boni'-lâ 'ní-sa o'lá ba 'ni
 yes be.younger.brother-POSS COP-COND CER CL EMPH
 'Yes, as if he were a younger brother indeed.'
 'Si, si fuera hermano menor, así es.' {ME in485:02:22.9}
- (43) *'má 'pé t̪íkí 'hú pa ... ma'tétala ba*
'má 'pé t̪íkí 'hú pa ma'tétala ba
 already just that.much COP.PRS CL thank.you CL
 'That is all (lit. that is the little bit there is) thank you.'
 'Ya es todo ... gracias.' {LEL tx88:03:47.4}

In both of these examples, the interjections are separated from the following (42c) or preceding (43) clause by a pause and an intonational break.

10.8.2 Connective particles

Connective particles are defined as particles that serve the function of connecting sentences within discourse. A list of monomorphemic connective particles in Choguita Rarámuri is provided in (44).

- (44) Monomorphemic connective particles
- a. *aʔli* 'and, then, so' 'y, entonces'
 - b. *'nà* 'then' 'entonces'
 - c. *kíti* 'that is why' 'because', 'por eso, porque'

These connective particles do not take any morphology and are analyzed here as basic, but other connectives may be morphologically complex. Among the basic connectives, *aʔli* 'and, then, so' (44a) (derived from the temporal adverb *aʔli* 'late in the day', 'tarde en el día') may combine with other morphemes to form complex connectives. These and other morphologically complex connectives are exemplified in (45).

- (45) Complex connectives
- a. *aʔli bi'lá* 'then indeed' 'entonces verdaderamente'
 - b. *aʔli t̪í'hônsa* 'and then, so' 'entonces'
 - c. *ka t̪é* 'because' 'porque'
 - d. *na'lina* 'but' 'pero'

Connectives, whether monomorphemic or complex, occur in between the two sentences they connect. This is illustrated in the examples in (46), (47) and (48).

- (46) a. *'nà napa'wía no'káli a'lé 'etfí 'nà bi'lé re'hòi a?lì bi'lé bi'lé tʃá'bôtfí
 'nà napa'wí-a no'k-á-li a'lé 'etfí 'nà bi'lé re'hòi a?lì
 DEM get.together-PROG move-TR-PST SUB DEM DEM one man and
 bi'lé bi'lé tʃá'bôtfí sî
 one one mestizo also*
 'A (Rarámuri) man and a mestizo man got together.'
 'Se juntaron un hombre (rarámuri) y un mestizo.' < SFH tx choma (2) >
- b. *a?lì be'lá ko be'lá ko ma'níla ru'ámi ka
 a?lì be'lá=ko be'lá=ko ma'ní-ì-la ru-'á=mi
 and really=EMPH really=EMPH be.liquid-APPL-REP say-MPASS=DEM
 ka
 COP.IRR*
 'And then it is said they were given something (a liquid).'
 'Y entonces dicen que les pusieron algo (un líquido).' < SFH tx choma (3) >
- (47) a. *kíti be'lá we
 kíti be'lá we
 that.is.why really INT
 'that is why'
 'por eso' < SFH tx choma (24) >*
 b. *a?lì tʃí'hônsa 'etfí re'hòi ba'hîsa 'ká 'etfí tʃoʔ'má
 a?lì tʃí'hônsa 'etfí re'hòi ba'hî-sa 'ká 'etfí tʃoʔ'má
 and thene DEM man drink-COND IRR DEM snot
 'and if the man had drunk the snot...'
 'y si el hombre hubiera tomado el moco...' < SFH tx choma (25) >*
- (48) a. *bi'lé na'mûti tʃí'ká no'rîno, wa?lû ro'sâkame
 bi'lé na'mûti tʃí'ká no'rîno, wa?lû ro'sâ-kame
 one thing over.here arrive big.SG be.white-PST.PTCP
 'One thing came, a white, big thing.'
 'Una cosa vino, una cosa blanca, grande.' {ROF tx_rosakame:00:13.7}*
 b. *a?lì tamu'hê 'pé ma'hâli ko
 a?lì tamu'hê 'pé ma'hâ-li=ko
 then 1PL.NOM little get.scared-PST=EMPH
 'And then we got scared.'*

‘Y entonces nosotros nos asustamos.’ {ROF tx_rosakame:00:17.1}

The interpretation and function of connectives in complex clauses is discussed in Chapter 15.

10.8.3 Negative particles

Choguita Rarámuri possesses two negative particles, *ke*, a clausal negator (which can be used as interjection), and *kíti*, a prohibitive (negative imperative) particle. Negative particles may combine with other morphemes, yielding morphologically complex negative markers: in Choguita Rarámuri, the clausal negator *ke* combines with other morphemes. The set of negative particles and complex negative markers available in the language are provided in Table 10.8, with their gloss, function and approximate translation.

Table 10.8: Negative markers

Form	Gloss	Function	Translation
<i>ke</i>	NEG	interjection, clausal negation	‘No’
<i>kíti</i>	PROH	prohibitive (negative imperative)	‘Don’t!’
<i>ke 'tâsi</i>	NEG NEG	interjection, clausal negation	‘No’
<i>'pé ke bi'lé</i>	just NEG one	emphatic interjection	‘Not at all!’
<i>ka t̪é</i>	NEG.IRR again	clausal negation	‘Not again/anymore’
<i>ke/'tâsi t̪o</i>	NEG yet	clausal negation	‘Neither’
<i>ke/'tâsi bi'lé</i>	NEG one	clausal negation, constituent neg.	‘Nothing at all’, ‘No single’
<i>ni bi'lé</i>	nor one	constituent neg.	‘Nor any’

The syntactic properties and functions of each of these negative particles and negative constructions are discussed in further detail in §14.3.

10.8.4 Epistemic particles and enclitics

As discussed in §9.5, Choguita Rarámuri possesses modality particles that encode epistemic stance. Epistemic modality is defined here as the expression of the degree of certainty speakers have towards the actuality of an event or its potential

of occurring at a time later than the speech event. A list of particles that encode epistemic stance is provided in (49).

(49) Epistemic modality particles

- a. *(a)l*é ‘dubitative’
- b. *(o)l*á ‘certainty’
- c. *'á* ‘indeed, truly’
- d. *(a)jéna* ‘indeed, truly’
- e. *bi'l*á ‘indeed, truly’

The dubitative *a'l*é (with reduced form *l*é) and certainty *o'l*á (with reduced form *l*á) markers are frequently attested post-verbally. Their different epistemic functions can be appreciated in the contrast in meaning they create when associated to predicates inflected for future tense: in (50a), the dubitative particle encodes lack of knowledge on the speaker's part, while in (50b), the certainty marker conveys a high degree of commitment from the speaker about the likelihood the event encoded by the verbal predicate will take place in a future time.¹⁰

(50) Epistemic modality markers

- a. *'nârma l*é
*'nâri-ma a'l*é
ask-FUT.SG DUB
‘(He) will probably ask.’
‘Probablemente va a preguntar.’ < BFL 05 1:152/el >
- b. *'nârmo l*á
*'nâri-ma o'l*á
ask-FUT.SG CER
‘S/he will definitely ask.’
‘Seguramente que va a preguntar.’ < BFL 05 1:152/el >

While frequently attested with verbs inflected with future tense, epistemic markers are not obligatory in these contexts. Lack of an epistemic marker involves a neutral interpretation with respect to the speaker's commitment to the likelihood the event will take place in these contexts. Examples of this are shown in (51) (relevant predicates lacking epistemic markers are highlighted in bold-face).

¹⁰As described in §9.5, epistemic particles are vowel initial and may coalesce with the final vowel of the future suffix.

- (51) a. “mán ku *sfí'mêa* 'hípi ko, 'má 'wé mi'ká i'nârtfáni” 'hê a'níli 'étfí ti'wé ko
 “má=ni ku si-'mêa 'hípi=ko, 'má 'wé mi'ká
 already=1SG.NOM REV go.SG-FUT.SG now=EMPH already INT far
i'nâr-tfáni” 'hê a'ní-li 'étfí ti'wé=ko
 go.around-EV DEM say-PST DEM young.woman=EMPH
 “I'm already going now, it already sounds like they're far away”
 said the young woman.
 “Ya me voy a ir, ya se oye muy lejos” dijo la muchacha.” {LEL
 tx32:10:34.5}
- b. *aʔlì 'nè ko 'má biti'tfí 'á bu'jèa a'tí, no 'rînima 'étfí bi'léara tfo'kêami*
ta'mí ru'wèsiá
aʔlì 'nè=ko 'má biti'tfí 'á bu'jè-a a'tí,
 and 1SG.NOM=EMPH already house AFF wait-PROG COP.SG
no'rîna-ma 'étfí bi'léara tfo'kê-ame ta'mí
 arrive-FUT.SG DEM another settle.bet-PTCP 1SG.ACC
ru-'wè-si-a
 tell-APPL-MOT-PROG
 ‘And then I wait for her in the house, the other bet settler arrives to
 tell me.’
 ‘Y entonces yo ya la espero en la casa, viene la otra chokéami a
 decirme.’ {LEL tx19:01:17.9}
- c. *aʔlì tñi'hônsa 'mám a'tfèma a'sûkar aʔlì a'rîna*
aʔlì tñi'hônsa 'má=mi a'tf-è-ma a'sûkar aʔlì a'rîna
 and then already=2SG.NOM add-APPL-FUT.SG sugar and flour
 ‘And then you add to it sugar and flour.’
 ‘Y entonces ya le echas la azúcar y la harina.’ {BFL tx60:02:08.1}

In (51a), the main predicate inflected for future tense that lacks an epistemic marker is reported speech, while in (51b) and (51c), the relevant future predicates with no epistemic markers are part of procedural texts, a description of the procedure for settling a bet for a women's race and a recipe for making corn beer, respectively.

The dubitative marker is also attested with verbs inflected for other tense/aspect/mood specifications, and may have specific modal interpretations when combined with certain inflection values. When combined with past or present progressive inflected verbs, the dubitative particle encodes lack of certainty from the speaker about a past event (52a–b) or a current event (52c).

- (52) a. *ah! 'mí ru 'wèli a'lé ko*
ah mí ru-è-li a'lé=ko
 oh 2SG.ACC say-APPL-PST DUB=EMPH
 'Oh! They told me, I think.'
 'Ah! Me dijeron, creo.' {FLP in243:08:07.9}
- b. *ra'làmuli umu'rútili a'lé 'ku*
ra'làmuli u-mu'rúti-li a'lé 'ku
 men PL-carry.PL-PST DUB EMPH
 'He took men (in the truck), I think.'
 'Llevó señores yo creo (en la troca).' {MDH co1136:08:36.7}
- c. *ke pi'lá bi'lé a'wìa a'lé, 'kítí ke bi'lé u'kú ba*
ke bi'lá bi'lé a'wì-a a'lé, 'kítí ke bi'lé u'kú ba
 NEG really one dance-PROG DUB that.is.why NEG one rain CL
 'They don't dance at all, I think, that is why it won't rain at all.'
 'Es que no bailan, por eso no llueve, yo creo.' {MDH co1136:06:20.4}

When combined with a verb inflected for conditional mood, the dubitative particle confers a deontic reading: in (53a), the speaker states that an event (giving water to the horse) is an obligation, while in (53b), the speaker encourages his children to not forget rituals and carry them to future generations.

- (53) a. *ba?wí ma'nèsa a'lé ra ba*
ba?wí ma'n-è-sa a'lé ra ba
 water be.located.water-APPL-COND DUB ra CL
 'We must give water to the horse.'
 'Hay que darle agua al caballo.' {JLG co1236:06:21.3}
- b. *ke bi'lá 'tâsi wika'wâsa 'lé na'lîna 'hípi tamu'hê...*
ke bi'lá 'tâsi wika'wâ-sa a'lé na'lîna 'hípi tamu'hê
 NEG really NEG forget-COND DUB but today 1PL.NOM
 '(we) should not forget, but nowadays we...'
 'no debemos olvidar nosotros, nomás que ahora nosotros ...' {SFH
 tx475:08:33.0}

Like the dubitative marker, the certainty particle *o'lá* is attested with predicates inflected with a range of tense/aspect/mood values. This is exemplified in (54).

- (54) a. “nè ko jéna 'á 'wé ka'lé, 'nè ko 'á ri'ká 'wé tibúmo 'lá, 'á o'tféríma 'lé”
 'nè=ko jéna 'á 'wé ka'lé 'nè=ko 'á ri'ká 'wé
 1SG.NOM=EMPH AFF AFF INT love.PRS 1SG.NOM=EMPH AFF like INT
 tibú-ma olá 'á o'tférí-ma a'lé
 take.care-FUT.SG CER grow-FUT.SG DUB
 “I do love him very much, I will always take care of him, he will grow.”
 “Yo si lo quiero mucho, yo siempre lo voy a cuidar mucho, sí va a crecer.” {LEL tx32:14:11.1}
- b. *ben'túra ri'wè olá 'ro, ka'listro ono'lá ro*
ben'túra ri'wè olá 'ru, ka'listro ono-lá ro
 Ventura be.named.PRS CER say Calixto father-POSS say.PRS
 ‘They say Ventura was his name, Calixto’s father.’
 ‘Dicen que se llamaba Ventura el papá de Calixto.’ {ME in484:02:19.1}
- c. *í bi'láni 'nà ru'mê olá 'nápu ri'kám 'náriani 'nária 'nà tñu ri'ká*
buku'wérwa
í bi'lá=ni 'nà ru'-mêa olá 'nápu ri'ká=mi
 here indeed=1SG.NOM this say-FUT.SG CER SUB like=2SG.NOM
'nári-a=ni 'nári-a 'nà tñu ri'ká
 ask-PROG=1SG.ACC ask-PROG=1SG.NOM this how how
buku'wérwa
 make.bukuweruwa
 ‘Here I will tell because I was asked about how the bukuwérwa ritual works.’
 ‘Aquí voy a contar porque me preguntaste sobre el bukuwérwa.’
 {SFH tx475:00:27.6}

The certainty marker *olá* may also convey deontic mood when combined with future tense inflected predicates. This is shown in (55).

- (55) *na'lina a?lá 'náti-ka noki'bôo olá 'nà*
na'lina a?lá 'náti-ka noki-bô olá 'nà
 but well think-GER do-FUT.PL CER then
 ‘But you all should think well.’
 ‘Nomás que tienen que pensar bien.’ {SFH tx12:11:31.4}

The particles *a* and *bi'lá* have a different distribution than the dubitative and certainty markers, and generally appear preceding the predicate or other particles in the beginning of sentences or clauses. These markers appear in contexts

where speakers claim epistemic authority about the propositional content of the utterance. This is exemplified in the following examples: in (56a), the speaker, an expert seamstress in the community, begins a narrative in which she describes a procedure of making a skirt; in (56b), the speaker recounts an experience from her childhood.

- (56) a. *'nè ko bi'lá ani'méa o'lá tʃú re'ká niwa'rîa bi'lé 'púra ba*
'nè=ko bi'lá ani-'méa o'lá tʃú re'ká niwa'rîa
 1SG.NOM=EMPH really say-FUT.SG CER Q how make-MPASS-PROG
bi'lé 'púra ba
 one belt CL
 'I am going to say how a faja (belt) is made.'
 'Yo voy a decir como se hace una faja.' {BFL tx1:00:20.7}
- b. *a?lì ko tʃó 'nà 'hônsa ko 'má bi'lán 'á ri'wá tʃó si tʃó ba*
a?lì=ko tʃó 'nà 'hônsa=ko 'má bi'lá=ni 'á
 and=EMPH DEM PROX since=EMPH already indeed=1SG.NOM AFF
ri'wá tʃó si tʃó ba
 see also also also CL
 'And then from there I also saw him.'
 'Y entonces de ahí yo también ya vi.' {LEL tx71:04:36.3}

Other markers encoding epistemic stance in Choguita Rarámuri include evidential markers. This includes the reportative markers *-la* (reportative, different subject) and *-lo* (reportative, same subject),¹¹ as well as the auditory evidential *'tfáne* suffix.

10.8.5 Pragmatic enclitic

Choguita Rarámuri also possesses a pragmatic marker that confers prominence to a word or phrase within discourse, the emphatic enclitic *=ko*.¹² This morpheme is fairly unrestricted in terms of the word classes and syntactic constituents it can attach to, which is taken as evidence of its status as a clitic. In terms of

¹¹Miller (1996) describes a reportative enclitic *=ra* in Mountain Guarajío (1996:312), though no alternations are discussed that would reflect a contrast between same vs. different subject as in Choguita Rarámuri.

¹²The term 'emphatic' is used in the description of cognate forms of other Rarámuri and Guarajío varieties, including Western Tarahumara (Burgess 1984), Urique Rarámuri (Valdez-Jara 2013), Rochéachi Rarámuri (Morales Moreno 2016), and Mountain Guarajío (Miller 1996), among others.

its function, this emphatic enclitic is described in other varieties as encoding pragmatic statuses compatible with focus (Valdez-Jara 2013) or both focus and topic, as proposed by Morales Moreno (2016) for Rochéachi Rarámuri, and as suggested by Miller (1996) for Mountain Guarajío (1996: 313–315).

The following examples illustrate the distribution of this enclitic, which may attach to nouns (57a–c), pronouns (57b, d–e), adverbs (57f) and connectives (57g–h). As shown in (57h), the emphatic enclitic may also appear in final clause position.

- (57) a. *aʔlì tʃa'bōtʃí ko 'wé bi'lá ra'ñila ba'híla ru'á 'étfí tʃoʔ'má ba*
aʔlì tʃa'bōtʃí=ko 'wé bi'lá ra'ñi-la ba'hí-la ru'-wá 'étfí
 and mestizo=EMPH INT truly like-REP drink-REP say-MPASS DEM
tʃoʔ'má ba
 snot CL
 'And the Mexican man they say he really enjoyed drinking it.'
 'Y el mestizo dicen que se lo tomó muy a gusto.' {SFH tx128:01:47.8}
- b. *"hierbas" ko ba, ke beti ... ke beni ma'tʃí 'nè ko ba*
hierbas=ko ba, ke be=tí ke be=ni
 grasses=EMPH CL NEG really=1PL.NOM NEG really=1SG.NOM
machí 'nè=ko ba
 know.PRS 1SG.NOM=EMPH CL
 '(They call them) "grasses", we don't ... I don't know, me.'
 '(Les dicen) "hierbas", nosotros no ... yo no se, yo.' {GFM
 tx785:02:22.0}
- c. *ami'ná ha're ko 'á 'má bi'lá*
ami'ná ha're=ko 'á 'má bi'lá
 later some=EMPH AFF already indeed
 'later the other ones already did'
 'después los otros ya' {SFH tx475:09:52.9}
- d. *'tāsi bi'lé ma'tʃí 'nè ko ba*
'tāsi bi'lé ma'tʃí 'nè=ko ba
 NEG one know.PRS 1SG.NOM=EMPH CL
 'I don't know.'
 'Yo no se.' {ME in485:08:05.6}

- e. *aʔlì bi'lá 'á ma'tfía ru'wá bi'nōi ko 'nà ...*
aʔlì bi'lá 'á ma'tfí-a ru-'wá bi'nōi=ko na
 and indeed AFF know-PROG say-MPASS EMPH.SG=EMPH then
 'and they say that he himself knows when'
 'y dicen el mismo sabe cuando' {LEL tx71:02:50.2}
- f. *?wíbo 'má bi'lá 'hípi ko ba*
?wí-bo 'má bi'lá 'hípi=ko ba
 harvest-FUT.PL already truly now=EMPH CL
 'Now we will harvest (it is time to harvest).'
 'Ahora vamos a pizcar (es tiempo de pizca).' {MDH co1136:02:29.9}
- g. *aʔlì ko bi'láti 'má 'pé a i'wéami 'nòtfíka koʔpô a'lé 'má aʔlá*
aʔlì=ko bi'lá=tí 'má 'pé a i'wé-ame 'nòtfí-ka
 and=EMPH really=1PL.NOM already just AFF strong-PTCP work-GER
koʔ-pô a'lé 'má aʔlá
 eat-FUT.PL DUB already well
 'In that time we will work hard to eat.'
 'Ya en ese tiempo ya vamos a trabajar duro para comer.' {SFH tx12:08:47.7}
- h. *aʔlì ko tamu'hé 'pé ma'háli ko*
aʔlì=ko tamu'hé 'pé ma'há-li=ko
 then=EMPH 1PL.NOM little get.scared-PST=EMPH
 'Then we got scared.'
 'Entonces nosotros nos asustamos.' {ROF tx_rosakame:00:17.1}

In (57a–c), the emphatic enclitic attaches to nouns whose referents have been introduced previously in discourse: a protagonist of a narrative, a mestizo man in (57a); the topic of a conversation, medicinal plants in (57b); and a group of people in a historical narrative in (57c). The examples in (58) show that the emphatic enclitic *=ko* may also attach to interrogative pronouns, which may be taken as evidence of the status of the emphatic enclitic as a marker of pragmatic focus (see Morales Moreno (2016) on discussion of the distribution of the emphatic enclitic in Rochéachi Rarámuri).

- (58) a. *ma 'píri ko naʔèbo mu'nî baʔalí pa?*
'má 'píri=ko naʔ-è-bo mu'nî baʔalí pa?
 so what=EMPH fire-MAKE-FUT.PL beans tomorrow CL
 'So what are we going to make the fire with (to cook) the beans
 tomorrow?'

‘Entonces qué le vamos a echar de lumbre a los frijoles (para cocinar) mañana?’ {MDH co1136:01:12.8}

- b. *'é^{ts}fi o'tsér^{am}i ke 'lé pa, 'píri ko 'hú a'lé? ke pi'lá=m matfi'-sâ 'níla ba
 'é^{ts}fi o'tsér^{am}i ke a'lé pa 'píri=ko 'hú a'lé ke*
 DEM old.people NEG DUB CL WHAT=EMPH COP.PRS DUB NEG
pi'lá=mi matfi'-sâ 'ní-la ba
 really=DEM know-COND COP-POT CL
 ‘Well, I think its the old people, or what might it be? Because I don’t know what it might be.’
 ‘Pues pienso que son los viejitos, o qué pueda ser? Yo no se que sea.
 {LEL tx223:04:09.2}

In the following example, the emphatic enclitic confers pragmatic focus to a second person pronominal form in a question (59b), as part of a conversational exchange.

- (59) a. [MDH] *'wé ri'mùli ro'kò*
'wé ri'mù-li ro'kò
 INT dream-PST night
 ‘He did dream it a lot last night.’
 ‘Si lo soñó mucho en la noche.’ {MDH co1136:18:43.0}
- b. [MDH]: *'mò ko ba?*
'mò=ko ba
 2SG.NOM=EMPH CL
 ‘And you?’
 ‘¿Y tu?’ {MDH co1136:18:49.1}

The emphatic enclitic may undergo a post-lexical process of lenition, with the voiceless plosive onset surfacing as voiced (pos-lexical lenition of voiceless plosives is addressed in §3.5.1). Examples of the lenited production of *=ko* are shown in (60).

- (60) a. *ta'mò ko 'hê ri'gá 'nòt^{fi}am^{fi} hu 'nà i'sél^{am}go ...*
ta'mò=ko 'hê ri'ká 'nòt^{fi}ame hu 'nà
 1PL.NOM=EMPH DEM like work-PTCP COP.PRS DEM
i'sél^{am}i=kame=ko
 be.governor.PL-PST.PTCP=EMPH
 ‘We, that is how we work, the ones who have been governors...’

- ‘Nosotros los que hemos sido gobernadores así trabajamos...’ {JMF tx816:00:00.0}
- b. *aʔlám ri'kát̪ími aʔlá i'wéami raʔa'mâbi 'lé fyo a mí raʔa'mâmi 'lé pa'gótami baʔa'lí aʔlá=mi ri'kát̪í=mi aʔlá i'wé-ame raʔa'mâ-bi a'lé=ko a mí raʔa'mâ-mi a'lé pa'gótami baʔa'lí DUB=EMPH AFF there give.advice-IRR.SG DUB people tomorrow*
 ‘Perhaps tomorrow people will give you all advice.’
 ‘A lo mejor de aqui a mañana llegan gentes a darles consejos.’ {MFH tx1132:00:30.3}

The cognate forms of this enclitic in Guarijío (=ka in River Guarijío and =ga, =go in Mountain Guarijío) are described with similar functions as the ones attested in Choguita Rarámuri. Miller (1996) proposes this enclitic is diachronically derived from a copular predicate, =ga, plus a subordination suffix -o (see §13.2.1 for description of copular predicates in Choguita Rarámuri).

10.8.6 Final particles

The particle *pa* (the onset of which may also undergo post-lexical lenition, as described in §3.5.1), may be categorized as a discourse particle (glossed here as CL) that has the main function of marking syntactic and/or discourse boundaries. It is frequently attested in natural discourse (narratives and conversations) in clause and sentence final position, generally followed by a pause and/or an intonation break (see also Morales Moreno 2016 for a description of the function and distribution of this particle in Rochéachi Rarámuri). Examples of the final particle *pa* are provided in (61). In these examples, clauses are marked with square brackets.

- (61) a. *aʔlì 'ét̪í bi'láti be'nèli tamu'hê ba t̪í 'lé pa 'nà ka'wì ba aʔlì 'ét̪í bi'lá=tí be'nè-li tamu'hê ba] t̪í 'lé pa] 'nà ka'wì ba and DEM really=1PL.NOM learn=PST 1PL.NOM CL how how t̪í 'bú-sa a'lé pa] 'nà ka'wì ba care-COND DUB CL DEM land CL*
 ‘So this is how we learnt, how to tend for it, the land.’
 ‘Entonces así aprendimos nosotros, cómo cuidarla, la tierra.’ {SFH tx977:00:60.0}

- b. *'nápu ko'líki bi'tí ba'*
'nápu ko'lí-ki *bi'tí* *ba]*
 SUB around.the.side-LOC lie.PL.PRS CL
 'Like the ones who lie in that other side (by the graveyard).'
 'Como los que están (acostados) de aquel lado (del panteón).' <GFM
 co1136[17_430-17_445]>
- c. *aʔlì bi'lá ko wa'bé bi'lá ki'ʔà 'níla ra pa ku'rí ke tʃó me biwa'tʃéatʃí nà ka'wì ba'*
aʔlì bi'lá=ko *wa'bé bi'lá* *ki'ʔà* *'ní-la* *ra pa]* *ku'rí*
 and indeed=EMPH INT indeed long.ago COP-REP REP CL recently
ke tʃó me *biwa'tʃé-a-tʃí* *'nà ka'wì ba]*
 NEG yet almost solidify-PROG-TEMP this earth CL
 'And so it was a long time before this earth was solid.'
 'Y entonces fue mucho cuando todavía no amacizara este mundo.'
 <tx43[11_112-11_182]>
- d. *ba'hím baʔ'wí pa?*
ba'hí=mi *baʔ'wí pa?*
 drink=2SG.NOM water CL
 'Did you drink water?'
 '¿Tomaste agua?' {MDH co1140:12:10.8}

As shown in these examples, the final particle =*pa* is not only attested at the end of declaratives, but may also close interrogative clauses (61d).

11 Prosody: domains and interactions

This chapter is devoted to prosodic structures and processes that cross-cut the grammar of Choguita Rarámuri, including lexical phonological processes, morphological processes and post-lexical phonological phenomena. Choguita Rarámuri is a prosodically complex language, with both phonological and morphological factors affecting the realization of prosodic phenomena. Many aspects of the description addressed in this chapter are already provided in other parts of the grammar, including Chapter 6 and Chapter 14. This chapter is devoted to examining in detail the interactions of prosodic patterns and processes across grammatical domains in this Uto-Aztecan language with the goal of addressing how these complex interactions yield surface forms in the language.

The structure of this chapter is as follows. §11.1 presents the criteria for determining the Prosodic Word in Choguita Rarámuri, and discusses the domains for phonological and morpho-phonological processes below the level of the Prosodic Word. §11.2 discusses the relationship between different phenomena in Choguita Rarámuri that are quantity-sensitive and the lack of contrastive vowel length in the language. §11.3 addresses the interaction between stress and tone and between lexical tone and grammatical tone in morphologically complex words. §11.4 summarizes the tonal and non-tonal encoding of intonation in Choguita Rarámuri and the interaction between lexical tone and intonation in this language. Finally, §11.5 addresses prosodic constraints associated to different morphological constructions and their relationship to the general prosodic organization of the language.

11.1 Defining the Prosodic Word and other prosodic domains in Choguita Rarámuri

In this grammar, I adopt the proposal in Selkirk (1980; 1996); Nespor & Vogel (1986) and Hayes (1989) for the prosodic hierarchy schematized in (1), where the Prosodic Word is the smaller unit within the hierarchy and the Intonational Phrase its largest constituent.

(1) The prosodic hierarchy

Intonational Phrase

|

Phonological Phrase

|

Clitic Group

|

Prosodic Word

The Prosodic Word in Choguita Rarámuri can be identified through phonotactic constraints and as the domain of application of several phonologically-general processes. These diagnostic criteria include:

(2) The prosodic word in Choguita Rarámuri

- a. Each prosodic word is assigned a single, main stress within the first three syllables, which bears a lexical tone (§5.1).
- b. Inflected verbs are minimally bimoraic (§7.2).
- c. Prosodic words are vowel final (§5.2).
- d. Body part incorporation combines two morphological roots into a single prosodic word, where the new lexical item is assigned a single, main stress in the first syllable of the head of the compound (§9.3.3).
- e. The glottal stop only emerges within the first two syllables of the prosodic word (§7.1).

Taken together, these diagnostic criteria motivate the identification of prosodic words in Choguita Rarámuri. While the domain of stress assignment and of the distribution of the glottal stop are coextensive with the left edge of the prosodic word, the right edge boundary of the prosodic word is characterized by avoidance of vowel reduction and deletion.¹ Thus, identifying the Prosodic Word in Choguita Rarámuri involves a convergence of evidence that characterizes different edges of this prosodic unit. The minimality condition, which requires all Prosodic Words in the language to be minimally bimoraic, and the requirement of having a single stress per Prosodic Word, are the only criteria that hold for entire Prosodic Words in this language.

¹This restriction of the right edge may have a functional motivation, since TAM inflectional values are often encoded by single vowel exponents that may replace the final vowel of the stem to which they attach (see Chapter 9).

There is also evidence for phonological domains below the word level. As discussed in detail in Chapter 9, Choguita Rarámuri exhibits a large number of phonological processes that apply to restricted subconstituents of complex verbs. The notion of morphological domains for phonological processes is thus an important one in this language, as well as the notion of mismatches between phonological and morphological domains, as analyzed in Bantu languages (Hyman 1987; 1998; 2008; Odden 1996; Myers 1998; Downing 2001; Bickmore 2007), and Athabaskan languages (McDonough 2000), among other language families (see also Inkelas 2014 for an overview). These domains are motivated in Chapter 9, and can be summarized as follows in terms of the phonological processes attested in the language.

- (3) Choguita Rarámuri verbal domains for phonological processes
 - a. **Haplogy**: in a sequence of two unstressed, syllables with identical onset consonants at the Inner Stem plus suffix boundary, one syllable gets deleted.
 - b. **Compensatory lengthening**: deletion of a vowel or syllable in a suffix triggers compensatory lengthening of an adjacent Inner Stem stressed vowel.
 - c. **Passive-conditioned lengthening**: the past passive *-ru* suffix triggers lengthening of an adjacent Inner Stem stressed vowel.
 - d. **Imperative singular stress shift**: the imperative singular may be encoded morphologically via a rightward stress shift within the Derived Stem.
 - e. **Round vowel harmony**: non-round vowels of certain suffixes may become round when preceded by a stressed round stem vowel within the Aspectual Stem.

An additional domain below the word level is a constituent composed by the Stem (root plus any stem-forming suffixes), plus the first morphological layer that attaches to the Stem (see Chapter 3 and Chapter 9), whatever this morphological layer may be. Furthermore, in terms of stress assignment, the classification of constructions in shifting vs. neutral distinguishes suffixing constructions that are either *cohering*, forming part of the stress domain, or *non-cohering*, being outside of the stress domain, respectively (Chapter 3). The cohering vs. non-cohering distinction represents a structural mismatch between phonological domains and morphological subconstituents: cohering suffixes form a single phonological domain with the base they attach to, while non-cohering form a separate domain.

Finally, this chapter addresses whether some phonological and morphophonological processes in the language are better analyzed as being constrained by metrical structure (see §11.5.4).

11.2 Vowel length, stress and minimality effects

Recall from Chapter 3 that there is no evidence for contrastive vowel length in Choguita Rarámuri, yet there is evidence that quantity plays a role in the phonological grammar of the language:

- (4) The role of quantity in Choguita Rarámuri
 - a. A minimal prosodic word is bimoraic (§11.2).
 - b. Vowel deletion may trigger compensatory lengthening (§9.4.3.2).
 - c. The past passive suffix conditions vowel lengthening in the stressed stem syllable (§9.4.3.3).

While quantity distinctions are referenced by different phonological and morphophonological processes, vowel length is not relevant for stress assignment in Choguita Rarámuri. As discussed in Caballero (2008) and Caballero (2011b) (and in more detail in §11.3.1 below), a metrical analysis of stress assignment in Choguita Rarámuri involves an unbounded, weight-insensitive iambic system. While typologically rare and claimed to be universally dispreferred (Hayes 1995), other similar cases have been documented in the literature (see, e.g., Graf & Ussishkin 2003). As discussed in Chapter 3, Proto-Uto-Aztecan has been reconstructed as having a weight-sensitive, stress-accent system (Munro 1977). Choguita Rarámuri stress might then have become lexicalized when vowel length distinctions from the proto-language were lost.

That vowel length in Choguita Rarámuri is relevant for some, but not all, phonological phenomena in the language resembles a case of what Fitzgerald (2012) terms *prosodic inconsistency* in Tohono O'odham, a related Uto-Aztecan language from the Tepiman branch. In contrast to Choguita Rarámuri, Tohono O'odham does have contrastive vowel length. Quantity, however, exhibits an asymmetry in terms of its role in the phonological system of the language, with a quantity-insensitive stress system and a quantity-sensitive prosodic morphological patterns.

11.3 Prosodic properties of morphologically complex verbs

Stress systems are defined as those in which there is an increased prominence associated with one or more syllables in a word (Gordon & van der Hulst 2020). Choguita Rarámuri displays both phonological and phonetic properties that are characteristic of stress systems, including culminativity (each lexical word has at most one syllable which carries the highest degree of prominence) and obligatoriness (each lexical word has at least one syllable that carries the highest degree of prominence) (Hyman 1977; 1978; 2006; Beckman 1986; Hayes 1995), as well as unstressed vowel deletion and reduction (fewer vocalic contrasts are realized in unstressed syllables) (Caballero 2008; 2011b). Choguita Rarámuri is also a tonal language, fitting the definition of a “... language ... in which an indication of pitch enters into the lexical realization of at least some morphemes”, i.e., tone is the output of lexical phonology (Hyman 2006: 229). Stress and tone in Choguita Rarámuri are not only phonologically distinct systems, but they are also encoded through independent acoustic means (Caballero & Carroll 2015).

The surface form of morphologically complex verbs in this language results from the stress and tone properties of root morphemes and morphological constructions and complex interactions between phonologically general processes and morphologically governed phonological processes. Stress and tone assignment apply within a morphological domain, namely the Stem. This section synthesizes the different components necessary in deriving the surface prosodic forms of inflected verbs.

11.3.1 Stress patterns and metrical feet

The Choguita Rarámuri stress-accent system can be analyzed in metrical terms (Caballero 2008; 2011b). The generalizations about the distributional properties of word-level stress in Choguita Rarámuri are summarized in (5) (see also Chapter 5):

- (5) Choguita Rarámuri word-level stress properties
 - a. Each prosodic word has a single main stress.
 - b. There is no secondary stress (i.e., stress is non-iterative).
 - c. Roots can be lexically stressed (and have fixed stress across paradigms) or lexically unstressed (with shifting stress in certain morphological contexts).

- d. Morphological constructions are either stress-shifting, triggering stress shifts with unstressed roots, or stress-neutral, triggering no stress changes.
- e. Stress-shifting suffixes are part of the stressable domain, while stress-neutral suffixes are outside the stressable domain and never stressed.
- f. In words containing unstressed roots and a stress-neutral construction, stress is assigned by default on the second syllable of the root (the only syllable of monosyllabic roots) (see §5.3).
- g. In words containing unstressed roots and a stress-shifting construction, stress is assigned on the third syllable of the prosodic word.
- h. Noun incorporation constructions have a construction-specific stress rule (stress the first syllable of the head of the construction, the second element).
- i. Stress is restricted to appear within an initial three-syllable window.

While there is no secondary stress assignment in the language, a metrical analysis can nevertheless be posited. Default stress assignment, second syllable stress within the root, can be modeled using a single iambic foot aligned to the left edge of the prosodic word, as exemplified in (6), with words containing the stress-neutral past *-li* suffix:

- (6) Single iambic foot parsing in default stress assignment
- a. (t̪ʃa'pí)li t̪ʃa'pí-li grab-PST 'S/he grabbed it.'
 - b. (ra'ʔi)t̪ʃali ra'ʔit̪ʃa-li speak-PST 'S/he spoke.'

The metrical analysis of morphologically complex words containing unstressed roots and stress-shifting constructions (with third syllable stress), as well as noun incorporation constructions (stress in the first syllable of the construction's head, the third syllable), may be analyzed through a ternary metrical constituent, an iambic foot with a single left-joined syllable (Zoll 2004; see also Selkirk 1980; Dresher & Lahiri 1991; Rice 1993; Itô & Mester 1992, and Blevins & Harrison 1999). This ternary constituent is schematized in Figure 11.1, where F = Foot and Ad-Foot = Adjoined Foot).

The metrical analysis of morphologically complex words containing unstressed roots and stress-shifting suffixes (exemplified with the stress-shifting conditional *-sâ* suffix) is provided in (7). The metrical analysis of noun incorporation constructions is provided in (8).

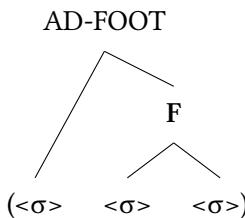


Figure 11.1: Ternary metrical constituent with single left-adjoined syllable (Zoll 2004)

(7) Single, extended iambic foot parsing in suffixing constructions

- a. (<tʃa>pi'sâ)
 /tʃapi-'sâ/
 grab-COND
 'if s/he were to grab it'
 'si lo agarra'
- b. (<ra>?i'tʃâ)sa
 /ra?i'tʃâ-sa/
 speak-COND
 'if s/he were to speak'
 'si hablara' {JLG el1274:13:52.1}

(8) Single, extended iambic foot parsing in noun incorporation constructions

- a. (<si>wa'bô)ta
 /siwa-'bôta/
 tripe-come.out
 'Its tripes come out.'
 'Se destripa.'
- b. (<bu>si'kâ)si
 /busi-'kâsi/
 eye-break
 'It becomes blind.'
 'Se vuelve ciego.'

In sum, a metrical analysis of Choguita Rarámuri involves positing a single metrical constituent, a binary iambic foot or an extended ternary iambic foot, at the left edge of the prosodic word. Given that there is no role for contrastive vowel length in stress assignment, this is a weight-insensitive iambic system.

The distribution of feet is morphologically governed: binary feet in neutral morphological environments and ternary metrical feet in shifting morphological environments. Further discussion of the use of multiple types of metrical feet in different morphological environments can be found in Bennett (2012) and Bennett (2013). Further discussion of the use of ternary feet include Martínez-Paricio (2013) and Martínez-Paricio & Kager (2015).

11.3.2 Lexical tone patterns

As discussed in Chapter 6, Choguita Rarámuri has three lexical tones: falling (/HL/, <ô>), low (/L/, <ò>), and high (/H/, <ó>). Lexical tones are exclusively realized on surface stressed syllables, i.e., there is only one lexical tone per prosodic word and stressless syllables lack lexical tone. The examples in (9) exemplify the three-way tonal contrast (Caballero & Carroll 2015: 465) in both nouns and verbs.

(9) Tonal (near-)minimal pairs

	<i>Lexical tone</i>	<i>Form</i>	<i>Gloss</i>	<i>Source</i>
a.	HL	<i>tô</i>	'to bury'	{MAF el1240:3:29.5}
b.	L	<i>tò</i>	'to take'	{JLG el1274:1:26.1}
c.	HL	<i>mê</i>	'to win'	{MAF el1242:1:56.3}
d.	H	<i>mé</i>	'to bring'	{SFH el83:1:17.9}
e.	L	<i>mè</i>	'mezcal'	{MDH co1140:2:06.6}
f.	H	<i>pá</i>	'to throw'	{MAF el1240:2:48.8}
g.	L	<i>pà</i>	'to bring'	{BFL el728:2:44.9}
h.	HL	<i>kolî</i>	'chile pepper'	{BFL el728:5:11.6}
i.	L	<i>kolì</i>	'spatial root'	{SFH el549:3:52.7}
j.	HL	<i>isî</i>	'to urinate'	{BFL el728:03:24.8}
k.	L	<i>isì</i>	'to do'	{BFL el728:3:53.8}
l.	H	<i>ni?wí</i>	'to be lightning'	{JLG co1237:10:52.7}
m.	L	<i>niwì</i>	'to marry'	{MFH el1318:28:54.9}
n.	HL	<i>nôtſa</i>	'pretentious'	{BFL el728:8:03.5}
o.	L	<i>nôtſa</i>	'hard working'	{BFL el728:7:41.7}

Tone is not dependent on voicing of preceding consonants nor any other phonological features, and there is no evidence of tone spreading. The Tone-Bearing-Unit (TBU) is the mora: falling tones have their high target on the stressed syllable, with the fall continuing through a post-tonic syllable, if there is one (H*L) (Caballero & Carroll 2015). As described above, stressless syllables lack lexical tones: the surface tonal properties of these syllables vary depending on intonation (Garellek et al. 2015).

11.3.3 Canonical prosodic shapes of roots and suffixes

Most roots in Choguita Rarámuri are disyllabic or trisyllabic: from a corpus of 1,004 nominal and verbal roots, 47% percent are disyllabic and 40% trisyllabic. There are tetrasyllabic roots (10%), but most of these are, with different degrees of transparency, internally complex, so a maximally tetrasyllabic prosodic size cannot be established. Finally, there are also monosyllabic roots. While a mere 3% of the corpus, the existence of these roots make it impossible to establish a disyllabic minimality restriction for open class lexical morphemes.²

As for suffixes, most are monosyllabic, but there are a few disyllabic suffixes, including the Desiderative *-nále* suffix, the Associated Motion *-simi* suffix, the Habitual Passive *-ríwa* suffix, the Future Singular *-mêa* suffix,³ the Auditory Evidential *-tfáne* suffix, and the Indirect Causative *-nula* suffix. Almost all of these disyllabic suffixes are related to synchronically active free lexical morphemes with varying degrees of transparency (Desiderative *-nále* and the verb *naki*, 'want'; Associated Motion *-simi* and the verb *simi*, 'go singular'; Auditory Evidential *-tfáne* and the verb *tfáne*, 'make noise, say'). Suffixes, like roots, are thus not restricted to a canonical prosodic shape.⁴

While no generalizations in terms of maximal size applies to roots and no generalization about minimal or maximal size applies for suffixes, there are certain formal characteristics that usually apply to roots vs. suffixes. Given the stress properties of roots (with mainly second or third syllable stress) and the post-tonic vocalic reduction and deletion processes operating in the language (described above in Chapter 5) the boundaries between roots and suffixes are often the target of posttonic syncope. This, in turn, yields derived stems with shared formal properties, such as final consonants. Roots derived with the productive causative suffix *-ti* are a good example of this, since posttonic syncope often targets the vowel of the causative suffix, generating a class of causative stems ending in a lateral flap. These causative stems are then recursively suffixed with the allo-morph *-ti* of the causative suffix. This is shown in the examples provided in (10):

²When considering the proportions of roots separately for nouns and verbs, there are some differences: most monosyllables are verbs (5% of verbs are monosyllabic and only 2% of nouns are monosyllabic), and most tetrasyllables are nouns (19% of nouns are tetrasyllabic, while only 5% of verbs are tetrasyllabic).

³Miller (1996) has proposed that the disyllabic future singular suffix *-mêa*, also present in Guarajío, derives from the reconstructed verb **mi(l)a* 'run, go' (Miller 1996: 133) from "Proto-Sonoran". Miller defines "Sonoran" as a sub-branch of Uto-Aztecán located in Mexico's northwest which would include Tepiman and Taracahitic languages.

⁴Althhough, as discussed in §11.5.3 below, a set of disyllabic suffixes undergo truncation in certain contexts.

(10) Causative stems and recursive affixation

- a. *'nè u'bârtipo*
'nè u'bâ-ri-ti-po
 1SG.NOM bathe-CAUS-CAUS-FUT.PL
 'I'll be forced to bathe.'
- 'Van a hacer que me bañe.' < LEL 05 ECME(40)/el >
- b. *'nè 'mí 'mêrtima o'lá*
'nè 'mí 'mê-ri-ti-ma o'lá
 1SG.NOM 2SG.ACC win-CAUS-CAUS-FUT.SG CER
 'I will make you win.'
- 'Te voy a hacer ganar.' < LEL 05 ECME(3)/el >
- c. *ko'ŷártinale*
ko'ŷá-ri-ti-nale
 eat-CAUS-CAUS-DESID
 'She wants to make him eat.'
- 'Quiere hacerlo comer.' < BFL 06 ECDW(55)/el >

Syncope, thus, participates in the creation of a new paradigm of causative stems with particular word-internal (stem-delimiting) codas.

11.3.4 Prosodic properties of roots and morphological constructions

As discussed in Chapter 5, root morphemes belong to two classes depending on their stress behavior: (lexically) stressed roots retain stress in a fixed syllable in different morphological environments, while in (lexically) unstressed roots the location of stress is morphologically governed. The analysis proposed in this grammar is that this asymmetric behavior in terms of stress results from an underlying phonological difference between the two root classes, with stressed roots being lexically prespecified with a diacritic that is phonetically realized as stress in surface forms, and unstressed roots lacking this diacritic and receiving stress by default (Caballero 2011c). All prosodic words in Choguita Rarámuri, whether they contain a lexically stressed root or an unstressed lexical root, have surface stress, a syntagmatic prominence cued acoustically via intensity and duration (Caballero & Carroll 2015).

Morphological constructions (affixes and non-concatenative morphological processes) also exhibit an asymmetric phonological behavior. They are classified as belonging to one of two classes in terms of their stress properties: they may be stress-shifting, triggering stress shifts when attaching to unstressed roots, or

stress-neutral, not conditioning any stress changes in the bases with which they combine.

Table 11.1 illustrates the contrast between stressed and unstressed roots in neutral and shifting morphological environments and the tonal patterns associated to stressed syllables in different morphological environments (Caballero 2008; 2011b). Shading highlights cells with morphologically complex words undergoing stress shifts.

Table 11.1: Morphologically-conditioned stress shifts and tonal alternations in verbs (Caballero 2008; Caballero & Carroll 2015)

	Bare stem (PRS)	Neutral (PST <i>-li</i>)	Shifting (COND <i>-sa</i>)
Stressed roots	<i>'tô</i> <i>t̪i'hà</i> <i>mu'rú</i> <i>bini'hí</i>	<i>'bury'</i> <i>'spread'</i> <i>'carry'</i> <i>'accuse'</i>	<i>'tô-li</i> <i>t̪i'hà-li</i> <i>mu'rú-li</i> <i>bini'hí-li</i>
			<i>'tô-sa</i> <i>t̪i'hà-sa</i> <i>mu'rú-sa</i> <i>bini'hí-sa</i>
Unstressed roots	<i>'tò</i> <i>u'kú</i> <i>ra'rit̪a</i>	<i>'take'</i> <i>'rain'</i> <i>'speak'</i>	<i>'tò-li</i> <i>u'kú-li</i> <i>ra'rit̪a-li</i>
			<i>to-'sâ</i> <i>uku-'sâ</i> <i>ra'ri'tfâ-sa</i>

This table exemplifies how stressed roots retain stress in a fixed location across morphological contexts (in the first, second or third syllable), while unstressed roots exhibit a rightward stress shift in shifting environments (in this case, exemplified with the conditional *-sâ* suffix).

Unstressed roots receive stress by default on the second syllable of the root in neutral environments (i.e., monosyllabic roots bear stress on the root). The default stress assignment algorithm is summarized in (11).

- (11) **Default stress assignment in Choguita Rarámuri:** words containing unstressed disyllabic or trisyllabic roots and neutral morphological constructions have second syllable stress (Caballero 2011b).

The two classes of morphological constructions are not only distinguished by their stress effects, but also in terms of other morpho-phonological effects they may trigger: shifting constructions may induce vocalic alternations or other morpho-phonological changes, a phenomenon documented across the Uto-Aztec language family (Heath 1977; 1978). In Choguita Rarámuri there are vocalic

alternations that unstressed roots may undergo, which motivates a characterization of Choguita Rarámuri verbs into three classes, if both stress and vocalic alternations are considered (for full discussion, see Chapter 9). Lexically stressed roots constitute the first class, Class 1, and undergo no morpho-phonological changes. Lexically unstressed roots can be divided into two sub-classes: (i) unstressed roots with fully specified vowels (Class 2 verbs) and (ii) unstressed roots with root final unspecified vowels (Class 3 verbs). Class 3 roots have a final V slot, whose features are dependent on the morphological construction that combines with the root, with final root vowel raising in shifting constructions. The three verbal root classes are summarized in Table 11.2.

Table 11.2: Choguita Rarámuri verbal root classes

	Class 1 <i>Stressed</i>	Class 2 <i>Unstressed specified final V</i>	Class 3 <i>Unstressed unspecified final V</i>	
PST	be'nè-li	su'kú-li	ra?lā-li	Neutral
PROG	be'nè-a	su'kú-a	ra?lā-a	Constructions
IMPF	be'nè-i	su'kú-i	ra?lā-i	
FUT.SG	be'nè-ma	suku-'mēa	ra?li-'mēa	Shifting
COND	be'nè-sa	suku-'sâ	ra?li-'sâ	Constructions
DESID	be'nè-nale	suku-'nále	ra?li-'nále	

As shown in Table 11.2, Class 2 roots have a final stressed low vowel in neutral constructions. Most Class 3 roots, on the other hand, end in high, front vowels in shifting constructions (such as the future singular *-'mēa*), although some verbs of this class can also end in back, mid vowels (e.g., *noko-'mēa* in (12d)). Without exception, these roots end in *a* when attaching a stress neutral suffix (such as the past *-li*). Some examples of these roots with alternating final vowels are provided in (12):

(12) Class 3 roots: vowel alternations

	Stem	Gloss	Shifting	Neutral
			<i>FUT.SG</i>	<i>PST</i>
a.	osa	'write'	osi-'mēa	o'sá-li
b.	itſā	'sow'	itſi-'mēa	i'itſá-li
c.	raha	'light up'	rahi-'mēa	ra'há-li
d.	noka	'move'	noko-'mēa	no'ká-li

< AHF 05 1:127/el >
< SFH 05 1:78/el >
< ROF 04 1:62/el >
< BFL 05 1:114/el >

Finally, the analysis of stress and tone presented here assumes that all lexical tones are underlyingly specified (see also Caballero & German 2021). Unstressed roots may bear either H or L tone when bare or in neutral contexts, which can be attributed to a lexical tonal specification. Stressed roots, on the other hand, may bear HL, H or L tones. There is thus an asymmetry between stressed and unstressed roots in terms of lexical tone, as there are no unstressed HL-toned roots in the language.

When stressed, shifting suffixes may bear any of the three lexical tones. Given that tonal contrasts are only realized in stressed syllables, there is no evidence that stress neutral suffixes have underlying lexical tone, since they are never stressed. The tonal properties of stress shifting suffixes are shown in a fragment of the paradigm for the root *su'kú* 'to scratch' in (13).

(13) Neutral and shifting suffixing constructions

- | | | | |
|---------------------------------|--------------------|----|----------------|
| a. Past <i>-li</i> | <i>su'kú-li</i> | H | < RIC el2020 > |
| b. Participial <i>-ame</i> | <i>su'kú-ame</i> | H | < RIC el2020 > |
| c. Past egophoric <i>-ki</i> | <i>su'kú-ki</i> | H | < RIC el2020 > |
| d. Evidential <i>-tʃane</i> | <i>su'kú-tʃane</i> | H | < LEL el2059 > |
| e. Future singular <i>-mêa</i> | <i>suku-'mêa</i> | HL | < RIC el2020 > |
| f. Desiderative <i>-nále</i> | <i>suku-'nále</i> | H | < RIC el2019 > |
| g. Conditional <i>-sâ</i> | <i>suku-'sâ</i> | HL | < LEL el2059 |
| h. Imperative plural <i>-sì</i> | <i>suku-'sì</i> | L | < RIC el2020 > |

Words containing an unstressed root like *su'kú* and a stress neutral suffix (e.g., the past *-li* suffix (13a)), bear stress on the second syllable, given the default stress assignment rule given in (11). Words containing an unstressed root and a stress shifting suffix (e.g., the future singular *-mêa* suffix (13e)), bear stress on the suffix, the third syllable of the prosodic word. More details about the tonal properties of roots and morphological constructions (affixes and non-concatenative morphological exponents) is provided in §11.3.

11.3.5 Stress and lexical tone

As reported in Chapter 5 and Chapter 9, all prosodic words have a surface stressed syllable where lexical tonal contrasts are realized. This generalization may be stated as follows:

- (14) Lexical tone is a property of morphemes associated to the surface stressed syllable.

All three lexical tones (H, L, and HL) may be associated with the stressed position, whether the first, second or third syllable. As stated in (11) above, unstressed roots receive stress by default on the second syllable of the root in stress neutral environments (i.e., monosyllabic roots bear stress on the root).

Morphologically-conditioned stress shifts result in tone neutralization patterns. As shown in (13) above, if a stress-shifting suffix is stressed after a stress shift, the stressed suffix syllable will bear the lexical tone of that suffix (this is the case when a monosyllabic or disyllabic unstressed root attaches a stress-shifting suffix). This pattern is further exemplified in Table 11.3.

Table 11.3: Suffix lexical tone after stress shift

Neutral constructions	Tone	Shifting constructions	Tone
a. tò-li 'take-PST'	L	to-'kâ 'take-IMP.SG'	HL
b. ra'há-li 'light.fire-PST'	H	raha-'kâ 'light.fire-IMP.SG'	HL
c. 'tò-li 'take-PST'	L	to-'sì 'take-IMP.PL'	L
d. ki'má-li 'put.blanket-PST'	H	kimi-'sì 'put.blanket-IMP.PL'	L
e. u'kú-li 'to.rain-PST'	H	uku-'nále 'to.rain-DESID'	H
f. ki'má-li 'put.blanket.PST'	H	kimi-'nále 'put.blanket-DESID'	H

As shown in (13) and Table 11.3, shifting suffixes bear their underlying tone when stressed (e.g., HL in the imperative singular *-kâ* in forms (a-b) in Table 11.3, L in the imperative plural *-sì* in forms (c-d) in Table 11.3. The lexical tone of the root, which surfaces in neutral morphological contexts, is deleted after the stress shift. On the other hand, if a trisyllabic unstressed root attaches a stress-shifting suffix, the newly stressed syllable will be a stem syllable. As shown in Table 11.4, a newly stressed stem syllable will bear a HL tone in these contexts, regardless of what the lexical tone of the root is (H tone in *ro'zówa* 'cough' (examples (a-b) in Table 11.4), L tone in *na'zówa* 'stir' (examples (c-d) in Table 11.4).

One important aspect of this second pattern is that the surface tonal pattern of these morphologically complex words that have undergone a stress shift is

Table 11.4: Stem tone after stress shift

Neutral constructions	Tone	Shifting constructions	Tone
a. roʔ'sówa-li 'cough-PST'	H	roʔso'wâ-ma 'cough-FUT.SG'	HL
b. roʔ'sówa-li 'cough-PST'	H	roʔso'wâ-si 'cough-IMP.PL'	HL
c. naʔ'sòwa-li 'stir-PST'	L	naʔso'wâ-ma 'stir-FUT.SG'	HL
d. naʔ'sòwa-i 'stir-IMPF'	L	naʔso'wâ-si 'stir-IMP.PL'	HL
	<		

not predictable based on the lexical tonal properties of root morphemes nor the lexical tones of suffixes. An example discussed in Caballero & German (2021) is that of unstressed roots attaching the imperative plural *-sì* suffix. As shown in examples (c–d) in Table 11.3 above, this suffix bears its lexical L tone when stressed, but it will not surface if the stressed syllable after a stress shift is a stem syllable, i.e., the hypothetical forms **rosō'wâ-si* (for example (b) in Table 11.4 and **naʔso'wâ-si* (for example (d) in Table 11.4) with L tone when attaching imperative plural *-sì*, are unattested.

This tonal pattern is analyzed in Caballero & German (2021) as resulting from a process of default HL tone insertion after a stress shift has deleted the root's lexical tone. This analysis is based on the following assumptions:

- (15) a. Each morpheme has one and only one tone, which is lexically associated with one and only one mora (within the tonic syllable)
- b. In words containing lexically unstressed roots and neutral morphological constructions, the stressed syllable bears the underlying lexical tone of these roots
- c. Stress shifts in shifting environments cause lexical root tones to delete
- d. If the newly stressed syllable after a stress shift is a stem syllable, it is toneless and acquires a default HL tonal melody

It could be argued that this default HL tone insertion process is also at play in Spanish loanwords (Caballero & Carroll 2013) (see also §7.3). Loanwords from

Spanish are incorporated into Choguita Rarámuri with faithful prominence to the stress location of the source words. The stressed syllable in loanwords has a HL tone (no exceptions have yet been documented to this pattern). Relevant examples are given in Table 11.5 (the Spanish sourcewords are provided in their orthographic form, where boldface indicates the stressed syllable).

Table 11.5: Tone patterns in Spanish loanwords

Spanish sourceword	Loanword	Tone	Gloss
a. Tomás	[to'mâsi]	HL	'Thomas'
b. manzana	[ma'sâna]	HL	'apple'
c. sábado	['sâbuto]	HL	'Saturday'
d. Juan	['huâni]	HL	'Juan'
e. Daniel	[ra'niêri]	HL	'Daniel'
f. limeta	[li'mêta- <i>tfi</i>]	HL	'bottle'
g. pasear	[basa'lôwa]	HL	'to take a stroll'

The analysis involving a default HL tone insertion process for loanwords would involve the assumption that Spanish loanwords are lexically stressed but toneless in Choguita Rarámuri. Alternatively, the tonal properties of Choguita Rarámuri loanwords may be analyzed as involving a reinterpretation of the acoustic properties of Mexican Spanish prominence, which has been argued to include a H* pitch accent in the stressed syllable in certain intonational contexts (focus-marked words in declarative sentences) (Prieto et al. 1995).

In sum, morphological factors condition stress shifts. Given the dependency tone has on stress-accent for its distribution, the tonal alternations resulting in these contexts are largely predictable based on the lexical tonal properties of the morphemes that make up a morphologically complex word. Further discussion on the mechanism of default tonal assignment is provided in §11.3.7.3.

11.3.6 Stress and tone properties of compounds

Body part incorporation constructions involve a single Prosodic Word, with a construction specific rule assigning a single stress to the first syllable of the head of the compound. As addressed in Chapter 5 and Chapter 9, in these N-V constructions the noun root is fully integrated with the verb morphologically, and both the noun root and the verb root are attested as independent roots in the language. As described in §9.3.3, stress in these constructions is actively constrained

11.3 Prosodic properties of morphologically complex verbs

by the grammar: if the head, the verb, has second syllable stress in isolation and if the first member, the incorporated body-part noun, is two syllables long, stress retracts to the verb's first syllable, the construction's third syllable. The stressed syllable in body-part incorporation forms bears a HL tone. Relevant examples are given in (16).

(16) Stress and tone properties of body-part incorporation forms

- a. *busi'kâsi*
busi+kâsi
eye+break
'to become blind'
- b. *ropa'kâsi*
ropa+kâsi
stomach+break
'to have a miscarriage'
- c. *busi'bôta*
busi+bôta
eye+come.out
'for eyes to come out'
- d. *kuta'bîri*
kuta+bîri
neck+twist
'to neck-twist'
- e. *tʃoma'bîwa*
tʃoma+bîwa
mucus+clean
'to mucus-clean'

As discussed in Chapter 9, the stress properties of incorporated forms can be analyzed as resulting from a morphological stress rule specific to these constructions that requires stress to be assigned in the first syllable of the head of the incorporated construction:

(17) Incorporated verb stress rule

The head of the incorporation construction, the verbal root, must bear stress in the first syllable

This morphological stress rule is a process that is analyzed here as involving both stress deletion and stress re-assignment. Thus, HL tone assignment in verbal

compounds can be analyzed as resulting from the process of default HL tone insertion that is attested in other morphological contexts where a stress shift has deleted a lexical tone (e.g., Table 11.4).

11.3.7 Grammatical tone

Tone patterns that play a morphological role in any linguistic system have been defined in a variety of ways in the literature (for an overview, see Hyman 2016). This grammar adopts the term *grammatical tone* and assumes the following definition (Rolle 2018; see also Caballero & German 2021):

- (18) **Grammatical tone:** A tonal pattern or process that is not general across the phonological grammar of a language, but is instead associated to a specific morpheme or construction, or a natural class of morphemes or constructions.

While several Uto-Aztecán languages have developed lexical tone, there is little information in the literature as to whether these languages feature grammatical tone patterns. Exceptions include Milpa Alta Nahuatl, where tone is reported to distinguish present from imperfect verb forms among other contrasts (Whorf et al. 1993) and Wixárika (Huichol; Corachol), where tone encodes tense distinctions (present vs. past) (Banerji 2014).

Both derivational and inflectional morphological constructions may exhibit an underlying lexical tone and/or trigger a tonal alternation in the stems to which they attach. This section provides an overview of grammatical tone patterns as documented in inflectional constructions and as attested in morphologically complex words composed of a stem plus one inflectional morphological construction, as described in Caballero & German (2021). In terms of the presence/absence of affixation concomitant to grammatical tone and the type of tonal alternation, there are at least three patterns of grammatical tone: (i) tone as an exponent of morphological information; (ii) tone as a morphologically-conditioned tonal effect and (iii) tone that is determined by the type of morphological construction (stress-shifting or stress-neutral) in a class of verbs. Each of these patterns is described next. Grammatical tone patterns reveal that stress and tone, though intricately related in their distribution, are separate dimensions in the classification of verbal root morphemes into different classes.

11.3.7.1 Tone as a morphological exponent

A first pattern of grammatical tone attested in Choguita Rarámuri involves tone as an exponent of inflection (also referred to as a “tonal morpheme” in Welmers

1959 and Hyman 2016), a type of non-concatenative morphology that may also be referred to as *realizational morphology*, where a morphological category is encoded by a phonological process other than concatenation of segmental morphemes (see Inkelas 2014 for discussion). Tonal exponence in Choguita Rarámuri is attested in the imperative singular construction, which features four lexically conditioned suppletive allomorphs, two of which are concatenative ((i) the *-kâ* suffix and (ii) the *-sâ* suffix), and two of which are non-concatenative ((iii) a stress shift and (iv) a L tone realized in the stressed syllable of HL-toned stems). The L imperative singular morphological construction is exemplified in Table 11.6.

Table 11.6: Imperative singular allomorphs

	Present		Imperative sg.		Gloss
a.	ni'kâ	HL	ni'kâ	L	‘to bark’ <BFL el1910>
b.	ti'sô	HL	ti'sò	L	‘to walk with cane’ <SFH el2042>
c.	ni'wâ	HL	ni'wâ-sa	HL	‘to make’ <BFL 2014:61>
d.	mu'rú	H	mu'rú-ka	HL	‘to carry in arms’ <BFL el1883>
e.	naʔ'sòwa	L	naʔso'wâ	HL	‘to stir’ <BFL el1957>

The L tone allomorph of the imperative singular overwrites the lexical HL tone of the root (examples (a–b) in Table 11.6): HL *ni'kâ* ‘it barks’ vs. L *ni'kâ* ‘bark!’. The L tone allomorph does not combine with a verb stem with a suffixal allomorph of the imperative singular (examples (c–d) in Table 11.6, i.e., there is no multiple exponence of the imperative singular. The second non-concatenative allomorph of the imperative singular is exemplified in example (e) in Table 11.6, where a rightward stress shift within the stem encodes the inflectional value: the verb has second syllable stress (and lexical L tone) when inflected for present (*naʔ'sòwa* ‘s/he stirs it’), but third syllable stress (and HL tone assigned by default) when inflected for imperative singular (*naʔso'wâ* ‘stir it!’).

As stated above and exemplified in Table 11.6, only HL stem tones are replaced by the imperative singular L tone. In the case of L-toned stems, the L imperative singular allomorph vacuously applies (examples (a–c) in Table 11.7), but it is blocked from applying to H-toned stems (examples (d–f) in Table 11.7).

Table 11.7: Tone in imperative singular forms

	Present		Imperative sg.		Gloss
a.	o'ò	L	o'ò	L	'to thresh' <BFL el1906>
b.	se'mè	L	se'mè	L	'to play violin' <BFL el1920>
c.	bi?tò	L	bi?tò	L	'to twist ankle' < RIC el2024 >
d.	sakú	H	sakú	H	'to dry in sun' < BFL el1923 >
e.	ki'má	H	ki'má	H	'to put on blanket' <BFL el1909>
f.	ʃutu'bú	H	ʃutu'bú	H	'to tie legs' < BFL el1911>

As exemplified here, tonal overwriting of HL tones by the grammatical L tone neutralizes the contrast between lexical HL and L tones in the imperative singular.

A subset of inflected verbs displays inter-speaker variation in terms of grammatical tone: unstressed roots (those that exhibit stress shifts when attaching a stress-shifting suffix or non-concatenative process) may surface with one of two tonal patterns: (i) a grammatical L tone that replaces stem HL tone or (ii) a HL stem tone associated with the shifting morphological class. This variation in surface forms is illustrated in Table 11.8.

Table 11.8: Tonal variation in imperative singular forms

	Present		Imperative sg.	
a.	ra?sa-na	L	ra?sa'nà	L
		< RIC 2014:102 >		
b.	ra?sa-na	L	ra?sa'nâ	HL
		< BFL el1911]		
c.	ra?sa-na	L	ra?sa-'nâ	HL
		< LEL el2019 >		

As shown in these examples, all speakers produced a form with a rightward stress shift in the imperative singular, but they show different tonal patterns in the derived imperative singular: one speaker (RIC) produces a L tone in the stressed syllable (example (a) in Table 11.8), the expected L grammatical tone of the imperative singular; in contrast, two other speakers (BFL and LEL) produce a HL tone in the stressed syllable (examples (b–c) in Table 11.8), the expected pattern if lexical tone has been neutralized and a default HL tone assigned. This latter pattern results from a process of stress-based tonal neutralization, where a stress shift deletes a lexical tone and a default HL tone is assigned to the stressed stem syllable (§11.3.5). This kind of inter-speaker variation suggests that speakers may have more than one generalization available regarding the tonal properties of these inflected forms. This kind of variation is not yet documented in other morphological contexts.

11.3.7.2 Morphologically-conditioned tone

In addition to tonal exponence, Choguita Rarámuri possesses grammatical tone patterns that are associated with specific suffixes when attaching to a prosodically-defined class of verbs. Specifically, unstressed, H-toned roots surface with a L tone when attaching the imperfective *-i* suffix and the progressive *-a* suffix. The imperfective and progressive suffixes are stress-neutral, which means the tonal changes they condition with unstressed, H-toned roots take place without any concomitant stress shifts nor any other (morpho-)phonological effects. The examples in Table 11.9 show the contrast between the imperfective and progressive constructions, on the one hand, and the past tense *-li* suffix, a stress-neutral suffix that does not impose a L tone on the stems to which it attaches. In the latter case, the lexical tone of the root (H or L) is associated with the stressed syllable.

As shown in examples (d–e) in Table 11.9, L-toned unstressed roots do not exhibit any tonal changes when inflected for imperfective or progressive, showing the process vacuously applies with these verbs.

The contrast between unstressed roots (examples (a–c) in Table 11.10) and stressed roots (examples (d–f) in Table 11.10) demonstrates that only unstressed roots exhibit a L tone when attaching these suffixes.

As discussed previously and seen in these examples, the rightward stress shift in shifting environments is only attested with unstressed verbs (Table 11.9a–c). Stressed roots, on the other hand, do not undergo stress shifts (Table 11.9d–f). Stressed roots do not replace their lexical tones when attaching the imperfective and progressive suffixes.

Table 11.9: Morphologically-conditioned L tone

Verb	IMPF	PROG		PST	
a. 'dance' <RIC el1921>	a'wì-i	L	a'wì-a	L	a'wí-li
b. 'find' <LEL el2062>	ri'wà-i	L	ri'wà-a	L	ri'wá-li
c. 'buy' <BFL el1905>	ra?là-i	L	ra?là-a	L	ra?lá-lo
d. 'grind' <BFL el1911>	ra?sà-na-i	L	ra?sà-na-a	L	ra?sà-na-li
e. 'smoke' <BFL el1914-5>	mo'lò-i	L	mo'lò-a	L	mo'lò -li

Table 11.10: Morphologically-conditioned L tone: stressed vs. unstressed verbs

	IMPF	PROG		COND	
a. 'dance' <RIC el1921>	a'wì-i	L	a'wì-a	L	awi-'sâ
b. 'find' <LEL el2062>	ri'wà-i	L	ri'wà-a	L	riwi-'sâ
c. 'grind' <BFL el1911>	ra?sà-na-i	L	ra?sà-na-a	L	ra?sa-'nâ-sa
d. 'bet' <SFH el1925>	hi'râ-i	HL	hi'râ-a	HL	hi'râ-sa
e. 'carry in arms' <LEL el921>	mu'rú-i	H	mu'rú-a	H	mu'rú-sa
f. 'cry' <LEL el2062>	na'là-i	L	na'là-a	L	na'là-sa

These morpheme-specific phonological effects originated through recent diachronic changes. Comparative evidence from closely related Norogachi Rarámuri (Brambila 1953) and Mountain Guarajío (Miller 1996) shows that the progressive *-a* suffix and the imperfective *-i* suffix have recently developed from suffixes that were shifting.⁵ The shifting allomorphs of these suffixes are attested in the speech of Choguita Rarámuri native speakers with command of the closely related Norogachi Rarámuri (NR). For these speakers, the Choguita Rarámuri forms co-exist with the NR forms that exhibit the conservative form of these suffixes, which are stressed, include a palatal glide onset and have a H tone. These forms are exemplified in Table 11.11.

Table 11.11: Norogachi Rarámuri cognate suffixes: imperfective and progressive

Norogachi	Choguita	Gloss
a. awi- ^{jé} <BFL el1921>	a' ^{wì} -i <BFL el1921>	dance-IMPF
b. ika- ^{já} <el1915>	i' ^{kà} -a <LEL el1912>	be.windy-PROG
c. ika- ^{jé} <el1915>	i' ^{kà} -i <LEL el1912>	be.windy-PROG
d. to- ^{já} <LEL tx110>	' ^{tò} -a <MDH co1136>	take-PROG

The morphologically-conditioned tonal effects exhibit by the progressive and imperfective suffixes are thus the result of a recent innovation of morphologically-conditioned tone.

11.3.7.3 Grammatical tone distributed by morphological class

A third type of grammatical tone pattern in Choguita Rarámuri is attested in a class of lexically stressed verbs referred to as “alternating” in Caballero & Carroll (2015). In these verbs, surface tonal patterns are conditioned by the type of inflection the verb exhibits: a HL tone in shifting morphological environments and a L tone in neutral morphological environments. Stress-shifting constructions do not trigger stress shifts when combining with lexically stressed roots, but cause a rightward stress shift with lexically unstressed roots (§5.3). In the alternating verb class, stress-shifting suffixes condition specific tone patterns on the stem without triggering any stress shifts. These tonal alternations attested in alternating verbs are exemplified in Table 11.12.

⁵In Mountain Guarajío, Miller describes a progressive *-a* suffix that may bear stress (e.g., *yuʔku-á=ga* ‘it is windy’ (1996: 140)), the cognate form of the Choguita Rarámuri progressive *-a* suffix.

Table 11.12: Alternating verbs: tonal alternations

	IMPF		PROG	
a.	'bring' <RIC el1921>	'pà-li	L	'pâ-ma
b.	'arrive' <RIC el1921>	na'wà-li	L	na'wâ-ma
c.	'clean, TR' <BFL el1903>	bi?'w-à-li	L	bi?'w-â-ma
d.	'swallow' <LEL 2063/el>	a?'wà-li	L	a?'wâ-ma
e.	'make, do' <RIC 1892>	ne'wà-ki	L	ne'wâ-

The examples below show the tone alternations of a single verb *bi?'w-a* 'to clean' (a stem composed of the root *bi?'w-* 'to clean' and the transitivizer *-a* suffix), where the surface tonal properties of the word are determined by the type of inflection: L if the construction is stress-neutral (19) and HL if the construction is stress-shifting (20).

(19) Stress-neutral constructions

- a. *bi?'w-à-ki* L 'Past egophoric'
- b. *bi?'w-à-li* L 'Past'
- c. *bi?'w-à-i* L 'Imperfective'
- d. *bi?'w-à-a* L 'Progressive'
< BFL el1903, LEL 18:164 >

(20) Stress-shifting constructions

- a. *bi?'w-â-ma* HL 'Future singular'
- b. *bi?'w-â-fi* HL 'Imperative pl.'
- c. *bi?'w-â* HL 'Imperative singular'
- d. *bi?'w-âa-ru* HL 'Past passive'
< BFL el1903, LEL 18:164 >

Alternating verbs contrast with other lexically stressed verbs: as shown below, these verbs (like the verb *ra?'nè* 'to shoot' exemplified below) have fixed stress

across paradigms and there are no tonal alternations conditioned by the type of morphological construction: there is fixed stress and constant tone values, regardless of whether the verb combines with stress-neutral (21) or stress-shifting (22) markers.

(21) Stress neutral constructions

- a. *raʔ'nè-ki* L ‘Past egophoric’
- b. *raʔ'nè-li* L ‘Past’
- c. *raʔ'nè-i* L ‘Imperfective’
- d. *raʔ'nè-a* L ‘Progressive’

(22) Stress-shifting constructions

- a. *raʔ'nè-ma* L ‘Future singular’
- b. *raʔ'nè-fi* L ‘Imperative plural’
- c. *raʔ'nè* L ‘Imperative singular’
- d. *raʔ'nèe-ri* L ‘Past passive’

< BFL el1912, el1957 >

For the alternating verb class there is thus no evidence of underlying lexical tone nor are tonal alternations predictable based on the lexical tonal properties of suffixes. These tonal alternations are also independent of stress alternations and other phonological properties of roots and suffixes and non-concatenative processes. Stress and tone, though closely related, are thus orthogonal dimensions in Choguita Rarámuri.

Finally, the tonal patterns of alternating verbs just discussed are relevant to an alternative analysis where stress-shifting and stress-neutral constructions constitute a morphosyntactically motivated class distinction: as discussed in §9.1.2, it is assumed in the Uto-Aztecianist literature that neutral constructions are posited to realize “non-future” morphosyntactic categories, including realis inflectional categories such as past, perfective and imperfective, while shifting constructions are posited to realize “future” or “unrealized” categories, which map onto irrealis categories, such as future, imperative and potential (Langacker 1977: 133). The consequence of such an analysis for grammatical tone patterns would involve positing two tonal morphemes, a L tone for ‘non-future’(realis) categories and a HL tone for “future” (irrealis) categories.

The arguments against a morphosyntactic account of the shifting vs. neutral distinction are provided in §9.1.2 above. As noted, a realis/irrealis distinction is not amenable for all shifting and neutral constructions. One relevant example

involves the past passive construction (exemplified above in (20d), *biʔ?wāaru* ‘it was cleaned’), which cumulatively encodes passive voice and past tense. The past passive may be categorized as a “realis” (or “non-future”) construction in a morphosyntactically-based account, but it nevertheless patterns morphophonologically with the stress-shifting class, contrary to expectation if the distinction were morphosyntactically motivated.

The shifting/neutral distinction in Choguita Rarámuri tonal alternations conforms to the predictions made on a *morphomic* account: the inflected forms of lexemes as shifting or neutral are not determined by morphosyntactic inflectional features, nor any semantic or phonological principles, but rather by purely (or autonomously) morphological properties. The stress-shifting vs. stress-neutral distinction thus involves morphosyntactically heterogeneous classes of morphological constructions.

11.3.8 Stress and tonal properties of inflected verbs

The previous subsections (§11.3.1–§11.3.7) have addressed each of the factors that shape the surface prosodic properties of inflected verbs in Choguita Rarámuri, including the phonological size of roots, the lexical stress and tone properties of roots and morphological constructions, as well as the different kinds of interactions between lexical and grammatical tone which may lead to lexical tone replacement and grammatical tone assignment. In terms of lexical-grammatical tone interaction, Choguita Rarámuri grammatical tone patterns can be classified as belonging to one of the following classes:

- (23) Grammatical tone patterns in Choguita Rarámuri
- a. **Tone as a morphological exponent:** the imperative singular L allomorph is a tone-replacing construction that involves no affixation and replaces stem HL tone with a L tone.
 - b. **Morphologically-conditioned tone:** the imperfective *-i* and progressive *-a* suffixes replace H tone of stems containing an unstressed root with a L tone.
 - c. **Tone determined by morphological class (‘alternating verbs’):** tone is determined by the type of inflection construction the root combines with (HL if shifting, L if neutral) in morphosyntactically heterogeneous classes; there is no evidence of lexical tone.

Patterns (23a) and (23b) involve tonal overwriting (i.e., a grammatical tone pattern replaces lexical tone), while the pattern in (23c) involves the assignment of a grammatical tone to a class of underlyingly toneless verbs.

The surface tonal patterns of two-level constructions (roots plus one layer of inflection) is summarized in Table 11.13, based on a classification in terms of: (i) the stress properties of roots (unstressed or unstressed); (ii) the tonal properties of constructions (HL, L or H); and the ability of morphological constructions to trigger morpho-phonological changes or not onto stems (shifting or neutral, respectively). Shading represents cells in the paradigm that exhibit a grammatical tone pattern.

An analysis of this system based on tonal underspecification is proposed in Caballero & German (2021). This analysis is based on the following assumptions:

- (24) Tonal underspecification analysis of Choguita Rarámuri
- a. All tones (HL, L and H) are lexically specified
 - b. Stress and tone are orthogonal dimensions in the phonological grammar of Choguita Rarámuri
 - c. Verb roots are either specified or unspecified lexically for tone

In this analysis, morphologically complex words which contain tonally specified verbs may exhibit interactions between lexical and grammatical tones, given that specific constructions may be associated with grammatical tone melodies that trigger the replacement of base stem tone. In contrast, in morphologically complex words containing tonally unspecified verbs (alternating roots and unstressed roots where lexical tone has been deleted after a stress shift), tonal patterns realize inflectional morphological information.⁶

Based on their lexical specification for stress and tone, Choguita Rarámuri verbs may thus be characterized as follows:

⁶Caballero & German (2021) refer to the latter kind as *paradigmatic tone*. Rolle (2018) defines paradigmatic grammatical tone as follows: “[i]n a grammatical paradigm consisting of grammatical categories, tonal values to the root/stem which (i) show extensive inconsistency within grammatical categories (no paradigmatic consistency across rows or columns), and (ii) show extensive inconsistency across roots/stems in parallel paradigms (no ‘transparadigmatic’ consistency across rows or columns), and (iii) there being little positive evidence for determining the underlying tone of the root/stem” (2018: 109). While surface tonal patterns of Choguita Rarámuri alternating verbs exhibit consistent association within grammatical categories (shifting vs. neutral), there is little positive evidence of the underlying tone of the stems. The term *paradigmatic tone* here refers to the fact that, in these cases, cells in the paradigms are associated with tonal values that are not predictable from lexical tone properties of individual morphemes.

Table 11.13: Surface tonal melodies in inflected verbs (root + inflectional construction) (Caballero & German 2021)

Neutral construc- tions	Lexically stressed roots			Lexically unstressed roots				
				Alter- nat- ing				
	Present <i>Bare stem</i>	HL	L	H	L	H		
Past Ego. <i>-ki</i>	HL	L	H	L	L	H		
Past <i>-li</i>	HL	L	H	L	L	H		
Present Progr. <i>-a</i>	HL	L	H	L	L	L		
Imperfective <i>-e</i>	HL	L	H	L	L	L		
Shifting construc- tions								
	Future sg. <i>-ma,</i> <i>-'mêa</i>	HL	L	H	HL	HL	HL	HL
	Future pl. <i>-'bô</i>	HL	L	H	HL	HL	HL	H
	Conditional <i>-'sâ</i>	HL	L	H	HL	HL	HL	HL
	Imperative pl. <i>-'sì</i>	HL	L	H	HL	L	HL	L
	Imperative sg. <i>-'kâ, -'sâ</i>	HL	L	H	HL	HL	HL	HL
	Imperative sg. <i>zero affix</i>	L	L	H	HL	—	HL	—

- (25) Choguita Rarámuri verb classes in terms of stress and tone
- a. Lexically stressed with lexically specified tone: stress is fixed across paradigms; underlying lexical tone is realized on the stressed stem syllable; grammatical tone may replace lexical tone (in the imperative singular).
 - b. Lexically unstressed with lexically specified tone: stress shifts in shifting environments; the lexical tone of the stem is associated to the stressed stem syllable in neutral contexts; the lexical tone of the suffix is associated to the stressed suffix syllable in shifting contexts; grammatical tone may replace lexical tone (in the imperfective and progressive).
 - c. Lexically stressed with no lexical tone (alternating roots): stress is fixed across paradigms; surface tone is dependent on the type of inflection, L in neutral environments and HL in shifting environments.
 - d. Lexically unstressed with no lexical tone (tonal neutralization): lexically unstressed verbs have a lexically specified tone that is deleted after a stress shift. A HL tone is associated to the newly stressed, toneless stem syllable.

11.4 The interaction between lexical tone and intonation

This section provides details of how lexical tone and intonation interact in the tonal grammar of Choguita Rarámuri. As discussed in Chapter 6, lexical tonal contrasts are implemented through a variety of acoustic means, some of which are speaker-dependent and some of which are dependent on the intonational context. As discussed in this section, there is also robust evidence that both lexical and grammatical tones are preserved in tone-intonation interactions (Caballero et al. 2014; Aguilar et al. 2015; Garellek et al. 2015).

11.4.1 Tone-intonation interactions in declaratives

As discussed in §6.2, Choguita Rarámuri does not only deploy f0 to encode lexical tonal contrasts, but also to encode intonation: declarative sentences exhibit a High boundary tone (H%) (Caballero et al. 2014; Garellek et al. 2015). This is shown in Figure 11.2 (Figure 6.2 in Chapter 6) with a sentence composed of words with lexical L tones, *re'hòi su'nù o'hòli* 'The man dekerneled corn' (lexical pitch

targets are represented with “*” in the first tier; stressed syllables are represented with “S” in the bottom tier).

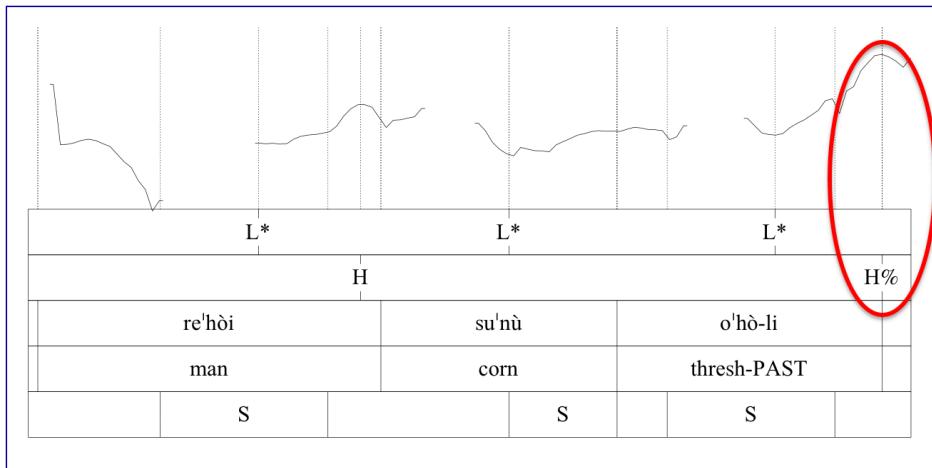


Figure 11.2: High boundary tone in declaratives (Garellek et al. 2015)

As shown here, in a sentence with lexical L tones, H% boundary tones accommodate lexical tones: both the lexical L pitch target and the post-lexical H pitch target are clearly differentiated.

On the other hand, the rise expected with the presence of a H% is replaced by a pitch fall if the Intonational Phrase (IP) contains a lexical HL tone at the right edge. This is shown in Figure 11.3 (Figure 6.3 in Chapter 6) with a sentence composed of words with lexical HL tones, *Ma'nuēli o'kwâ ko'lî i?kili* 'Manuel bit two chili peppers'.

Thus, H% boundary tones are overridden by lexical falling tones, an effect which may enhance lexical/morpho-lexical tones in phrase final position: lexical tones are clearly differentiated for all speakers across different intonational contexts (see further discussion in Garellek et al. 2015).

11.4.2 Tone-intonation interactions in interrogatives

The morphosyntactic and prosodic properties of different types of interrogative constructions is addressed in §14.2. This section addresses the patterns that emerge in contexts where a lexical tone and an intonational tone conflict in terms of their association in different types of interrogative constructions. Lexical tonal contrasts are prioritized in these constructions.

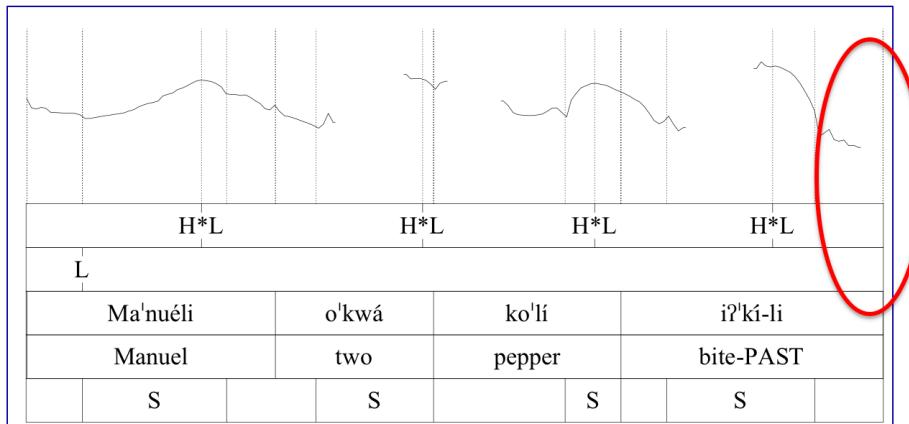


Figure 11.3: No high boundary tone in declaratives with lexical HL tones (Garellek et al. 2015)

Different types of interrogative constructions share the following intonational characteristics:

- (26) Intonational properties of Choguita Rarámuri interrogative constructions
- A boundary H% tone targets the last stressed syllable of the utterance.
 - There is raised register across the utterance.

Consider first the behavior of lexical tone in phrase-final position in unmarked polar interrogative constructions. In these cases, the boundary H% tone aligns with a lexical HL tone in the stressed syllable. Figure 11.4 and Figure 11.5 (repeated from §14.2.1.1) show a minimal intonational pair between a declarative utterance and its morphosyntactically equivalent, polar interrogative counterpart, respectively. A lexical HL tone is associated with the penultimate syllable of the utterance. As shown in the contrast between the two Figures, f0 is significantly raised in the final stressed syllable of the polar question in Figure 11.5 due to the association of an interrogative H% intoneme aligning with the pitch peak of the lexical HL tone in the stressed syllable.

In contrast, when an interrogative utterance has a lexical L tone in the final stressed syllable, the lexical tone takes precedence and is preserved in the stressed syllable, and the H% boundary tone docks on the following, post-tonic syllable. Figure 11.6 illustrates this pattern.

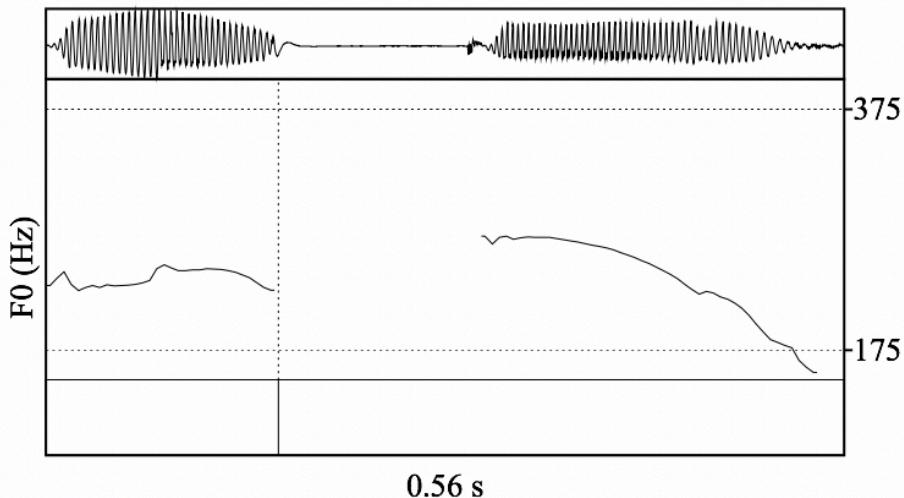


Figure 11.4: Declarative utterance: *ma 'tôlo* 'S/he buried him/her' (< BFL el1170])

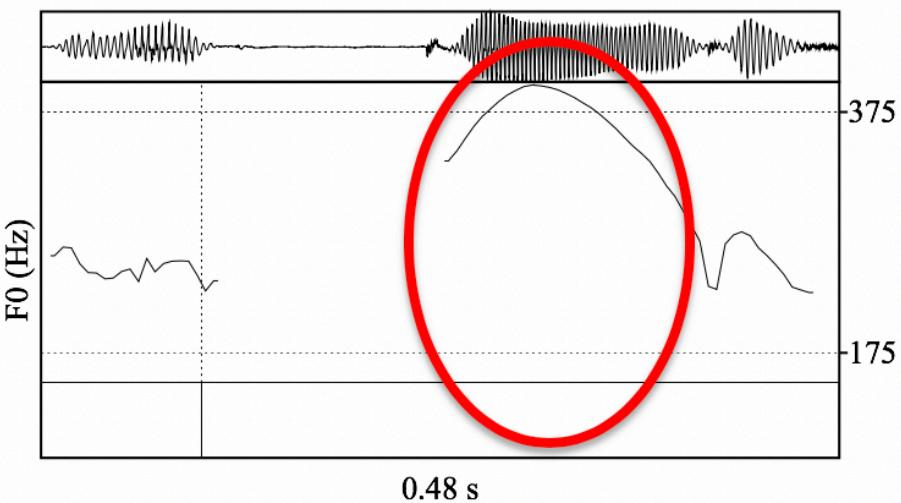


Figure 11.5: Morphosyntactically unmarked polar interrogative: *ma 'tôli?* 'Did s/he bury him/her?' < BFL el1307 >

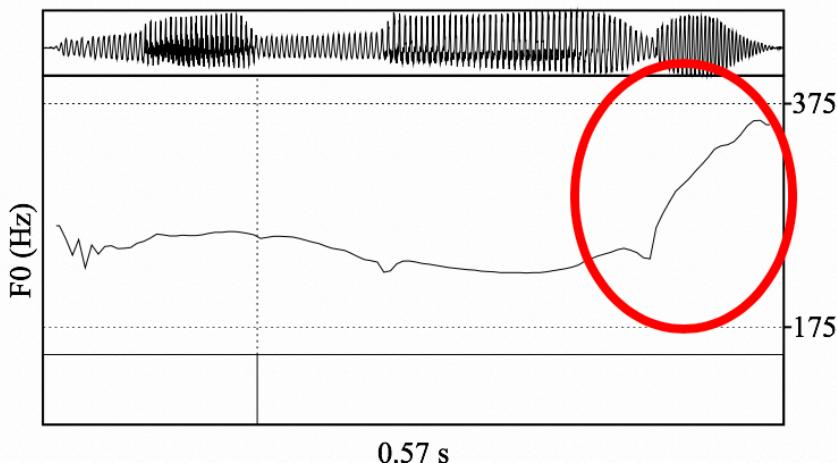


Figure 11.6: Accommodation of L tone and H% boundary tone in *ma n̄eli?* 'Did s/he bury him/her?' < BFL el1307 >)

Finally, in interrogative constructions where the last stressed syllable of the utterance bears a lexical H tone, an interrogative H% tone associates in the final, unstressed syllable, with a pitch target that is higher than the one associated with the lexical H tone in the stressed syllable. This is illustrated in Figure 11.7, with an example of a content question (see also §14.2.2).

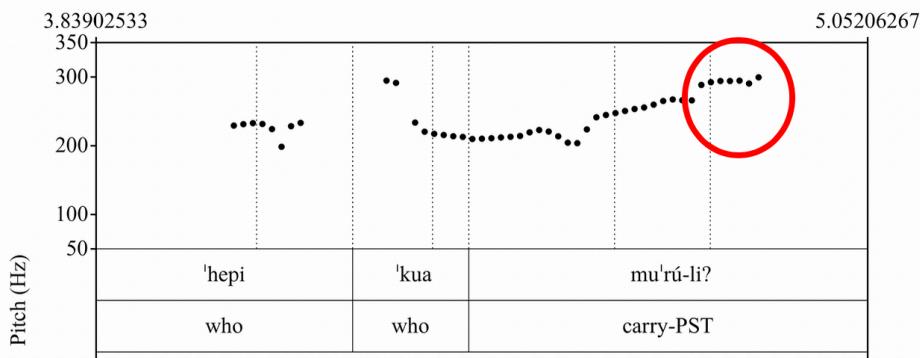


Figure 11.7: Content question with utterance-final lexical H tone in *hēpi k̄wā mu'rú-li* 'Who did s/he carry?'

In sum, as has been documented in declarative utterances, the three-way lexical tonal contrast of Choguita Rarámuri is preserved in interrogative constructions.

11.4.3 Summary

The cross-linguistic study of intonational encoding of tonal languages document several possibilities in terms of the phonological relationship between lexical tonal systems and intonational phonology. These include:

(27) Cross-linguistic tone-intonation interactions

- Manipulation of register (Hausa (Chadic; Nigeria) (Inkelas et al. 1987))
- Prosodic rephrasing (Chitumbuka (Bantu; Malawi) (Downing 2007))
- Different tonal accommodation strategies (e.g., intonational tones override lexical tones in Coreguaje (Tukanoan; Colombia) (Gralow 1985))
- No use of f0 (Navajo (Athabaskan) (McDonough 2001)).
- Non-tonal encoding of intonation, including lengthening (Shekgalagari (Bantu; Botswana) (Hyman & Monaka 2011)).

Preservation of lexical and morphological tones in tone-intonation interactions as documented in Choguita Rarámuri have been reported for other languages, which include Serbo-Croatian (Godjevac 2006), Stockholm Swedish (Riad 2006) and Curacao Papiamentu (Remijsen & Van Heuven 2005).

In addition to boundary tones interacting with lexical tones, there are intonational pitch targets, “lead” tones, that are dependent on the lexical tones of Choguita Rarámuri (as discussed in §6.2.2, there are optional post-lexical tones that are opposite to the lexical tones they precede, namely a L target before H and HL lexical tones, and a H tone before a lexical L tone). Lead tones are thus a kind of tone-dependent intonational phenomenon, that may also contribute to preserving lexical tone contrasts and/or their enhancement in different intonational contexts (Garellek et al. 2015).

In addition to tone-intonation interactions concerning f0 effects, Choguita Rarámuri also exhibits the following tone-specific and general non-tonal effects at prosodic boundaries (see §6.2.4; Caballero et al. 2014; Aguilar et al. 2015):

(28) Non-tonal effects of Choguita Rarámuri lexical tones at prosodic boundaries

- a. Rearticulation exclusive to HL tones
- b. Increased lengthening of L tones

One important question yet to be addressed in depth in Choguita Rarámuri is the role that multiple dimensions of phonetic realization of tones may be playing

in the enhancement of the lexical tone contrast of the language: as reported in Caballero & Carroll (2015), the pitch differences between H, HL and L tones in Choguita Rarámuri are reliable, but very narrow. These results are comparable to those found for other Uto-Aztecan tonal languages (e.g., Balsas Nahuatl (Guion et al. 2010), though there are still many gaps in our knowledge in the phonetic implementation of prosodic contrasts in Uto-Aztecan languages. While Choguita Rarámuri is not a “high-density” tonal language, the functional load of tone may require additional cues to increase the dispersion of the tonal inventory.

11.5 Prosodic constraints on morphological shapes

This section addresses phenomena in Choguita Rarámuri that may be classified under the rubric of morphologically-determined prosodic templatic effects, where specific morphological constructions impose output prosodic shape constraints. As described in Chapter 9, some verbal morphological constructions induce truncation of the bases to which they attach. These constructions may be analyzed as imposing prosodic restrictions where surface forms must conform to an output templatic form. As shown below, the prosodic constituents referenced in these templatic constraints are attested and deployed in different areas in the Choguita Rarámuri grammar and are thus independently motivated.

The Choguita Rarámuri constructions associated with truncation are body part incorporation (described in §11.5.1), the denominal suffix construction ‘make, wear’ (described in §11.5.2), both of which induce truncation of the final syllable in trisyllabic bases, as well as aspect/mood suffixes with alternating long (disyllabic) and short (monosyllabic) prosodic forms. In the analysis proposed here, allomorphy of aspect/mood suffixes that results in the long/short alternation in morphologically complex words results from a general morpho-phonological syllable truncation process, the same mechanism that is deployed in body-part incorporation and denominal constructions to enforce a prosodic templatic shape in output forms. We address each of these constructions next.

11.5.1 Truncation in body-part incorporation

As described in Chapter 9, a body-part term may be incorporated to a verb stem, the head of the construction. The result is a single prosodic word, with a single stress in the first syllable of the head of the compound. Disyllabic body part terms do not undergo any prosodic changes in incorporation, but trisyllabic body part

terms undergo syllable truncation when combined with verbs in this construction. The contrast between the two types of bases is shown in the examples in (29):

(29) Truncation in body-part incorporation

- a. /bu'si+ka'sì/ → *busi-'*kāsi
 eye+break
 ‘to become blind (lit. to eye-break)’
 ‘quedarse ciego (lit. romperse-*ojo*)’ < SFH 06 1:112/el >
- b. /tʃā'mèka+rēpu/ → *tʃame'*rēpu
 tongue+cut
 ‘to cut one’s tongue’
 ‘cortarse la lengua’ < SFH 07 1:187/el >
- c. /tʃe'rewa+bi?'wa/ → *tʃere-*'bīwa
 sweat+clean’
 ‘to clean sweat’
 ‘limpiarse el sudor’ < SFH 07 1:187/el >

Truncation of nominal bases in noun incorporation ambiguously results from a noun incorporation stress rule, repeated in (30) below, or the initial three-syllable stress window, which requires stress to be assigned to the first three syllables of the prosodic word (see Chapter 3 and Chapter 9).⁷

- (30) **Body part incorporation stress rule:** the head of the construction must have the stress in the first syllable.⁸

11.5.2 Truncation in denominal verb constructions in *-ta*

A second construction that involves truncation of nominal bases is the deverbal *-tā* ‘make, wear’ suffix, addressed in §9.3.5.1. As with body-part terms in noun incorporation, disyllabic nouns attaching this denominal suffix undergo no changes (31a, c), but trisyllabic nouns truncate their final syllable when combining with this construction (31e).

⁷On the other hand, there is evidence that syllable truncation may also be a device to satisfy the three-syllable stress window: as described in §7.3, Spanish loanwords may exhibit truncation of the source word in order to keep the original prominence within the initial three syllable stress window (e.g., *naugu'rari*po ‘let us inaugurate it’, from Sp. *inaugurar*, with a truncated first syllable).

⁸This stress rule is formalized in Caballero (2011b) as ACC-TO-HEAD(1), a language-specific constraint.

(31) Truncation in denominal verb forms in *-tâ*

- a. *a^hka'râsa*
a^hka-'râ-sa
 sandal-VBLZ-COND
 'if they wear sandals'
 'si se enhuaracha' < SFH 08 1:47/el >
- b. cf. *a^hkâ*
 'sandal'
 'huarache'
- c. *nori'râma*
nori-'râ-ma
 cloud-VBLZ-FUT.SG
 'It will become cloudy.'
 'Se va a nublar.' < BFL 04 1:92/el >
- d. cf. *no'rî*
 'cloud'
 'nube'
- e. *sipu'tâma*
sipu-'tâ-ma
 skirt-VBLZ-FUT.SG
 'S/he will wear a skirt.'
 'Se va a poner falda.' < LEL 06 4:185/el >
- f. cf. *si'pútâ*
 'skirt'
 'falda'

Like body-part incorporation, this construction imposes an output shape constraint in the derived forms: the derived forms must have third syllable stress, with stress assigned in the derivational suffix. Syllable truncation in this construction thus fulfills the same prosodic function documented in body part incorporation. The prosodic template involved here is analyzed as an extended iambic foot aligned to the left edge of the prosodic word in Caballero (2011b).

11.5.3 Truncation in aspect/mood marking constructions

Another phenomenon in Choguita Rarámuri where a complex interaction between phonological and morphological factors takes place is one involving pro-

sodic constraints on morphological shapes in aspectual/mood marking. A general description of these suffixes within the context of the verbal morphological structure is provided in Chapter 9, where they are described as aspectual/mood suffixes that are clustered in the Aspectual Stem, a domain within the verbal structure of Choguita Rarámuri comprising suffix positions S6 to S9. As discussed in §15.6.4, these constructions result from V-V incorporation.

The relevant aspectual/mood markers, which encode desiderative, associated motion, and auditory evidential meanings, exhibit an allomorphy pattern contrasting “long” (disyllabic) forms and “short” (monosyllabic) ones. The correspondences between allomorphs is provided in (32):

(32) Long and short allomorphs of aspect/mood suffixes

		<i>Long allomorph</i>	<i>Short allomorph</i>
a.	Desiderative	<i>-nále</i>	<i>-na</i>
b.	Associated motion	<i>-simi</i>	<i>-si</i>
c.	Auditory evidential	<i>-tʃane</i>	<i>-tʃa</i>

As shown here, the short (monosyllabic) allomorphs correspond transparently to the first syllable of the long (disyllabic) allomorphs. These suffixes are in turn-related to independent verbal predicates, as shown in (33):

(33) Aspect/mood suffixes and corresponding independent verbs

	<i>Prefix</i>	<i>Verb</i>	
a.	Desiderative	<i>-nále</i>	<i>na'kí</i> ‘want’
b.	Associated motion	<i>-simi</i>	<i>si'mí</i> ‘go (singular)’
c.	Auditory evidential	<i>-tʃane</i>	<i>(a)tʃane</i> ‘say, make noise’

As can be appreciated from this comparison, the relationship between the suffixes and the corresponding independent verbs is also highly transparent: there is a perfect match in terms of segmental phonological material in the case of the associated motion and the auditory evidential, and a high degree of phonological similarity with the desiderative, where the first syllable of the suffix corresponds to the first syllable of the corresponding, independent verb. In contrast to the independent verb forms, which are prosodically independent and bear stress, the suffixes are prosodically dependent on a verb host.

A single, morphologically complex verb, may exhibit a recursion of attachment of these constructions. Their relative order with respect to each other and other constructions in the complex verb is governed by several factors, including semantic, phonological and morphological factors. An overview of the principles

governing affix order is provided in Caballero (2010). A separate mechanism governs the form and distribution of allomorphs of aspect/mood markers in Choguita Rarámuri. This is addressed next.

11.5.3.1 Allomorph distribution

The distribution of long and short allomorphs is predictable on the basis of the existence of outer suffixes attached to a base containing aspect/mood markers: short allomorphs are always followed by other suffixes, while long allomorphs are aligned to the right edge of the prosodic word. These two distributions are shown in (34) and (35).

(34) Short allomorph distribution

- a. [a'tf̩enisa]
 /a'tf̩e-nale-sa/
 pour-DESID-COND
 'if s/he wants to pour it'
 'si lo quiere echar, verter' < SFH 07 romara/tx >
- b. [nahā'râpnima]
 /nahā'râpi-nale-ma/
 wrestle-DESID-FUT.SG
 's/he will want to wrestle'
 'va a querer luchar' < BFL 07 1:152/el >
- c. [ri?ibûrsili]
 /re?e-'bû-ri-simi-li/
 stone-gather-CAUS-MOT-PST
 's/he went along making them gather stones'
 'va a querer ir juntando piedras' < SFH 07 2:63/el >
- d. [ti'tf̩iksima]
 /ti'tf̩i-ki-simi-ma/
 comb-APPL-MOT-FUT.SG
 'S/he will go along making them comb her/him.'
 'Va a ir haciéndola que la peine.' < SFH 07 2:67/el >

- e. [a'tís̪fanala]
 /a'tísi-t̪fane-nale-a/
 sneeze-EV-DESID-PROG
 'It sounds like they want to sneeze.'
 'Suena a que quieren estornudar.' < SFH 08 1:122/el >

(35) Long allomorph distribution

- a. ['sûrnili]
 /sû-ri-nale/
 sew-CAUSE-DESID
 'S/he wants to make them sew.'
 'Quiere hacerlos coser.' < BFL EDCW(52/el) >
- b. [po'lâptinili]
 /po'lâ-pi-ti-nale/
 cover-REV-REFL-DESID
 'S/he wants to uncover herself.'
 'Se quiere destapar.' < BFL 08 1:56/el >
- c. ['nârisimi]
 /nâri-simi/
 ask-MOT
 'S/he is going along asking.'
 'Va a ir preguntando.' < SFH 08 1:148/el >
- d. [to'rét̪fani]
 /to'ré-t̪fane
 cackle-EV
 'It sounds like cackling.'
 'Suena a que están cacareando.' < SFH 07 1:7/el >
- e. [u'bást̪fani]
 /u'bá-simi-t̪fane/
 bathe-MOT-EV
 'It sounds like they are going along bathing.'
 'Suena que van bañándose.' < SFH 08 1:150/el >

One exception to this distribution is found in morphologically complex words containing an unstressed root that immediately attaches a desiderative suffix: in

these cases, the long allomorph of the suffix is selected, regardless of whether there are outer suffixes or not. This pattern results from the stress properties of the suffix and the bases with which it may combine: the desiderative suffix is the only stress shifting suffix among the aspect/mood markers described here (the associated motion and the evidential are stress neutral). The long, stressed allomorph may undergo post-tonic syncope of the final suffix vowel when combining with unstressed roots, but is always attested in its long form. The relevant examples are shown in (36).

(36) Stressed allomorph of the desiderative

- a. [rono'náli]
 /ronò-'nále/
 boil-DESID
 'It's about to boil (lit. it wants to boil).'
 'Está a punto de hervir (lit. quiere hervir).' < SFH 08 1:125/el >
- b. [kotfí'nálsiani]
 /kotfí-'nále-simi-a=ni/
 sleep-DESID-MOT-PROG=1SG.NOM
 'I am going along wanting to sleep.'
 'Voy a ir queriendo dormir.' < BFL 08 1:60/el >
- c. [awi'nálsili]
 /awi-'nále-simi-li/
 dance-DESID-MOT-PST'
 'S/he went along wanting to dance.'
 'Se fue queriendo bailar.' < SFH 08 1:75/el >
- d. [koʔ'nálimi]
 /koʔ-'nále-mi/
 eat-DESID-IRR.SG
 'S/he might want to eat.'
 'A lo mejor va a querer comer.' < SFH 08 1:122/el >

As (36b) and (36c) show, the last vowel of the long allomorph may undergo deletion (36b), but there is no evidence for syllable truncation, regardless of the presence or absence of outer suffixes.

Outside of this pattern, long and short allomorph distribution is not dependent on the stress properties nor the stress position within the stem. This is shown in (37) and (38).

- (37) Allomorph distribution and stress position: immediately post-tonic position

- a. [nori'^íwísimi]
 /nori'^íwí-simi/
 vanish-MOT
 ‘It goes along vanishing.’
 ‘Se va desapareciendo.’ [FLP in61(482)/in >
- b. [wika'râsika]
 /wika'râ-si-ka/
 sing-MOT-GER
 ‘It was going along singing.’
 ‘Iba de pasada cantando.’ < BFL 06 EJP(10)/el >

- (38) Allomorph distribution and stress position: non-immediately post-tonic position

- a. ['két̪ísimi]
 /'két̪í-simi/
 chew-MOT
 ‘S/he goes along chewing.’
 ‘Va queriendo mascar.’ < SFH 08 1:145/el >
- b. [po'lâptisio]
 /po'lâ-p-ti-si-o/
 cover-REV-REFL-MOT-EP
 ‘It goes along uncovering itself.’
 ‘Va destapándose.’ < BFL 08 1:56/el >

Long and short allomorphs are not lexically conditioned by their bases, either. This is shown in (39).

- (39) a. [o'péstʃane]
 /o'pési-tʃane/
 vomit-EV
 ‘It sounds like somebody is throwing up.’
 ‘Se oye que vomitan.’ < BFL 07 rec300/el >

- b. [o'péſtfinilo]
 /o'péſi-tſane-nale-o/
 vomit-EV-DESID-EP
 'It sounds like somebody wants to throw up.'
 'Se oye que quieren vomitar.' < BFL 07 rec300/el >
- c. [nârisimi]
 /nâri-simi/
 ask-MOT
 'He goes along asking.'
 'Va preguntando.' < SF 08 1:148/el >
- d. [nârsima]
 /nâri-simi-ma/
 ask-MOT-FUT.SG
 'S/he will go along asking.'
 'Va a ir preguntando.' < SFH 08 1:148/el >

Long allomorphs of aspect/mood markers may be followed by vocalic TAM suffixes. These vocalic suffixes replace the final vowel of the allomorph, as shown in (40).

(40) Replacement of final vowels of long allomorphs

- a. [ka'tfísnili]
 /katſi-simi-nale-i/
 spit-MOT-DESID-IMPF
 'S/he wants to go along spitting.'
 'Quiere ir escupiendo.' < SFH 08 1:75/el >
- b. [to'náltſino]
 /tò-nále-tſane-o/
 take-DESID-EV-EP
 'It sounds like they want to take it.'
 'Se oye que se lo quieren llevar.' < BFL 06 5:148/el >

As shown in (41), short allomorphs do not have their vowel replaced by these vocalic suffixes.

- (41) No vowel replacement with short allomorphs

- a. [kotfí'nálsia]
 /kotfí-'nále-simi-a/
 sleep-DESID-MOT-PROGR
 'S/he is going along wanting to sleep.'
 'Va queriéndose dormir.' < BFL 08 1:60/el >

The hypothetical and unattested form **kotfí-nal-s-a*, where the progressive *-a* suffix would replace the vowel of the short allomorph of the associated motion (*-si*), is ungrammatical with the intended reading of example (41).

A single morphologically complex word may contain more than one aspect/mood marker, given that these constructions are semantically compatible and do not exhibit any blocking effects. In these cases, the main generalizations about their distribution is the same as the one stated above: if a base containing two aspect/mood markers attaches more suffixes, then both aspect/mood markers will be short. This is shown in (42).

- (42) a. ['páksinimi]
 /páki-simi-nale-mi/
 brew-MOT-DESID-IRR.SG
 'Perhaps s/he may want to go along brewing.'
 'A lo mejor va a querer ir colando.' < SFH 08 1:147/el >
- b. [i'tfínsima]
 /i'tfí-nale-simi-ma/
 sow-DESID-MOT-FUT.SG
 'S/he will go along wanting to sow.'
 'Va a querer ir sembrando.' < LEL 06 EDCW123/el >

11.5.3.2 A prosodically motivated morpho-phonological alternation

The differences in prosodic shape between long and short allomorphs may be analyzed as resulting from a phonological process of syllable truncation, albeit one that is morphologically-conditioned, as the syllable truncation processes attested in body part incorporation and denominal verb constructions with the *-ta* suffix. The claim here is that syllable truncation, whether deleting a stem syllable or an affix syllable, is deployed in specific morphological constructions in order to satisfy the prosodic shape output forms must have.

The prosodic shape of aspect/mood markers in Choguita Rarámuri was treated in Caballero (2008) as instantiating a suppletive allomorphy pattern. The distinction between a suppletive allomorphic pattern, a morpho-lexical distinction, vs. a morpho-phonological alternation, where allomorphs are derived via phonological processes from a single underlying form, is not a trivial one (Kiparsky 1996; Paster 2006).⁹ The proposal here is that short allomorphs are derived from long allomorphs via a morphologically specific process of syllable truncation.

Choguita Rarámuri aspect/mood markers form a single morphological construction, which can be analyzed as involving V-V incorporation. The 'long' allomorphs are disyllabic, matching the canonical shape of stems in the language. These constructions are analyzed here as associated to a prosodic template, a bimoraic foot ($\sigma\mu\sigma\mu$, $\sigma\mu\mu$) which matches the minimal prosodic word in Choguita Rarámuri (more details are provided in §11.1 below) aligned to the *right* edge of the prosodic word. Relevant examples showing the proposed metrical structure of output forms is provided in (43):

(43) A bimoraic foot aligned to the right edge of the prosodic word

- a. /ko'ʔá-nale/ → [(ko'ʔá)_{Ft}-(nale)_{Ft}]_{PrWd}
eat-DESID
'S/he wants to eat.'
'Quiere comer.'
- b. /nori'wi-simi/ → [(<no>ri'wi)_{Ft}-(simi)_{Ft}]_{PrWd}
vanish-MOT
'It goes along vanishing.'
'Iba desapareciendo.'
- c. /to're-tʃane/ → [(to're)_{Ft}-(tʃane)_{Ft}]_{PrWd}
cackle-EV
'It sounds like they are cackling.'
'Suena que cacarean.'

⁹Two criteria discussed in Kiparsky (1996) are (i) whether the allomorphy pattern is specific to lexical items (suppletion) or general in the language (morpho-phonology), and (ii) whether the allomorphy pattern involves more than one segment (suppletion) or a single segment (morpho-phonology). The argument being that it is expected that morpho-phonological alternations are predictable based on general phonological processes and that general phonological processes generally target a single segment.

TAM vocalic suffixes that replace the stem final vowel do not alter the templatic requirement, allowing these vocalic suffixes to attach to disyllabic suffixes without inducing truncation. The parsing of these suffixes into the metrical structure is as follows:

(44) Parsing of vocalic TAM suffixes with long allomorphs

- a. /katʃí-simi-nale-i/ → [(ka tʃí-s)F_t-(nil-i)F_t]_{PrWd}
spit-MOT-DESID-IMPF
'S/he used to want to go along spitting.'
'Quería ir escupiendo.'
- b. /tò-nále-tʃane-o/ → [(to-nál)F_t-(tʃín-o)F_t]_{PrWd}
take-DESID-EV-EP
'It sounds like s/he wants to take it.'
'Se oye que se lo quiere llevar'

TAM suffixes with the CV shape do induce truncation of aspect/mood suffixes in order to satisfy the prosodic template requirement associated with these constructions. This is shown in (45), where deleted syllables are highlighted in boldface in the underlying representation.

(45) Truncation with TAM suffixes with CV shape

- a. /a'tʃé-nale-sa/ → (a'tʃé)F_t-(ni-sa)F_t]_{PrWd}
pour-DESID-COND
'If s/he wanted to pour it (salt).'
'Si quisiera echarle (sal).'
- b. /re?e-'bù-ri-simi-li/ → (<ri>?i-'bù-r)F_t-(si-ri)F_t]_{PrWd}
stone-gather-CAUS-MOT-PST
'S/he made him/her go along gathering stones.'
'Fue haciéndolo juntar piedras.'

Other aspects of the phonological shape of long and short allomorphs of aspect/mood suffixes is predictable based on fully general phonological processes of the language, namely the vowel quality of individual forms and the possibility of vowel deletion dependent of stress placement and position within the prosodic word. Specifically, long and short allomorphs undergo post-tonic vowel reduction or deletion, which are widespread in the language (and as described in §5.2):

non-final post-tonic vowels may be neutralized in terms of their height (e.g., /-tʃane/ [-tʃine] 'EV', /-nale/ [-ni] 'DESID') (e.g., (46a-b) or they may be deleted (e.g., /-nale/ [-nal] 'DESID', /-si/ [-s] 'MOT') (e.g., (46c-d)).

(46) Vowel reduction and deletion of long and short allomorphs

- a. [roso'wâtʃino]
/rosowâ-tʃane-o/
cough-EV-EP
'It sounds like coughing.'
'Se oye que tosen.' < BFL 07 rec301/el >
- b. [na'lànima]
/na'là-nale-ma/
cry-DESID-FUT.SG
'S/he will want to cry.'
'Va a querer llorar.' < SFH 08 1:125/el >
- c. [ko?náltilma]
/ko?a-'nále-ti-ma/
eat-DESID-CAUS-FUT.SG
'She will make him want to eat.'
'Lo va a querer hacer comer.' < SFH 07 EDCW(30)/el >
- d. [wiku'bastʃani]
/wiku'ba-simi-tʃane/
whistle-MOT-EV
'It sounds like someone is going along whistling.'
'Se oye como que van chiflando.' < SFH 08 1:158/el >

There are alternative analyses for the form and distribution of long and short allomorphs of aspect/mood suffixes in Choguita Rarámuri. One alternative would involve positing syllable truncation as a strategy to reduce the number of unparsed syllables in Prosodic Words. This hypothesis would be similar to proposals made for Hopi (Southwest US) (Gouskova 2003) and Southeastern Tepehuan (Tepiman; Mexico) (Kager 1997).

While Choguita Rarámuri lacks secondary stress, a possible alternative analysis of syllable truncation would involve optimization of metrical structure if truncation is assumed to take place when affixation contributes unparsed syllables post-tonically. Such an analysis requires the following assumptions: (i) there

is iterative syllable parsing; (ii) feet are binary; and (iii) the conditioning environment for syllable truncation is rendered opaque after truncation. This hypothetical analysis can be exemplified with a comparison between the posited metrical structure of actual forms and corresponding hypothetical abstract forms with no syllable truncation. It would thus be possible to posit that syllable truncation in these contexts is due to a mechanism that reduces unparsed syllables within Prosodic Words in Choguita Rarámuri (a mechanism enforced by a constraint such as Parse- σ or another similar rule or constraint).

This hypothesis would explain syllable truncation patterns in morphologically complex words with more than one aspect/mood disyllabic suffix (recursive compounding), where truncation would result in a form with hypothetical exhaustive parsing. This is exemplified with the analyzed form in (47).

- (47) a. /uba-simi-t \widehat{f} ane/ → (u'ba-s) F_t -(t \widehat{f} ani) F_t]_{PrWd}
 bathe-MOT-EV
 'It sounds like they are going along bathing.'
 'Suena que se van bañando.'
- b. cf. /simi/ → [-s]

This hypothesis would also predict that truncation would apply to every eligible disyllabic suffix if the output form would be exhaustively parsed into metrical feet. However, and as shown in the examples in (48), truncation does not take place every time there is recursive affixation of aspect/mood markers, even if this would optimize the surface phonological form (these examples are shown with a foot aligned to the right edge of the Prosodic word, but an alternative parsing does not affect the main argument):

- (48) a. /rara'hípa-ti-t \widehat{f} ane/ → (rara'híp) F_t ti(t \widehat{f} ane) F_t
 run.rarajipa-CAUS-EV
 'It sounds like they are making them run rarajipa.'
 'Suena que los están haciendo correr rarajipa.'
- b. *(rara'híp) F_t (ti-t \widehat{f} i) F_t
- c. /a'wí-ri-si-nale/ → (a'wí-r) F_t -si-(nili) F_t
 dance-CAUS-MOT-DESID
 'S/he wants to make her/him go long dancing.'
 'Quiere ir haciéndola bailar'

As shown in these examples, the attested forms have an unparsed syllable, while the hypothetical but unattested words with recursive syllable truncation would yield Prosodic Words with syllables exhaustively parsed into metrical feet. Thus, a single mechanism of syllable truncation to reduce unparsed syllables does not predict the attested surface forms in these contexts in Choguita Rarámuri.

In sum, the alternation that yields monosyllabic allomorphs from disyllabic ones for aspect/mood suffixes in Choguita Rarámuri does not result in global phonological optimization in the language.

11.5.4 Prosodic templates in Choguita Rarámuri

The proposal set forth here is that aspect/mood markers are a single type of construction associated to a syllable truncation process, a phenomenon also associated to body part incorporation constructions and deverbal constructions with the *-ta* ‘wear/make’ suffix (addressed in §11.5.1 and §11.5.2, above).

Syllable truncation satisfies different prosodic templates: as discussed in (X), a morphological stress rule is proposed for body part incorporation, requiring the head of the construction, the second member of the compound, to have stress in its first syllable. The first member of the compound may undergo truncation to satisfy this requirement. The same prosodic output shape is involved in the deverbal construction with the *ta* ‘make/wear’ suffix. In both cases, the resulting surface form has an extended iambic foot aligned to the left edge of the prosodic word. This prosodic shape is schematized in (49):

- (49) Prosodic template in body part incorporation and deverbal constructions
 $(<\sigma>\sigma'\sigma)_{\text{PrWd}}$

In the case of aspect/mood suffixes, the proposal above is that the prosodic template associated with these constructions involves a bimoraic foot ($\sigma\mu\mu$, $\sigma\mu\sigma\mu$). This prosodic template is aligned to the right of the Prosodic Word. This prosodic shape is schematized in (50):

- (50) Prosodic template in aspect/mood markers
 $(\sigma\mu\sigma\mu)_{\text{PrWd}}$
 $(\sigma\mu\mu)_{\text{PrWd}}$

Given their transparent relationship with independent verbs, these aspect/mood markers may be analyzed as involving *verbal compounding* as part of a process of V-V incorporation. Their association with a minimal Prosodic Word

would thus be consistent with the observation that stems are canonically disyllabic, while affixes are canonically monosyllabic. In Mountain Guarajío, Miller (1996) analyzes some verbal suffixes as straddling the boundary between verbal compounds and suffixes, including the associated motion form *-si*, the cognate form of Choguita Rarámuri associated motion *-simi* suffix, which he analyzes as an intermediate form between a compounded verbal stem and a suffix.

The allomorphy pattern documented with aspect/mood suffixes provides some clues about the prosodic organization of Choguita Rarámuri. There are two morphoprosodic restrictions in morphologically complex words in Choguita Rarámuri:

- Left edge of the prosodic word: stress is assigned within a three-syllable stress window. This is an exception-less generalization. A left aligned, extended iambic foot is associated with some morphological constructions.
- Right edge of the prosodic word: a minimal prosodic word template is associated with some morphological constructions.

12 Noun phrases

This chapter addresses the internal structure of noun phrases in Choguita Rarámuri. While the development of syntactic arguments for an in-depth characterization of these constructions lies beyond the scope of this grammar, there is evidence for the existence of a noun phrase constituent broadly defined as a syntactic constituent that may function as an argument of verbal predicates (Dryer 2007b). As described in Chapter 10, a subset of minor word classes can be characterized by their ability to head noun phrases (pronouns) or combine with head nouns in noun phrases (demonstratives, adjectives, numerals, definite articles and quantifiers). Noun phrases which contain a head noun and one of these modifiers are described in §12.1. Noun phrases that involve genitive constructions or other complex modifiers are addressed in §12.2.

12.1 Simple noun phrases

Word order in other Rarámuri varieties (Rochéachi Rarámuri (Morales Moreno 2016: 64)) and closely related varieties (Mountain Guarajío (Miller 1996: 73)) is described as being verb final, with order of constituents exhibiting both syntactic and pragmatic conditioning. While the ordering of constituents in the Choguita Rarámuri clause likewise appears to exhibit syntactic restrictions and pragmatically-determined order variation, word order within the noun phrase can be described in terms of a template, which is schematized in (1).

(1) Word order in noun phrases

Demonstrative – Definite article – [Numeral/Quantifier] – Adjective – Noun

Noun phrases, replicating the basic word order of clauses, are head final, i.e., the order of constituents in noun phrases involves modifiers preceding the head noun. In contrast to nouns, pronouns are case marked (see §10.1) and occur as the single constituent in noun phrases, though there are examples attested in the Choguita Rarámuri corpus where pronouns occur adpositionally with other nouns, as shown in (2) (see also Miller 1996:229) for description of the same phenomenon in Mountain Guarajío).

- (2) *kíti 'béli ti 'wé ri'sóati ka ru'wá tamu'hé ra'làmuli ko ba*
kíti 'béli=tí 'wé ri'só-a=tí ka
 that.is.why indeed=1PL.NOM INT struggle-PROG=1PL.NOM COP.IRR
ru'-wá tamu'hé ra'làmuli=ko ba
 say-MPASS 1PL.NOM people=EMPH CL
 ‘That is why it is said that we are very poor (struggle a lot), us the
 Rarámuri people.’
 ‘Por eso dicen que estamos muy pobres (batallamos mucho) nosotros los
 tarahumaras.’ {SFH tx128:01:58.8}

With the exception of numerals and quantifiers, which do not co-occur, all other modifiers may potentially co-occur with each other and head nouns. The discussion below addresses the behavior of each of the different elements that may modify a head noun in noun phrases and the relative ordering of modifiers when they co-occur in noun phrases.

12.1.1 Demonstratives

As discussed in §10.2.2, demonstratives may be used adnominally. Demonstratives are attested preceding the head noun in noun phrases.¹ This is exemplified in (3). Noun phrases are indicated with square brackets.

- (3) a. *aʔlì 'étfi mu'kí ko 'wé sa'pù 'wé si'nàka na* “*wé sa'pù a'sísi!*” *a'nèli*
aʔlì [étfi mu'kí]=ko 'wé sa'pù 'wé si'nà-ka na 'wé sa'pù
 and DEM woman=EMPH INT fast INT scream-GER then INT fast
a'sísi a'n-è-li
 get.up.IMP.SG say-APPL-PST
 ‘And then the woman with a hurry shouted: “hurry up, get up”, she
 said to him.’
 ‘Y entonces la mujer apurada gritando le dijo: “pronto levántate” le
 dijo.’ {LEL tx5:01:21.3}
 b. *aʔlì bi'lá ko wa'bé bi'lá ki'ʔà 'nìla ra pa, ku'rí ke tʃó me biwa'tʃéatʃí 'nà*
ka'wì ba

¹For Mountain Guarajío, Miller (1996) reports that demonstratives may follow nouns in noun phrases, though he notes this is rarely attested (1996: 235). No similar cases have been documented so far in Choguita Rarámuri.

aʔlì bi'lá=ko wa'bé bi'lá ki'ʔà 'ní-la ra pa
 and really=EMPH long.ago really before COP-REP.SG say.PRS CL
 ku'rí ke tʃó me biwa-ťfē-a-tʃí [na ka'wi] ba
 recently NEG yet almost hard-VRBL-PROG-LOC this world CL
 'And then they say it was a long time ago when this world hadn't
 consolidated (become solid) yet.
 'Y entonces dicen que fue mucho antes, cuando todavía no
 amacizaba bien este mundo.' {SFH tx43:11:11.2}

The following examples (in (4)) show that demonstratives appear in initial position when co-occurring with other modifiers within the noun phrase.²

- (4) a. 'ápu ri'ká ra'páko 'étfí bi'lé mu'kí ke na'wàlo la 'ro
 'nápi ri'ká ra'páko ['étfí bi'lé mu'kí] ke na'wà-lo-la
 SUB like.that yesterday DEM one woman NEG arrive-PST-REP.DS
 'ru
 say.PRS
 'like yesterday that one woman didn't arrive, they say'
 'así como ayer esa mujer no llegó, dicen' {JLG co1237:03:31.6}
- b. 'wé ma'tfína i'náli 'és ti kori'má
 'wé ma'tfína i'náli ['étfí ti kori'má]
 INT see.PRS go.SG-EP DEM DEF.BAD fire.bird
 'It is very noticeable when the *korima* (fire bird) is passing by.'
 'Se ve muy bien cuando va (pasa) el *korimá* (pájaro de fuego).' {LEL
 tx5:04:51.7}

In (4a), the demonstrative occurs in phrase initial position, followed by a numeral (*bi'lé* 'one') and the head noun (*mu'kí* 'woman'). In (4b), the demonstrative precedes a definite article (*ti* 'the, negative stance') and the head noun (*kori'má* 'fire bird') in the noun phrase.

12.1.2 Definite articles

Definite articles, which encode number and affective stance of a definite referent (§10.6), precede head nouns in noun phrases, as exemplified in (5).³

²As described in §3.5.2, alveopalatal affricates may depalatalize and deaffricate in fast speech in high frequency word combinations that include the demonstrative *'étfí*, as exemplified in (4b).

³As described in §10.6, while the definite articles encoding negative stance are generally attested when the speaker conveys a negative attitude towards the referent, they can also be attested with a neutral connotation, as in (5c).

- (5) a. *ke 'pé 'tâsi 'hú pa, 'wé beti 'wé wi'iñwami 'tséti er'mâno ba*
ke 'pé 'tâsi 'hú pa 'wé be=tí 'wé
 NEG little NEG COP.PRS CL INT EMPH=1PL.NOM INT
wi'iñ-w-ame [t̪éti er'mâno] ba
 believe-MPASS-PTCP DEF.PL.BAD evangelical.brothers CL
 'Well no, we believe the evangelical brothers very much.'
 'Pues no, les hacemos mucho caso a los hermanos evangélicos.' {FLP
 in243:02:08.4}
- b. *ka t̪é ko ni'rú ... 'nàri ... 'tséti 'âba t̪âbèi ko ba*
ka t̪é=ko ni'rú 'nàri [t̪éti 'âba]
 because because=EMPH COP.IMPF then DEF.PL.BAD broad.bean
t̪âbèi=ko ba
 before=EMPH CL
 'because there were no broad beans before.'
 'porque no había habas antes.' {FLP in61:02:24.4}
- c. *aʔlì bi'lá 'hípi bi'lá 'má no'kí ma'kò ma'rí bam'páma 'lé 'tí ti'wé ni'hé*
kútſara ba't̪âwara ba
aʔlì bi'lá 'hípi bi'lá 'má no'kí ma'kò ma'rí
 and indeed now indeed already almost ten five
bam'-pá-ma a'lé [tí ti'wé] ni'hé 'kútſa-la
 have.birthday-INCH-FUT.SG DUB DEF.SG girl 1SG.NOM child-POSS
ba't̪â-wa-la ba
 first-VBLZ-POSS CL
 'And now the girl, my daughter, will turn fifteen, my oldest child.'
 'Pues ahora ya la muchacha ya va a cumplir quince años, mi hija la
 más grande.' {SFH tx43:04:05.6}

Definite articles may co-occur with other modifiers in nominal phrases, including demonstratives, as shown above in (4b), and adjectives, as shown in (6).

- (6) *'t̪éram 'sûs ba, ti 't̪éram bau't̪í ma ba*
[t̪éram 'sûs] ba, [ti 't̪éram bau't̪í] ma ba
 elder Jesús CL DEF.SG elder Bautista also CL
 'elder Jesús, also elder Bautista'
 'don Jesús, también don Bautista' {ME in484:07:18.5}

12.1.3 Numerals

Numerals, like other modifiers, are attested preceding the head noun in nominal phrases. This is exemplified in (7).

- (7) a. *aʔli ́etfí kútſuala ko ́pé kúutſi ́níli o’kwâ ́kútſi ... o’kwâ i’wé, o’kwâ ́kúruwi*
aʔli ́etfí kútſua-la=ko ́pé kútſi ́ní-li [o’kwâ kútſi]
 and DEM child-POSS=EMPH little small.PL COP-PST two girls
[o’kwâ i’wé] [o’kwâ kúruwi]
 two girls two boys
 ‘And their children were small, two girls...two girls and two boys.’
 ‘Y los hijos de ellos eran chiquitos, dos niñas... dos niñas y dos
 niños.’ {LEL tx32:02:04.7}
- b. *bi’lé ari’mûli, o’kwâ ari’mûli ma, bi’kiá ari’mûli ma*
[bi’lé ari’mûli] [o’kwâ ari’mûli] ma [bi’kiá ari’mûli] ma
 one decaliter two decaliter or three decaliter or
 ‘one decaliter or two decaliters or three decaliters’
 ‘un decalitro o dos decalitros o tres decalitros’ {LEL tx68:00:25.8}

The following examples show the relative ordering of numerals and other modifiers, including demonstratives.

- (8) a. *’mí na’ó ra’wé ko ́má ku ́nèni ́píri ́jâaro*
[’mí na’ó ra’wé]=ko ́má ku iʔnèni ́píri ́â-ru
 DEM four day=EMPH already REV see.PRS what give.PST.PAS-PST.PASS
 ‘After four days they then see what they were given.’
 ‘Ya en los cuatro días ya ven lo que les dieron.’ {LEL tx19:05:37.0}
- b. *bi’lé waʔlû fiésta ori’wábatfí bi’léna biti’tfí*
[bi’lé waʔlû fiésta] ori’wába-tfí bi’lé-na biti’tfí
 one big party make.MPASS-TEMP one-INCL house
 ‘when one big party is made at one house’
 ‘cuando se hace una fiesta grande en una casa’ {GFP tx1009:00:44.9}

As shown in these examples, numerals follow demonstratives (8a) but precede adjectives (8b).

The behavior and distribution of numerals in noun phrases in Choguita Rarámuri contrasts with that of closely related Mountain Guarajío, where the most frequent order in noun phrases is that of head nouns followed by numerals (Miller 1996: 244).

12.1.4 Quantifiers

Quantifiers in Choguita Rarámuri must also precede the head noun in noun phrases, as exemplified in (9).

- (9) a. *aʔlì ko tʃó 'nà 'hônsa ko 'á bi'láni 'wé ... 'wé tʃó 'am tʃí ri'ká wi'tʃíwi tʃó 'nè 'á 'má wi'kâ na'mûti 'a*
aʔlì=ko tʃó 'nà 'hônsa=ko 'á bi'lá=ni 'wé we tʃó
 and=EMPH DEM DEM since=EMPH AFF truly=1SG.NOM INT INT also
'am tʃí ri'ká wi'tʃíwi tʃó 'nè 'á 'má [wi'kâ
 AFF=DEM DEM like.that believe.PRS also 1SG.NOM AFF already many
na'mûti] 'a
 things indeed
 'and then from there I knew how to believe in all of these things'
 'entonces de ahí ya supe cómo creer yo muchas cosas' {LEL
 tx71:04:48.6}
- b. *'wé bi'lá ... ri'sóa i'kí wi'kâ pa'kótam pa*
'wé bi'lá ri'só-a i'kí [wi'kâ pa'kót-ame] pa
 INT indeed suffer-PROG happened many wash-PTCP CL
 'Indeed many people died (they endured suffering).'
 'En verdad murieron muchas personas (les pasó sufrimiento).' {LEL
 tx372:04:51.5}
- c. *'ápi i'sélikami 'ká 'lé, bi'kiánika, su'wâba ma'jôra ma*
'ápi [i'-séri-kami] 'ká a'lé bi'kiá-ni-ka [su'wâba
 SUB PL-governor.PL-PTCP COP.IRR DUB three-INCL-COLL all
ma'jôra] ma
 manager also
 'those who are governors, the three of them, all of the managers,
 too'
 'los que son gobernadores, los tres (gobernadores), todos los
 mayores también' {JMF tx816:00:36.7}

As described in §10.5, some quantifiers in Choguita Rarámuri are derived from numerals (e.g., *o'kwâ* 'few' is derived from the numeral 'two'). There are no recorded instances of numerals and quantifiers co-occurring in noun phrases. Quantifiers may nevertheless co-occur with other modifiers, including demonstratives, as shown in (10).

- (10) *aʔlì 'étfi fi'néami ra'làmuli ko 'hê a'níli*
aʔlì [étfì si'néami ra'làmuli]=ko 'hê a'ní-li
 then DEM everyone men=EMPH it say-PST
 'then all the men said'
 'entonces todos los hombres dijeron' {LEL tx32:06:32.5}

12.1.5 Adjectives

Adjectives in Choguita Rarámuri may be basic (a small class of underived adjective roots) or may be derived through morphological means (§10.3). Adjectives, both basic and derived, may also be used predicatively in copular clauses (§13.2.3). A comprehensive description of adjectives in Choguita Rarámuri is provided in Islas Flores (2010). This section addresses the distribution of basic adjectives in noun phrases. As shown in (11), adjectives precede head nouns.

- (11) a. *aʔlì ne ma'hâali es 'kútfi ko'tfi] ko*
aʔlì ne ma'hâ-li es [kútfi ko'tfi]=ko
 and INT fear-PST DEM little dog=EMPH
 'And the dog got very scared.'
 'Y se asustó mucho el perrito.' {BFL tx191:04:24.7}
- b. *waʔlû kapa'ni a'nítfini ba*
[waʔlû kapa'ni] a'ní-tfini ba
 big bell make.sound-EV.SOUND CL
 'The big bell rang (was heard).'
 'Se oyó sonar la campana grande.' {LEL tx223:03:29.1}

The following example (shown above in (8b) and repeated here in (12)) shows the relative ordering of adjectives with respect to other modifiers within noun phrases, namely following numerals and preceding the head noun.

- (12) *bi'lé waʔlû fiêsta ori'wábatfi bi'léna biti'tfi*
[bi'lé waʔlû fiêsta] ori'wába-tfi bi'lé-na biti'tfi
 one big party make.MPASS-TEMP one-INCL house
 'when one big party is made at one house'
 'cuando se hace una fiesta grande en una casa' {GFP tx1009:00:44.9}

Adjectives may be modified by adverbs, as shown in (13), where a degree adverb, *we* 'very', modifies the adjective *tʃâti*, which in turn modifies the head noun (the deverbal noun *nawi'ri* 'disease').

- (13) *ap?alì nawi'ri na'wà 'síli we 'tfáti nawi'ri 'hémí na'ñ pueblo*
 'nápi a?lì nawi'-ri na'wà 'sí-li [we 'tfáti nawi'-ri] 'hémí
 SUB and get.sick-NMLZ arrive go.SG-PST INT ugly get.sick-NMLZ this
na'ñ pueblo
 here town
 'when a very dangerous (ugly) disease arrived in this town'
 'cuando llegó una enfermedad muy peligrosa en este pueblo' {LEL
 tx372:00:24.0}

The distribution of adjectives in noun phrases in Choguita Rarámuri differs from that of adjectives in Mountain Guarajío noun phrases, where adjectives can be attested post-nominally or may appear in discontinuous constructions (Miller 1996). With adjectives and other types of modifiers, Choguita Rarámuri exhibits stricter ordering restrictions within the noun phrase than those attested in Mountain Guarajío.

12.2 Complex noun phrases: Possessive constructions

Choguita Rarámuri possessive constructions involve a noun modified by a noun phrase encoding a range of meanings, including part-whole relationships and possession or ownership. The term 'possessive' is used here to refer to adnominal constructions, even if the semantic relations encoded by the construction do not involve possession. Examples of possessive constructions with different meanings are exemplified in (14).

- (14) Choguita Rarámuri possessive constructions

- a. *Meronymic (part-whole)*
'mësa ro'nôla
'mësa ro'nô-la
 table leg-POSS
 'the table's leg'
 'la pata de la mesa' < BFL 09 1:33/el >
- b. *Possession*
ra'niêli u'pila
ra'niêli u'pî-la
 Daniel wife-POSS
 'Daniel's wife'
 'la esposa de Daniel' {LEL tx5:03:03.8}

As discussed in §8.4.1, Choguita Rarámuri exhibits possessive classification, where there is a contrast between two types of possession, alienable and inalienable, determined by the lexical properties of possessed nouns. Inalienable nouns (kinship terms, body parts and other nouns) are obligatorily possessed. Both alienable and inalienable nouns may be used in a possessive construction. The schema in (15) shows the possessive construction template.⁴

- (15) [[possessor: noun/pronoun]_{N1} [possessum: noun-POSS]_{N2}]_{NP}

The possessum takes the possessive suffix (POSS) *-la* (optionally preceded by a suffix *-wa* with some nouns) that encodes a possessor, with no person marking on the possessed noun.

12.2.1 Nominal possessors

Examples of possessive constructions with nominal possessors are provided in (16), which follow the template schematized in (15): a possessor noun precedes the possessum marked with the possessive suffix.

- (16) a. *tʃoma'lî aʔ'wâla*
tʃoma'lî aʔ'wâ-la
 deer horn-POSS
 'deer's horn'
 'cuerno de venado' {SFH tx152:07:40.4}
- b. *te'wé mai'lâ*
te'wé mai-łâ
 girl father.FEMALE.EGO-POSS
 'girl's father'
 'papá de la muchacha' {LEL tx32:13:56.7}
- c. *re'hoi ari'wâla*
re'hoi ari'wâ-la
 man soul-POSS
 'man's soul'

⁴Mountain Guarijío (Miller 1996) and Norogachi Rarámuri (Brambila 1953; 1976) are documented to possess a classifier for domesticated animals (*puhkú* in Mountain Guarijío, *bukú* in Norogachi Rarámuri), marked with the possessive suffix and followed by the specific animal name. This construction has not been documented in Choguita Rarámuri, which instead encodes possession of domesticated or mythical animals through a specialized denominal verb of possession, as described in §9.3.5.4 (a strategy also documented in Mountain Guarijío (Miller 1996: 149)).

‘alma del hombre’ {LEL tx5:01:11.3}

There are no attested instances of possessive constructions with nominal possessors with alternative order of possessor and possessum, nor instances of intervening elements between possessor and possessum in the Choguita Rarámuri corpus (a separate appositional construction that encodes a possession relationship through a specialized possessive noun is described in §12.2.3 below).

12.2.2 Pronominal possessors

The Choguita Rarámuri possessive construction with pronominal possessors exhibits the same structure as the one with nominal possessors: the possessor precedes the possessum, which is marked with the suffix *-la* to encode a possessor. Examples of pronominal possessors are provided in (17). As discussed in §10.1, personal pronouns encode case in Choguita Rarámuri. Pronominal possessors are encoded with the nominative-marked pronoun series.

- (17) a. *'nè wa'sála*
 'nè wa'sá-lâ
 1SG.NOM cultivation.land-poss
 ‘my cultivation land’
 ‘mi tierra de cultivo’ < BFL 09 1:61/el >
- b. *'mò u'mâala*
 'mò u'mâa-la
 2SG.NOM grandfather-POSS
 ‘your great grandfather’
 ‘tu bisabuelo’ {FLP in61:04:55.2}
- c. *'émi o'tfípala*
 'émi o'tfípa-la
 2PL.NOM paternal.grandfather-POSS
 ‘your (pl.) grandfather’
 ‘abuelo de ustedes’ {SFH tx12:09:13.8}

- d. *'nè wa'rla*
 'nè wa'rla
 1SG.NOM basket-POSS
 'my basket'
 'mi canasta' < BFL 11/07/09/el >

Pronominal possessors exhibit variation between the full and reduced forms in possessive constructions with no apparent grammatical conditioning, as shown by the examples in (18), which are equivalent in meaning.⁵

- (18) a. *ne'hē ijēla*
 ne'hē ijē-la
 1SG.NOM mother-POSS
 'my mother'
 'mi madre' {SFH tx475:06:17.3}
 b. *'nè ijēla*
 'nè ijē-la
 1SG.NOM mother-POSS
 'my mother'
 'mi madre' {BFL tx1:00:55.5}

There are cases attested where the pronominal possessor is omitted, if the possessor is a third person argument. This is exemplified in (19), where the possessor is established previously in the discourse.

- (19) *aʔli ko 'kútala bi'lá ono'káli ba 'kini 'tío ba*
 aʔli=ko 'kútala bi'lá ono'káli ba 'kini 'tío ba
 and=EMPH children-POSS indeed do-PST CL 1.POSS uncles CL
 'And then later the children do it (plow), my uncles.'
 'Y luego ya después lo hacen (barbechan) los hijos, mis tíos.' {LEL
 tx130:05:13.3}

Choguita Rarámuri also has a dedicated pronominal form encoding first person possessors (singular or plural) of kinship terms. This is exemplified above in (19) ('*kini 'tío* 'my uncles'), and further exemplified in (20).

⁵This kind of system is also reported in Rochéachi Rarámuri, though Morales Moreno (2016) describes restrictions in the distribution of reduced pronominal forms in Rochéachi Rarámuri (2016: 72). In the Choguita Rarámuri corpus the long vs. short forms appear to be interchangeable, with a higher frequency of the short forms, though no detailed counts have been carried out controlling for discourse contexts.

- (20) a. “*nà ko siʔ'rînuwala pa'kóala 'kám pa*” *hê bi'lá a'ni' étfi 'kîni 'wênuwa tʃâ'bè*
'na=ko siʔ'rînuwala pa'kó-a-la 'ká=mi
 THIS.ONE=EMPH shirínuwala.ritual baptize-PROG-PURP COP.IRR=DEM
pa hê bi'lá a'ni' étfi 'kîni 'wênuwa tʃâ'bè
 CL it indeed say.PRS DEM 1.POSS parents before
 “This is the one that baptizes with shirínuwala”, that’s what our
 parents used to say long ago.’
 “Este es el que bautiza de shirínuwala”, eso decían nuestros padres
 antes.’ {SFH tx475:07:57.9}
- b. *'nápu 'ri'ká ke na'tâsa 'kîni 'wênuwala 'ro ba 'ni*
'nápu 'ri'ká ke na'tâ-sa 'kîni 'wênuwa-la 'ru ba 'ni
 like that NEG think-COND 1.POSS parents-POSS say.PRS CL indeed
 ‘Like when they say our parents don’t think.’
 ‘Como cuando dicen que no piensan nuestros padres.’ {SFH
 tx475:08:17.7}

The use of the possessive suffix appears to be optional when the pronominal possessor is *'kîni*, as exemplified above, where the possessive suffix is omitted in (20a) but attested in the same lexical item in (20b). As shown in (21), both a nominative-marked pronoun and a possessive pronoun can be employed in pronominal possessive constructions involving kinship terms.

- (21) a. *'kîni apa'lótfi*
'kîni apa'lótfi
 1POSS maternal.grandfather
 ‘my maternal grandfather’
 ‘mi abuelo materno’ {LEL tx109:00:28.4}
- b. *ni'hê apa'lótfsala*
ni'hê apa'lótfsa-la
 1SG.NOM maternal.grandfather-POSS
 ‘my maternal grandfather’
 ‘mi abuelo materno’ {LEL tx109:00:46.8}

While the possessive suffix is omitted with the possessive pronominal in (21a), it is attested, and in fact, required, with the nominative-case marked pronominal possessor in (21b).

In other Rarámuri varieties, a full set of dedicated possessive pronouns for kinship terms are documented: in Norogachi Rarámuri, Brambila (1976) reports

possessive pronouns that contrast both number and person for speech act participants (*kene* '1SG.POSS', *kemu* '2SG.POSS', *keti* '1PL.POSS', and *ketumu* '2PL.POSS'), with a single form encoding third person possessors (*kepu* '3POSS') (1976: 246–248). In contrast, only the first person possessor is encoded with a dedicated pronominal form in Choguita Rarámuri.

12.2.3 Appositive possessive constructions

In addition to the head-marking strategy for marking possession, Choguita Rarámuri has an alternative way of expressing a possession relationship through an appositional construction with '*níwa*', which may be used predicatively as a verb meaning 'to have', but which behaves as a grammatically specialized possessive noun in possessive constructions '*níwa*' (glossed below as 'have'). The root '*níwa*' as a possessive noun is marked with the possessive *-lā* suffix and is part of a possessive phrase. These constructions are exemplified in (22):

(22) Appositive possessive noun construction

- a. *ni'he' níala é̄f̄i ko'bísi*
ne'he' níwa-lâ é̄f̄i ko'bísi
 1SG.NOM have-POSS DEM pinole
 'It is mine that pinole.'
 'Es mío ese pinole.' < FMF 09 3:32/el >
- b. *kúmi bu'yi 'nè' níala wi'tfá*
kúmi bu'yi 'nè' níwa-lâ wi'tfá
 where lie.SG 1SG.NOM have-POSS needle
 'Where is my needle?'
 '¿Dónde está mi aguja?' < BFL 11/07/09/el >
- c. *nà ko 'nè' níala 'libro ko*
na=ko 'nè' níwa-lâ 'libro ko
 PROX=EMPH 1SG.NOM have-POSS book EMPH
 'This here is my book.'
 'Este es mi libro.' < BFL 06 4:187-189/el >

The nouns in these constructions with the possessive noun '*níwa*' have not been documented with the head-marking possessive strategy, which suggests this constitutes a class of non-possessible nouns in Choguita Rarámuri. Further evidence of the difference between the head-marking possessive vs. possessive noun strategy is shown in the following example, where the possessed noun *sa'pá*

‘flesh’ appears with head-marking when inalienably possessed (23a), but appears with the possessive noun construction in the alienable possession reading (23b) (where ‘meat’ refers to meat severed from a cow).

(23) Inalienable vs. alienable possession

- a. *ni'�e saʔpála*
ne'�e saʔpá-lâ
1SG.NOM meat-POSS
‘my flesh’
‘mi carne (de mi cuerpo)’ < FMF 09 3:32/el >
- b. *ni'�e 'níala saʔpá*
ne'�e 'níwa-lâ saʔpá
1SG.NOM have-POSS meat
‘my meat (to eat)’
‘mi carne (para comer)’ < FMF 09 3:32/el >

These constructions resemble minimal appositive possessive constructions as documented in Ainu (Bugaeva et al. 2021; Johanna Nichols, p.c.).

13 Basic clause types

This chapter describes several specialized basic clause types in Choguita Rarámuri in terms of their internal structure and the type of predicate heading each clause type. A first distinction is made between clauses headed by verbal predicates and those headed by nonverbal predicates. Clauses headed by verbal predicates are described in terms of their argument structure, including the distinction between intransitive and transitive clauses. Non-verbal clauses are described in terms of whether they are headed by nominal or locative predicates. The basic Choguita Rarámuri clause consists of a predicate and the arguments it subcategorizes for. Core arguments take the form of noun phrases, whether nouns (with or without modifiers), or personal pronouns (see Chapter 12). From these, only pronominal forms encode core grammatical relations (i.e., there is no case marking in nominals). Given that noun phrases can be elided, a minimal clause in Choguita Rarámuri consists of an inflected verbal predicate. The classification of clauses into intransitive, transitive and ditransitive is thus based on their potential syntactic configuration, even if core arguments are not overtly expressed in the clause.

This chapter is organized according to both structural and functional characteristics of clause types. Clauses headed by verbal predicates are described in §13.1. The morphosyntactic properties of core grammatical relations in basic verbal clauses is discussed in §13.1.1. The basic properties of intransitive clauses are described in §13.1.2, those of monotransitive clauses are addressed in §13.1.3, while ditransitive clauses are described in §13.1.4. Clauses headed by non-verbal predicates are addressed in §13.2. A brief description of different types of copulas is given in §13.2.1; copular clauses involving nominal predicates are described in §13.2.2; clauses headed by locative predicates are described in §13.2.3. The chapter concludes in §13.2.4 with a description of existential clauses headed by predicates of possession.

13.1 Verbal clauses

This section describes the properties of intransitive, monotransitive and ditransitive clauses. Before turning to each type of predicate, a description of the mor-

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phosyntactic criteria that allow identifying core grammatical relations in Choguita Rarámuri is provided first.

13.1.1 Basic clause types and transitivity properties

Clauses are structurally distinguished by predicate type and valency. Determining a particular predicate's valency is, however, not trivial, since there is no case marking of core grammatical functions in nouns, and only pronominal forms exhibit a distinction for subject and object marking. Some morphosyntactic criteria that help identify core grammatical relations are summarized in (1):

- (1) The morphosyntactic properties of core grammatical relations in Choguita Rarámuri
 - a. First and second person subjects are encoded by subject-marked pronouns.
 - b. First and second person objects are encoded by object-marked pronouns.
 - c. The subject of a basic intransitive clause corresponds to the direct object of a derived transitive clause when the verb undergoes a causative (valence increasing) operation.
 - d. The new participant introduced through a causative (valence increasing) operation is encoded as the subject.
 - e. A valence decreasing operation (passive) will demote the subject, direct object or recipient argument (primary object in ditransitive clauses) to a peripheral status (the adjunct argument appears in a postpositional phrase or is completely omitted).
 - f. Benefactive participants in ditransitive clauses (basic or derived through applicativization) may be encoded by object pronouns.

Table 13.1 and Table 13.2 below summarize the subject/object distinctions of free pronominal forms and their enclitic counterparts (free subject and object pronouns are given in parenthesis). For the description of the morphological properties of pronominal forms, see Chapter 10.

The forms in (2) illustrate properties (1a–d): in the causative construction in (2c), the object corresponds to the subject of its basic, non-causative counterpart (2a) and its applicative, non-causative counterpart (2b) (property (1c)); the causer argument introduced through the valence increasing derivation is case marked as subject (property (1d)).

Table 13.1: Free personal pronouns

	Subject	Object
1SG	ne'hê, 'nè	ta'mí
2SG	mu'hê, 'mò	'mí
1PL	tamu'hê, ta'mò	ta'mò
2PL	'émi	'mí

Table 13.2: Pronominal enclitic forms

	Subject	Object
1SG	=ni (ne'hê, 'nè)	(ta'mí)
2SG	=mi (mu'hê, 'mò)	('mí)
1PL	=ti (tamu'hê, ta'mò)	(ta'mò)
2PL	=timi ('émi)	('mí)

(2) Morphosyntactic marking in a basic clause and related causative construction

a. *Basic construction*

aʔlì kútʃí i'wé ko 'má tʃí bilá tʃó 'nàri ko'bìria tʃó, ri'méa, mo'léra, wi'tʃoa ma

aʔlì kútʃí i'wé=ko 'má tʃí bilá tʃó 'nàri ko'bì-ri-a

and young girls=EMPH like all really also DEM pinole-VBLZ-PROG

tʃó ri'mé-a mo'lér-a wi'tʃó-a ma

also make.tortillas-PROG grind-PROG wash.clothes-PROG also

‘And the girls also (learn how to do) many things, making pinole, making tortillas, grinding, washing, too.’

‘Y las niñas también (aprenden a hacer) muchas cosas, a hacer pinole, hacer tortillas, moler, lavar también.’

{LEL tx73:0:46.0}

b. *Applicative (non-causative construction)*

'nè mi ri'ménira

'nè=mi re'mé-ni-ra

1SG.NOM=2SG.ACC make.tortillas-APPL-POT

‘I can make tortillas for you.’

‘Yo te hago tortillas.’ < BFL 08 1:161/el >

c. *Causative construction*

'mín 'nè ono'lâ ri'mêentima
 'mí=ni 'nè ono'-lâ
 2SG.ACC=1SG.NOM 1SG.NOM father-POSS
 ri'mê-ni-ti-ma
 make.tortillas-APPL-CAUS-FUT.SG
 'I will make you make tortillas for my dad.'
 'Te voy a hacer que le hagas tortillas a mi papá.' < BFL 08 1:161/el >

Example (3) illustrates properties (1e–f): in the basic construction in (3a), the benefactive argument of an active ditransitive verb is encoded by an object pronoun (property (1f)); in the passive correlate of this basic construction, the agent argument of the ditransitive verb is demoted and omitted (property (1e)).

(3) a. *Basic construction*

'mò 'jéla ta'mí ha'ré ga'jêta 'àko
 'mò 'jé-la ta'mí ha'ré ga'jêta 'à-ki-o
 2SG.NOM mother-POSS 1SG.ACC some cookie give-PST.EGO-EP
 'Your mom gave me some cookies.'
 'Tu mamá me dió unas galletas.' < BFL 09 1:89/el >
 b. *Passive construction*
 a'jéna, 'pé 'táa kan 'hônsa 't̪íri 'àari
 a'jéna 'pé 'tá ka=ni 'hônsa 'étfí 'jíri 'à-ru
 yes little small COP.IRR=1SG.NOM since DEM kind give-PST.PASS
 'Yes, since I was very small I was given that.'
 'Sí, desde chiquito me dieron eso.' < FLP 06 in61(441)/in >

The next subsections review the basic properties of intransitive (§13.1.2), transitive (§13.1.3) and ditransitive (§13.1.4) clauses.

13.1.2 Intransitive clauses

Choguita Rarámuri intransitive verbs are monovalent verbs that subcategorize for a single, nominative case argument. As mentioned above, morphological case marking of core grammatical relations is only evident in pronominal forms, with dedicated subject and object forms. The following examples illustrate intransitive clauses with pronominal arguments (4a–c) and noun phrase subject arguments (4d–e). Subject arguments are indicated in square brackets.

(4) Intransitive clauses

- a. *ne'�e 'p  o'kw  ra?i't  ma kori'm  'h tara*
 $[ne'�e]_{SUBJ}$ 'p  o'kw  ra?i't  ma kori'm  'h tara
 1SG.NOM just couple speak-FUT.SG fire.bird about
 'I'll speak a little (lit. just a couple) about the *korima*, the fire bird.'
 'Yo voy a hablar poquito del p jaro *korim *' {LEL tx5:0:22.9}
- b. *na'l na ho 'h p ko 'm  b l  ke 'm  wi't  wa a'l  pa*
 'n  a'l  'n =ko 'h pi=ko 'm  b l  ke 'm 
 DEM and DEM=EMPH today=EMPH anymore indeed NEG almost
wi't  wa a'l  pa
 believe.PRS DUB CL
 'And now today we don't believe anymore.'
 'Y ahora ya no creemos.' {GFM tx905:1:47.1}
- c. *a?l  'h pi ko b l t  mi ke b l  'p  't  si t  f  ri'k  ' ni ' mi ko ba a'n  b *
 $a?l  'h pi=ko$ $be'l =[t  mi]_{SUBJ}$ ke b l  'p  't  si ' f  ri'k  ' na
 and now=EMPH really=2PL.NOM NEG one just NEG DEM like go.PL
' mi=ko ba a'n  bi
 2PL.NOM=EMPH CL say.PRS EMPH
 'And now you all do not live (go around) like that, you all.'
 'Y ahora ustedes no andan as , ustedes.' {SFH tx12:3:42.7}
- d. *t  f  b  ki?  n  b l  kori'm  na'w -li b l -na biti't  *
 $t  f  b  ki?  n $ $[b l  kori'm ]_{SUBJ}$ na'w -li b l -na
 before long.ago there one fire.bird arrive-PST one-INCL
biti't  
 house
 'Long time ago, one fire bird (*korima*) arrived there at one house.'
 'Hace mucho tiempo lleg  un p jaro de fuego (*korim *) en una casa.'
 {LEL tx5:0:26.4}
- e. *we t  f  b  ki?  ko ne b l  ra's ra na't  ami 'n li ' f  si 'n ri ra'?'it  f  ri a'l *
 we $t  f  b  ki? =ko$ ne $be'l $ $ra's ra$ $na't  -ame$ 'n li
 INT before long=EMPH INT indeed more have.value-PTCP COP-PST
 $[\acute{e}f  si 'n ri ra'?'it  f  ri]$ _{SUBJ}
 DEM this speak-NMLZ
 'Long time ago, this talk was very important.'
 'Antes era m s valiosa la pl tica.' {JMF tx817:0:00.0}

Intransitive clauses may be headed by verbs that have been derived through a valence-decreasing operation, such as the passive construction exemplified in (5).

- (5) *'tòoru graba'dôra*
'tò-ru [graba'dôra]_{SUBJ}
 take-PST.PASS recorder
 ‘The recorder was taken.’
 ‘Se llevaron la grabadora.’ < SFH 08 1:45/el >

Intransitive clauses tend to display a verb final order, but, as shown in (5), there are no strict restrictions about order of verb and noun phrase in these clauses.

13.1.3 Transitive clauses

Predicates heading transitive clauses subcategorize for a subject noun phrase (marked as subject if pronominal) and a single object noun phrase (marked as object if pronominal). The forms in (6) illustrate transitive clauses where the single object noun phrase is indicated in square brackets.

- (6) Transitive clauses
- a. *ba?a'rîni 'mí 'áma*
ba?a'rî=ni ['mí]_{OBJ} 'á-ma
 tomorrow=1SG.NOM 2SG.ACC look.for-FUT.SG
 ‘I’ll look for you tomorrow.’
 ‘Mañana te busco.’ < LEL 09 1:70/el >
 - b. *a?lì tñi'hônsa 'étñi ri'hò ba'hîsa 'ká 'étñi tño?má*
a?lì tñi'hônsa 'étñi ri'hòi ba'hî-sa 'ká ['étñi tño?má]_{OBJ}
 and then DEM man drink-COND IRR DEM snot
 ‘and if the man would have drank the snot’
 ‘y si el hombre hubiera tomado el moco’ < SFH 06 choma(21)/tx >
 - c. *maññi'bô bi'láti 'lá tamu'hê na 'éññi mu'hê 'nâtara 'nápumi ri'ká 'hônsa o'tsérili mu'hê*
maññi'-bô be'lá=tí o'lá tamu'hê na ['éññi mu'hê
 know-FUT.PL really=1PL.NOM CER 1PL.NOM DEM DEM 2SG.NOM
'nâtara 'nápi=mi re'ká 'hônsa o'tsérili mu'hê]_{OBJ}
 think-POSS SUB=2SG.NOM like since grow-PST 2SG.NOM
 ‘We will know your thoughts of the time when you were growing up.’

‘Nosotros vamos a saber tus pensamientos desde que tu creciste.’
{SFH in61:0:22.1}

- d. *'hê ri'gá bi'láni 'mí ru'wêma 'étfi su'wâbuka pa'góntami*
'hê re'ká be'lá-ni *'mí ru-é-ma* *[étfi su'wâbika*
DEM like indeed=1PL.NOM DIST say-APPL-FUT.SG DEM all
*pa'góntame]*_{OBJ}
people
‘That is how it is over there, that is what I will tell all the people.’
‘Así es por allí, así les voy a decir a toda la gente.’ {JMF tx817:1:10.0}

e. *apa'lì itfí'rûa wili'sâ 'ká 'nàri pa'tfí mu'rúfia ru'wá ma*
'nápi a'lì itfí'rû-a *wili'-sâ* *'ká 'nàri [pa'tfí]*_{OBJ}
SUB and plant-PST.PASS-PROG stand-COND IRR then corn
mu'rú-si-a *ru'-wá* *ma*
carry.in.arms-MOT-PROG say-MPASS also
‘And when it was sown (standing plant corn) they say the corn was
taken.’
‘Y cuando está sembrado el maíz era llevado, dicen.’ {LEL tx32:1:34.7}

Transitive clauses may be derived through valence increasing operations, such as causative, transitive and applicative, applying to intransitive predicates, as exemplified in (2) above. Transitive predicates may also take clausal complements (for a discussion of the syntax of complementation cross-linguistically, see Cristofaro 2005 and Noonan 2007). Examples of complement-taking transitive verbs are given in (7) (in these examples, complement-taking verbs are in boldface and complement clauses in square brackets).

(7) Complement-taking transitive verbs

- a. *aʔlì a 'já sa'jèli na'wàatfí 'étfí kori'má pa'tfá biti'tfí ba'kíli aʔlì a 'já sa'jè-li [na'wà-a-tfí 'étfí kori'má pa'tfá biti'tfí and AFF soon feel-PST arrive-PROG-LOC DEM fire.bird inside house ba'kí-li]*
go.in.SG-PST
'And then they felt when the fire bird arrived and when he went inside the house.'

'Y luego sintieron cuando llegó el *pájaro de fuego* y cuando entró adentro a la casa.' {LEL tx5:00:42.8}

b. *'nè ko 'tfé 'émi ra'pákó ku si'méo ma'jé*

'nè=ko [t̪é 'émi ra'pâko ku si-'mêa] ma'jê
 1SG.NOM=EMPH again 2PL.ACC yesterday REV go.SG-FUT.SG believe
 'I thought you guys would come back yesterday.'
 'Yo creía que iban a llegar ayer.' < BFL 09 1:57/el >

Complement clauses in Choguita Rarámuri are described in §15.1.

13.1.4 Ditransitive clauses

Ditransitive clauses in Choguita Rarámuri subcategorize for three core arguments, one subject noun phrase (case-marked as nominative if pronominal), and two objects, a recipient-like (“R”) argument and a theme-like (“T”) argument (with Theme defined as “something which undergoes a change in location or to which a location is attributed” (Dryer 2007a)). As the following examples show, recipient (R) arguments are marked as objects, patterning together with single object arguments of monotransitive verbs: in (8a–b), the recipient argument is encoded through the object pronoun (*ta'mí* ‘1SG.ACC’). In contrast, the theme (T) argument, if pronominal, is encoded with the subject pronoun (*'émi* ‘2PL.NOM’).¹

(8) Ditransitive clauses

- a. *riwi'rít̪í bi'téami t̪é ta'mí 'émi 'àki*
 $[riwi'rít̪í bi'te-ame]_{SUBJ}$ $t̪é [ta'mí]_R$ $['émi]_T$ 'à-ki
 Tewirichi inhabit.SG-PTCP t̪é 1SG.ACC 2PL.NOM give-PST.EGO
 'People from Tewirichi gave you guys to me (for adoption).'
 'Unos de Tewirichi me los dieron a ustedes (en adopción).' < BFL 09 1:89/el >
- b. *'mò 'jéla ta'mí ha'ré ga'jéta 'àko*
 $['mò 'jé-la]_{SUBJ}$ $[ta'mí]_R$ $[ha'ré ga'jéta]_T$ 'à-k-o
 2SG.NOM mother-POSS 1SG.ACC some cookie give-PST.EGO-EP
 'Your mom gave me some cookies.'
 'Tu mamá me dió unas galletas.' < BFL 09 1:89/el >

This pattern, where recipient arguments of ditransitive predicates and objects of monotransitive predicates pattern together as being object-marked, suggests

¹This contrasts with the case marking pattern found in closely-related Yaqui (Taracahitian), where some ditransitive verbs license accusative marking on both a theme and beneficiary arguments (Guerrero Valenzuela & Van Valin 2004).

that Choguita Rarámuri is a primary object language, as argued for other Uto-Aztecan languages, e.g., Huichol (Corachol; Comrie 1982) (see also Dryer 1986 and Dryer 2007a). Other Uto-Aztecan languages that have been described as primary object languages include Cora (Corachol; Vázquez Soto 2002), South-eastern Tepehuan (Tepiman; García Salido 2007a), and Yaqui (Taracahitan; Felix Armendáriz 2000, Guerrero Valenzuela & Van Valin 2004).

Ditransitive clauses with three non-pronominal core argument noun phrases are very infrequently attested in the Choguita Rarámuri corpus. Documented ditransitive clauses with non-pronominal noun phrases suggest that the order of arguments is S-T(heme)-R(ipient), with a high degree of flexibility regarding the placement of object noun phrases with respect to the verbal predicate, as exemplified in (9).

(9) Order of nominal noun phrases in ditransitive clauses

a. S-T-V-R

'mí mu'kí 'dûlse 'àli 'kûruwi
 $['mí mu'kí]_{subj} ['dûlse]_T 'à-li [kûruwi]_R$
 DIST woman candy give-PST children
 'That woman gave the children candy.'
 'Esa mujer les dió dulces a los niños.' < SFH 09 3:51/el >

b. S-T-V-R

kumu'tê 'lâmina 'èbili ra'lâmuli
 $[kumu'tê]_{subj} ['lâmina]_T 'èbi-li [ra'lâmuli]_R$
 sheriff tin.roof bring.APPL-PST people
 'The sheriff brought tin roof for the people.'
 'El comisariado les trajo lámina a la gente.' < SFH 09 3:51/el >

c. S-V-T-R

'étfi mu'kí ko ka tse 'àli li'môsna ta ro'wéami ba
 $['étfi mu'kí]_{SUBJ}=ko ka tse 'à-li [li'môsna]_T [ta$
 DEM woman=EMPH NEG NEG give-PST present DET.SG
 $ro'wé-ame]_R ba$
 run.womens.race-PTCP CL

'Those women did not give a present to the (winning) runner.'

'Esas mujeres no le dieron limosna a la corredora.' < BFL 09 1:89/el >

d. V-T-R

'pé a'lá ami'nábi 'àa busu'rêro t'fô 'lé [kîni kút'fûwa] lîna 'nòt'fâ ko'?
 $'pé a'lá ami'nábi 'àa busu'rêro t'fô 'lé [kîni kút'fûwa] lîna 'nòt'fâ ko'?$

'pé aʔlá ami'nábi 'à-a [busu're-ro]_T 'iʃó a'lé [kíni
 just well more give-PROG wake.up-NMLZ also DUB our
 'kútsuwa]_R lína 'nótʃá ko'rá 'iʃó
 children so.that work.PRS eat.PRS also
 'But we must give our children more advice so that they will eat
 (sustain themselves) from their work.'

'Pero hay que darle más consejo a nuestros hijos, para que trabajen
 y coman (de su trabajo).' < SFH 06 in61(713)/in >

e. S-V-T-R

'mí mu'kí 'wé na'téami 'áli a'súkar 'kúruwi
 [mí mu'kí]_{subj} 'wé na'té-ame 'á-li [a'súkar]_T [kúruwi]_R/
 DIST woman INT cost-PTCP give-PST sugar children
 'That woman gave (sold) the sugar to the children for very
 expensive.'

'Esa mujer les dió (vendió) azúcar muy cara a los niños.' < SFH 09
 3:52/el >

As shown in these examples, the theme argument may appear pre-verbally (9a–b), or both theme and recipient may appear post-verbally (9c–e). On the other hand, in clauses with both pronominal and nominal noun phrases, pronominal arguments tend to be expressed pre-verbally, while non-pronominal arguments tend to be expressed post-verbally: in (9a–b, e) above, both theme and recipient noun phrases are non-pronominal and post-verbal, while in (10) below, pronominal objects are placed pre-verbally (the recipient argument in (10a–b), and the theme argument in (10c)).

(10) Order of nominal and pronominal elements in ditransitive clauses

a. S-R-V-T

'étfí mu'kí ko ka tʃé ta'mí àa li'môsna ba
 [étfí mu'kí]_{subj}=ko ka tʃé [ta'mí]_R à-a [li'môsna]_T ba
 DEM woman=EMPH NEG NEG 1SG.ACC give-PROG present CL
 'Those women didn't give me a present.'
 'Esas mujeres no me dieron limosna.' < BFL 09 1:89/el >

b. S-R-V-T

'mí mu'kí 'wé na'téami ta'mí raʔli'kí a'súkar
 [mí mu'kí]_S 'wé na'té-ame [ta'mí]_R raʔli'kí [a'súkar]_T
 DIST woman INT cost-PTCP 1SG.ACC sell.PST sugar
 'That woman sold me the sugar at a very high price.'
 'Esa mujer me vendió muy cara el azúcar.' < SFH 09 3:51/el >

c. S-T-V-R

- ni'hê 'mí 'âma mi'gêl*
 [ne'hê]S [mí]T 'â-ma [mi'gêl]R
 1SG.NOM 2SG.ACC give-FUT.SG Miguel
 'I will give you to Miguel (so he can be your godfather).'
 'Te voy a dar a Miguel (para que sea tu padrino).' < SFH 09 3:51/el >

Guerrero Valenzuela & Van Valin (2004) propose that, while predominantly a primary/secondary object language, Yaqui also has ditransitive predicates with a direct/indirect object pattern. Whether Choguita Rarámuri also has ditransitive clauses with a direct/indirect object pattern is a question left for further research.²

13.2 Locative, copula and existential clauses

Cross-linguistically, clauses with nonverbal predicates whose properties exhibit variation across languages include those involving nominal predicates, adjectival predicates and locative predicates (Dryer 2007a). Given that the class of basic, underived adjectives in Choguita Rarámuri is very small (see Chapter 10, §10.3), this section focuses on clauses headed by nominal and locative predicates. This section also addresses existential clauses headed by predicates of possession. Before turning to these clauses, a brief description of types of copulas in Choguita Rarámuri is provided next.

13.2.1 Types of copulas

Copular clauses are a clause type in which the contentful predicate is not a verb, but some other category like an adjective, a noun or a preposition. Copular clauses in Choguita Rarámuri have an internal structure that includes a copula verb, a subject nominal phrase and an unmarked complement. There are four suppletive stems of copula verbs corresponding to different tense/aspect distinctions. These are: (i) the copula *hu* for present tense; (ii) the copula *ke* for past imperfective; (iii) the copula *ka* for unrealis; and (iv) the copula *ni-* for all other tense/aspect distinctions. Specifically, the present, past imperfective and unrealis copula verbs do not attach any tense/aspect or mood suffixes, but the copula *ni-* is a bound root that requires suffixation. Table 13.3 summarizes the set of Choguita Rarámuri suppletive copular verbs, their gloss and approximate translation.

²As discussed in Guerrero Valenzuela & Van Valin (2004), Yaqui exhibits a direct/indirect object pattern given the existence in the language of two different case markers that allows this marking. An anonymous reviewer suggests that given the fact that Choguita Rarámuri lacks case marking in nouns, a similar pattern may not be possible.

Table 13.3: Choguita Rarámuri copula verbs

Tense/aspect	Form	Gloss	Translation
Present	<i>hu</i>	COP.PRS	‘is’
Past imperfective	<i>ke</i>	COP.IMPF	‘used to be’
Irrealis	<i>ka</i>	COP.IRR	‘would/might be’
Other TAM	<i>ni-</i>	COP-	

Examples of the bound root *ni-* copula with different TAM suffixes is provided in (11).

(11) Examples of inflected copula verb *ni-*

- a. *'níli*
'ní-li
COP-PST
‘it was’
- b. *'níra*
'ní-ra
COP-REP
‘they say it was’
- c. *'níma*
'ní-ma
COP-FUT.SG
‘(it/she/he) will be’
- d. *'níbo*
'ní-bo
COP-FUT.PL
‘(they/we) will be’
- e. *'nísa*
'ní-sa
COP-COND
‘if it were’

The list of inflected forms of the copula verb *ni-* in (11) is not exhaustive, since there are no restrictions as to which TAM markers can attach to this verb. Examples of these copula verbs in context are provided in the sections below.

13.2.2 Clauses headed by nominal predicates

In copular clauses headed by nominal predicates, the characteristic of the subject is a noun phrase. The examples in (12) illustrate copular clauses headed by nominal predicates.

- (12) Copular clauses headed by nominal predicates
- a. *enfer'méra 'ké?e?*
enfer'méra 'ke
 nurse COP.IMP.F
 'Did she use to be a nurse?'
 '¿Era enfermera?' < BFL 09 1:85/el >
 - b. *'nè u'mâala 'nili 'ét̪i ba?*
'nè u'mâa-la 'nî-li 'ét̪i ba
 1SG.NOM bisabuelo-POSS COP-PST DEM CL
 'Was he my great grandfather?'
 '¿Era mi bisabuelo él?' < SFH 06 in61(117)/in >
 - c. *'hê? 'nà sakâ'râ ko wa'sía hu*
'hê 'nà sakâ'râ=ko wa'sía hu
 DEM PROX plant=EMPH chuchupate COP.PRS
 'This plant is chuchupate.'
 'Esta planta es chuchupate.' < GMF 09 3:63/el >
 - d. *'gîltro ko komi'sârio 'hú*
'gîltro=ko komi'sârio 'hú
 Giltro=EMPH sheriff COP.PRS
 'Giltro is sheriff.'
 'Giltro es comisario.' < GMF 09 3:63/el >

Copula verbs may precede the complement in copular clauses, as exemplified in (13), but examples of this kind are marginally attested in the corpus (the only attested examples showing this pattern were obtained through translation elicitation using Spanish, but are so far unattested in natural discourse).

- (13) a. *'ét̪i 'gîltro 'hú komi'sârio*
'ét̪i 'gîltro 'hú komi'sârio
 DEM giltro COP.PRS sheriff
 'Giltro is sheriff.'
 'Giltro es comisario.' < FMF 09 3:57/el >

- b. *'étfi ti'wé 'níma 'lé suku'rûame
'étfi ti'wé 'ní-ma a'lé suku'rû-ame*
DEM girl COP-FUT.SG DUB shaman-PTCP
'That girl will be a shaman.'
'Esa niña va a ser curandera.' < FMF 09 3:57/el >

As described in Chapter 10 (§10.3) and Chapter 15 (§15.3), property concepts in Choguita Rarámuri are encoded through verbal predicates, which may be nominalized through a participial morpheme. Copular clauses headed by these nominalized forms, exemplified in (14), exhibit the same internal structure as other copular clauses headed by nominal predicates.

(14) Copular clauses with nominalized predicates

- a. *mi'ná bi'látimi 'má o'tsérämi 'níbo 'lé
ami'ná be'lá=timi 'má o'tséra-ame 'ní-bo a'lé*
later really=2PL.NOM already grow-PTCP COP-FUT.PL DUB
'Later on when you all will be adults.'
'Después ya van a ser crecidos ustedes.' {SFH tx12:12:36.7}
- b. *a?lì tamu'hê bi'lá ko na'lina 'wé wino'mîwam 'níbira 'rái ba
a?lì tamu'hê be'lá=ko na'lina 'wé wino'mî-w-ame*
then 1PL.NOM really=EMPH then INT money-have-PTCP
'ní-bi-la ru-'wá ba
COP-IRR.PL-REP say-MPASS CL
'Then we would have been the wealthy ones.'
'Entonces nosotros hubiéramos sido los del dinero.' < SFH 06
choma(25)/tx >
- c. *á bi'lá 'wé 'káira ro 'wé ba'hîbam 'ká
á be'lá 'wé 'káira ro 'wé ba'hî-wa-ame 'ká*
AFF really INT happy ro INT drink-MPASS-PTCP COP.IRR
'It feels really good when one is drinking.'
'Se siente uno muy agusto cuando anda tomando.' < SFH 06
in61(407)/tx >
- d. *we t̪a'bèe ki'?à ko ne bi'lá ra'síra na'téami 'níli étfi 'nàri ra'ñitfili a'lé
we t̪a'bè ki'?à=ko ne be'lá ra'síra na'té-ame 'ní-li 'étfi*
INT before before=EMPH INT really more cost-PTCP COP-PST DEM
'nàri ra'ñitfili a'lé
this speak-PST DUB
'Long ago these words were more valuable.'
'Antes era más valiosa la plática.' {JMF tx817:0:00.0}

While most property concepts are encoded through verbal predicates, there is a small set of true adjectives. Copular clauses headed by these adjectival predicates have the same internal structure than copular clauses headed by nominal predicates. This is shown in (15).

(15) Copular clauses headed by adjectival predicates

- a. *'ét̪í ti'wé 'wé se'máti 'hú*
'ét̪í ti'wé 'wé se'máti 'hú
 DEM girl INT pretty COP.PRS
 'This girl is very pretty.'
 'Esta niña está muy bonita'.
- b. *'kítí 'wé 'riko 'hú ha'ré ba*
'kítí 'wé 'riko 'hú ha'ré ba
 because INT wealthy COP.PRS some CL
 'And that is why some are really wealthy.'
 'Y por eso unos son muy ricos.' < SFH 06 choma(30)/tx >

Copular clauses with nominal predicates may express a partitive semantic relation ('made of'), a relation that is sometimes cross-linguistically encoded with genitive case. This is shown in (16).

(16) Copular clauses with partitive meaning

- a. *'nà 'mêsa ko ku'sí 'hú*
'nà 'mêsa=ko ku'sí 'hú
 PROX table=EMPH log COP.PRS
 'This table is made out of wood.'
 'Esta mesa es de madera.' < GFM 09 2:98/el >
- b. *'sîja 'ûle 'hú*
'sîja 'ûle 'hú
 chair plastic COP.PRS
 'a chair made out of plastic'
 'silla de plástico' < GFM 09 2:98/el >

The next section addresses a second type of nonverbal clauses, namely those headed by locative predicates.

13.2.3 Clauses headed by locative predicates

Clauses headed by locative predicates in Choguita Rarámuri deploy one of a set of positional/postural verbs. Positional/postural verbs in this language denote positions of entities (both animate and inanimate) dependent of the physical properties of the referent in terms of their inherent or transitional shape, though the use of postural predicates also reveals a grammatical system of noun classification (see Ameka & Levinson 2007 for a discussion of the semantic and grammatical properties of postural verbs cross-linguistically).

In their basic (morphologically unmarked form), posturals in Choguita Rarámuri are stative, intransitive verbs that denote a particular posture or position of their single argument (which is encoded as the subject). These verbs can be derived to function as change of state predicates, which may be either intransitive or transitive. When intransitive, the change of state into a particular posture is brought about by the entity undergoing the change itself (encoded as the single argument subcategorized for by the verb), and when transitive, the change of posture of the object argument is brought about by a second participant, an agent-like argument encoded by the subject. Derivation from a stative postural verb to a change-of-state predicate generally involves an intransitive/transitive morphological alternation: a stem final *-i* suffix for intransitives and a stem final *-a* suffix for transitives, as exemplified in (17) (see §9.1.5 for more details on valence changing processes in Choguita Rarámuri).³

- (17) a. *wi'lí*
wi'l-i
 stand-INTR
 'S/he stands.'
 'Se para.'
- b. *wi'lá*
wi'l-á
 stand-TR
 'S/he stands someone up.'
 'Lo para.'

The stative postural predicates and their corresponding intransitive and transitive change-of-state counterparts may also be encoded through suppletive forms. These are exemplified in (18).

³Cognate suffixes to the Choguita Rarámuri intransitive *-i* and transitive *-a* suffixes are widely attested across the Uto-Aztecan language family, including in the Aztec branch, in Cahitan, Southern Paiute, as well as in Cupan language varieties (Heath 1977: 32).

(18) Positional/postural verbs with different transitivity properties

- a. *a'tí*
to.be.sitting.SG
'S/he is sitting.'
'Está sentada.'
- b. *a'sí*
a'sí
to.sit.SGINTR
'S/he sits.'
'Se sienta.'
- c. *a'tʃā*
a'tʃā
to.sit.SG.TR
'S/he sits someone down.'
'Lo sienta (e.g., al niño)'

The contrast encoded through suppletion involves a state (18a), an intransitive, change of state (18b) and a transitive change of state (18c). The consonantal changes in the stem in this set is not predictable through any synchronically productive phonological processes, and are thus analyzed here as involving a lexical contrast.

The following examples illustrate the stative (19), intransitive change of state (20) and transitive change of state (21) uses of postural verbs (a full inventory of postural predicates in Choguita Rarámuri is provided in Table 13.4):

(19) Stative postural verbs

- a. *'étʃí ko tʃó'mí 'tʃó mu'tʃúwi aʔlì*
'étʃí=ko tʃó'mí 'tʃó mu'tʃúwi aʔlì
DEM=EMPH there also sit.PL and
'They were (sitting) also over there, and...'
'Ellos también estaban allá y...' < FLP 06 in61(302)/in >
- b. *aʔlì 'wé bi'lá ki'rì ke bi'lé sajéka tʃu'kúli wi'tʃóa 'étʃí ko*
aʔlì 'wé be'lá ki'rì ke bi'lé sajé-ka tʃu'kú-li
and INT really still NEG one realize-GER bent.SG-PST
wi'tʃó-a étʃí=ko
wash.clothes-PROG DEM=EMPH
'And then she was still without realizing anything, washing clothes, her.'

‘Y entonces estaba sin pensar nada, sin darse cuenta de nada, lavando, ella.’ {LEL tx32:4:11.9}

- c. *'pé 'nábi tſé 'tſéti ko'lí bi 'tíam ku*
'pé 'na=bi tſé 'tſéti ko'lí bi 'tí-ame
 just PROX=just also DEF.PL.BAD around.corner be.lying.down.PLPTCP
ku
 REV

‘They say that those that are lying down over there around the corner...’

‘Dicen que estos que están ahí por de aquel lado a la vuelta...’ {FLP in243:20:07.8}

(20) Intransitive change of state postural verbs

- a. *aʔlì 'hē a'nèli: "wé sa'pù a'físka, píri tſú'kú na'ñ?"*
aʔlì 'hē a'nè-li 'wé sa'pù a'sí-si-ka píri tſú'kú na'ñ
 and DEM say-PST INT hurry sit.up-MOT-GER what four.legs here
 ‘And then she told him: “Hurry up getting up! What is that sitting here?”
 ‘Y luego le dijo: “¡Levántate pronto! ¿Qué está aquí?”’ {LEL tx5:0:52.7}
- b. *'nápu ri'ká 'nà mu'rípi ro'káata tſu'kúbuka bi'lá ko aʔ'wâli ba*
'nápi ri'ká 'nà mu'rípi ro'káata tſu'kú-ba-ka be'lá=ko
 SUB like then close cliff four.legs-INCH-GER indeed=EMPH
aʔ'wâ-li ba
 throw.PL-PST CL
 ‘Because he (the deer) stood (on four legs) close to the cliff and then threw them.’
 ‘Así como se paró (el venado, en cuatro patas) cerca de la orilla del barranco y los tiró.’ {SFH tx152:8:49.1}
- c. *wi'libura ru'wá 'étſí 'nà ma'tſí ri'tériri*
wi'li-ba-la ru-'wá 'étſí 'nà ma'tſí re'té-riri
 stand-INCH-REP say-MPASS DEM DEM outside rock-LOC
 ‘Se paró allá afuera en una piedra.’
 ‘He stood there outside in a rock.’ {LEL tx5:2:06.9}

(21) Transitive change of state postural verbs

- a. *'pé bi'lé ri^htê 'á ri?^hpí t^ho'nà ko 'nápo 'nàti mu 't^huwili*
'pé bi'lé ri^htê 'á ri?^hpí 'étfi 'ná=ko 'nápi 'nà=tí
 just one stone AFF remain DEM PROX=EMPH where DEM=1PL.NOM
mu 't^huwili-li
 sit.TR.PL-PST
 'Just one stone remains there where we put them.'
 'Queda una piedra ahí donde las pusimos.' {LEL tx19:2:35.0}
- b. *si'né kátfi 'máti 'á 'hâwamti⁴ á 'níbo*
si'né kátfi 'má=tí 'á 'hâwa-ma=tí 'á
 some times already=1PL.NOM AFF stand.TR.PL-FUT.SG=1PL.NOM AFF
'ní-bo
 COP-FUT.PL
 'Where we live, perhaps we will some times be elected as authorities.'
 'Donde vivimos a lo mejor en veces vamos a ser autoridades.' {SFH tx12:11:54.2}
- c. *'má 'béni a?^hlá ma't^hí 'nè ko 'má ke o'mèrili 't^hó 'mêa 't^hó 'nápi ni'hê*
wi'láli ko ba
'má 'bé=ni a?^hlá ma't^hí 'nè=ko 'má ke
 then because=1SG.NOM well know 1SG.NOM=EMPH then NEG
o'mèra-li 't^hó 'mê-a 't^hó 'nápi ne'hê
 be.able-PST either win-PROG either SUB 1SG.NOM
wi'lá-li=ko ba
 stand.TR-PST=EMPH CL
 'Because I know very well that she couldn't win, the one I chose (lit. the one I stood).'
 'Porque ya se que no pudo ganar la que puse yo (lit. 'la que yo paré).'
 {LEL tx19:4:28.0}

Postural predicates may also have suppletive forms encoding singular-plural distinctions or these contrasts may be derived through the plural/pluractional construction, which may also involve stem consonant mutation plus prefixation (cf. §8.2). This is further exemplified in (22).

⁴In this case, the verb 'make stand' means 'appoint' (in Spanish, literally 'parar autoridades').

- (22) Plural/pluractional form of positional/postural verb

- a. *tʃu'kú* ‘bent, curved, on four legs, SG.’
- b. *u-'tʃu'wi* ‘bent, curved, on four legs, PL’

Table 13.4 depicts the set of Choguita Rarámuri postural predicates, with transitivity and singular-plural/pluractional contrasts.

Table 13.4: Postural/positional predicates in Choguita Rarámuri

	Stative		Inchoative		Causative	
	Sg	Pl	Sg	Pl	Sg	Pl
‘sit’	<i>a'tí</i>	<i>mu'tʃu'wi</i>	<i>asi/a'sá</i>	<i>mo'tʃi'wi</i>	<i>a'tʃá</i>	<i>mu'tʃu'wi/</i> <i>mutʃu'wá</i>
‘sit (container)’	<i>ma'ní</i> <i>~ba'ní</i>	<i>a-'máni</i> <i>~a-'báni</i>	<i>bani-'bá</i> <i>~mani-'bá</i>	<i>bani-'bá/</i> <i>ba'ní-ba</i> <i>~mani-'bá</i>	<i>ba'ná ~ma'ná</i>	<i>a-ma'ná</i> <i>~a-ba'ná</i>
‘stand’	<i>wi'lí</i>	<i>'háwi</i>	<i>wi'lísi</i>	<i>'hási</i>	<i>wi'lá</i>	<i>ha'wá</i>
‘lie down’	<i>bu'ʔí</i>	<i>bi'tí</i>	<i>bu'ʔu-</i>	<i>bi'tí</i>	<i>riki/ri'ká</i>	<i>ro'ʔá</i>
‘bent, curved, on four legs’	<i>tʃu'kú</i>	<i>u'tʃu'wi</i>	<i>tʃu'kú-ba/</i> <i>tʃuku-'bá</i>	<i>i-'tʃúpi/</i> <i>i-tʃú'pá</i> <i>~u-'tʃúpi</i>	<i>u'tʃá</i>	<i>i-'tʃútʃí</i> <i>~u-'tʃútʃí</i>

Clauses with stative postural predicates may also have the function of encoding the existence of the noun referent. This is shown in (23), where the postural predicate in this context can be interpreted as non-specific with respect to the specific posture of the referent (sitting, standing, etc.).

- (23) Postural/positional predicates in existential clauses

no'rátʃí 'ben ko a'tí tʃó ba
no'rátʃí 'be=ní=ko a'tí tʃó ba

Norogachi be=1SG.NOM=EMPH sit.SG EMPH CL

‘I was in Norogachi.’

‘Yo estaba en Norogachi.’ < FLP 06 in61(264)/in >

The predicate in these cases specifies both the existence of the referent the position in which entities are configured, making reference to their semantic

properties, or provides an indication of their grammatical classification. In terms of semantic categorization, the postural verb set in Choguita Rarámuri involves a partitioning of the “etic” space, defined as the “structure of the natural world ... [an] objective description of the domain which makes maximal discriminations”, which may be contrasted with an ‘emic’ space where languages group in abstract way these discriminations that is based on the semantic properties of the referents (Levinson & Wilkins 2006: 8). Nouns have a canonical posture depending on the physical properties (e.g., volume, shape, dimensions, etc.) of their referents, and these characteristics may determine the choice of a postural predicate: four-legged (e.g., a dog, a truck) vs. two-legged (e.g., a person, a ladder) vs. a recipient with a base (e.g., a pot) vs. a cylindric and thin object (e.g., a stick, a pencil), etc. Choice of postural predicates may also reflect circumstantial or transitional physical characteristics of the referent at the time of utterance (e.g., a person washing clothes or grinding corn in a *metate* is *tsukú* ‘bent/curved’.) The semantic categorization properties of postural verb is exemplified in (24) (Table 13.5 below provides examples of the classification system dependent on the postural verb nouns combine with in locative constructions.).

(24) Positional/postural predicates: semantic categorization

- a. *aʔli hē a'neli: "wé sa'pù a'físka! píri tsu'kú na'ñi?"*
aʔli hē a'n-è-li 'wé sa'pù a'sí-si-ka píri tsu'kú
 and DEM say-APPL-PST INT hurry sit.up-MOT-GER what be.curved
na'ñi
 here
 ‘And then she told him: “hurry up getting up, what is that standing (in four legs) here?’
- ‘Y luego le dijo: “¡Levántate pronto! ¿Qué está aquí?” {LEL tx5:0:52.7}
- b. *í o'náñi tfuku'báma 'lé to'wí*
í o'náñi tfuku- 'bá-ma a'lé to'wí
 here here be.curved-INCH-FUT.SG DUB boy
 ‘The boy will bend here.’
- ‘Aquí se va a agachar el niño.’ < BFL 11/03/09/el >
- c. *étfi tfoʔmá bi'lá ma'níira 'ráa i'bíli be'tóli*
étfi tfoʔmá be'lá ma'ní-ri-la ru-'wá i-'bíli
 DEM snot really sit.container-CAUS-REP say-MPASS PL-one.PL
be'tóli
 plates
 ‘But it is said that they were given snot to drink in some plates.’

‘Pero dicen que les dieron moco en unos platos.’ < SFH 06
 choma(6)/tx >

- d. *'í a'máni 'bôte*
'í a'máni 'bôte
 here PL-sit.container cans
 ‘Here are the cans.’
- ‘Aquí están los botes.’ < BFL 11/03/09/el >
- e. *'pé 'nàbi t̪éti ko'lì bi'tíam ku*
'pé 'nà=bi t̪éti t̪éti ko'lì bi'tí-ame ku
 just PROX=just also DET.PL around.there lie.down.PL-PTCP REV
 ‘These ones (the dead people) who are lying down over there, also.’
 ‘Estos que están (acostados) ahí por de aquel lado (los muertos).’ <
 FLP 07 in243(511)/in >

In (24a), the noun referent about which the location is being predicated is in sight and stands in four legs, and in (24b) the referent is a child about to crawl, requiring the use of the predicate *t̪u'kú* ‘to be curved’. The referents in (24c–d) involve containers with bases, for which the predicate *mani* ‘to sit (a container)’ is required. In (24c), the referent requires the use of the predicate *biti* ‘to lie down, plural’,⁵

While the categorization of postural predicates closely reflects fine-grained distinctions about postures of referents, there are constructions where the assignment of a particular entity to a particular postural verb seems arbitrary, revealing their classificatory nature. Consider, for instance, example (25), where the existence of a ring in the hand or blood on the floor is described with the verb *t̪u'kú*, which typically describes the position of entities that are on four legs, bent or curved.

(25) Postural predicates as grammatical classificatory devices

- a. *t̪o'nà t̪u'kú a'nîjo si'kârat̪i*
'éti' nà t̪u'kú a'nîjo se'kâ-ra-t̪i
 DEM prox be.bent ring hand-POSS-LOC
 ‘The ring is in the hand.’
 ‘El anillo está en la mano.’ < LEL 09 1:74/el >
- b. *"éti' nà 'á t̪u'kú 'lá ma't̪i 'nápu ko 'nà 'hônsa 'tòli 'éti' ali'wâla"*

⁵This is a euphemism used to refer to dead people in this narrative.

'étfí 'nà 'á *tfu'kú* 'lá ma'tfí 'nápi=ko 'nà 'hônsa
 DEM PROX AFF be.bent blood outside SUB=EMPH PROX from
 'tò-li 'étfí ali'wâ-la
 take-PST DEM soul-POSS
 "There is the blood outside where he took the soul from."
 "Ahí se ve la sangre afuera de donde se llevó el alma." {LEL tx5:3:59.2}

Thus, locative constructions not only reflect semantic categorization but also a classification system that is grammatical, as it may be applied to abstract nouns or concrete nouns where their physical properties are not considered for their classification (e.g., space objects like sun, stars, moon, etc. are also assigned a postural predicate in existential clauses). An overview of postural predicates and the semantic categorization of nouns in other Uto-Aztecán languages (including Yaqui (Taracahitan), Mayo (Taracahitan), Guarajío (Taracahitan) and Lower Pima (Tepiman)) is provided in O'Meara & Guerrero Valenzuela (2015). Nouns in the language are grouped into different classes depending on the postural verb they combine with in locative constructions. Table 13.5 gives a sample of how nouns are classified depending on the postural verb they combine with in locative constructions.

In addition to exhibiting valency-related morphological changes, postural predicates may also attach the movement *-ro* suffix to encode that the event depicted by the predicate is a process that is incomple and may involve motion. This is exemplified in (26).

(26) Use of motion *-ro* suffix with postural/positional verbs

- a. 'peta na'ñi 'á 'hârpo 'rú
 'pe=ta na'ñi 'á 'hâwi-ro-po 'rú
 just=1PL.NOM here AFF stand.PL.INTR-MOV-FUT.PL say.PRS
 'We will just be hanging out here standing.'
 'Aquí vamos a andar parados.'
- b. 'ápta 'ne waraká 'hârpo 'apu ri'káti so ra?a'mâbo 'nà ra'lâmuli ba
 su'wâba 'má 'ká ri'ká mu'kî 'úa ba
 'nápi=ta 'ne wara-ká 'hâwi-ro-po
 SUB=1PL.NOM remember remember-GER stand.PL.INTR-MOV-FUT.PL
 'apu ri'ká=ti=so ra?a'mâ-bo 'nà ra'lâmuli ba
 SUB like=1PL.NOM=EMPH give.advice-FUT.PL PROX men CL
 su'wâba 'má 'ká ri'ká mu'kî 'júa ba
 all ALREADY all all women with CL
 'everything we stand knowing (remembering), to give advice to the

men and everyone, too, and all the women'⁶
 'todo lo que estamos (parados) sabiendo (recordando), dar consejos
 a los hombres y a todos también y a todas las mujeres' {JMF
 tx816:00:10.3}

The cognate form of this motion suffix in Mountain Guarajío is the stress-shifting suffix *-to/ro*, described in (Miller 1996: 165) as a verbal suffix that encodes

⁶The emphatic particle *so* is only attested in the speech of older speakers and often in the context of *nawesari*, ceremonial speeches. Younger speakers use the emphatic particle *ko* in the same contexts where *so* is attested.

Table 13.5: Noun classes and locative constructions

Postural verb	Noun referents
Sg / Pl (stative)	Gloss
<i>a'tí / mu'tfûwi</i>	'sit'
	<i>tʃí'ní</i> 'cloth', <i>re'mê</i> 'tortillas', <i>mu'nî</i> 'uncooked beans', <i>ma'lêta</i> 'suitcase/bag', <i>ko'lî</i> 'round chiles (chiltepin)', <i>a'sûkar</i> 'sugar (in a bag)', <i>na'pâtfâ</i> 'shirts', <i>wi'râ</i> 'earrings on table'
<i>ma'ní / a-ma'ní</i>	'sit a container'
	<i>siko'rí</i> 'pots', <i>bôtetʃî</i> 'cans', <i>li'mêtatʃî</i> 'bottles', <i>mu'nî</i> 'cooked beans', <i>ba'wí</i> 'water', <i>a'sûkar</i> 'sugar (in a container)', <i>la'bâ</i> 'weja'
<i>wi'lí / hâwi</i>	'stand'
	<i>pôste</i> 'pole', <i>o'kó</i> 'pine', <i>ka'lî</i> 'house', <i>re'hoi</i> 'man', <i>kâmara</i> 'camera', <i>pa'pêl</i> 'standing paper towel roll', <i>ri'kôa</i> 'troje', <i>kalen'tontʃî</i> 'heater'
<i>bu'ñí / bi'tí</i>	'lie down'
	<i>ku'sí</i> 'stick', <i>lapi'sêro</i> 'pen/pencil', <i>pâla</i> 'shovel', <i>su'nû</i> 'corn', <i>ko'lî</i> 'green chile pepper', <i>kâble</i> 'cable', <i>a'kâ</i> 'sandals'
<i>tʃu'kú / u'tsúwi</i>	'bent, curved, on four legs'
	<i>wâsi</i> 'cow', <i>trôka</i> 'truck', <i>na'rútʃî</i> 'spider', <i>mûsa</i> 'tʃukú', <i>es'pêho</i> 'mirror (mounted on wall)', <i>wi'râ</i> 'hanging earrings'

motion with a “distributive” sense (“‘ir a ... en más de un lugar’ [o] ‘en más de un tiempo’ [“‘to go to more than one place’ or ‘in more than one occasion’”].⁷ Further examples of this construction with Choguita Rarámuri postural predicates are exemplified in (27).

(27) Postural/positional predicates in motion constructions

- a. *'tá to'wí tʃu'kúro*
'tá to'wí tʃu'kú-ro
 small boy be.bent-MOV
 ‘The boy is crawling.’
 ‘El niño anda gateando.’ < BFL 11/03/09/el >
- b. *ta to'wí tʃu'kúrma 'lé*
ta to'wí tʃu'kú-ro-ma a'lé
 small boy be.bent-MOV.FUT.SG DUB
 ‘The small boy will be crawling here.’
 ‘Aquí va a andar gateando el niño.’ < BFL 11/03/09/el >
- c. *'íni wi'lírmo 'lá*
'í=ni wi'lí-ro-ma o'lá
 here=1SG.NOM be.standing.SG-MOV-FUT.SG CER
 ‘I will be hanging out here (standing).’
 ‘Aquí voy a andar parado.’ < BFL 11/03/09/el >

Postural verbs often occur in complex predicate constructions in which a descriptive predicate qualifies the way in which an entity came to be in a particular position (complex predicate constructions are addressed in Chapter 15). In the examples below, the descriptive predicate (which precedes the postural/positional predicate) qualifies that the position (in this instance lying down) came about by fainting (28a), dying (28b) or sleeping (28c).

(28) Postural verbs in complex predicate constructions

- a. *'má nata'kéa bu'ʔíli bi'ʔà ro'kò*
'má nata'ké-a bu'ʔí-li bi'ʔà ro'kò
 already faint-PROG lie.down.SG-PST early night
 ‘He was already lying down unconscious early in the morning.’
 ‘Ya estaba desmayado en la madrugada.’ {LEL tx5:04:03.7}

⁷This suffix contrasts with another “motion” suffix in Mountain Guarajío, *-si* (cognate of the Choguita Rarámuri associated motion *-si(mi)* suffix), which is described as bearing a more aspectual meaning.

- b. *aʔlì 'má 'ʔnèli 'pé 'má muku'ká buʔíli*
aʔlì 'má iʔnè-li 'pé 'má muku-'ká bu'ʔí-li
 and already see-PST little already die-GER lie.down.SG-PST
 'Then they saw that he was already lying down dead'
 'Entonces ya vieron y ya estaba muerto.' {LEL tx5:02:42.8}
- c. *aʔlì 'nà ... aʔlì 'nà kotʃí'ká bu'ʔílo majéli*
aʔlì 'nà aʔlì 'nà kotʃí-'ká bu'ʔí-li-o majé-li
 and then and then sleep-SIM lie.down.SG-PST-EP think-PST
 'And then he thought he was asleep (laid down sleeping).'
 'Nomás que pensó que estaba dormido.' {LEL tx5:00:35.0}

In negative locative clauses, a predicate exclusively found in negative polarity copular clauses (*i'té*), is found. The negative locative clause in (29a) is contrasted with its positive polarity locative counterpart in (29b).

(29) Negative polarity predicate *i'té* in negative locative clauses

- a. *na'ʔi ke i'té 'bôte*
na'ʔi ke i'té 'bôte
 here NEG be.NEG can
 'The can is not here.'
 'Aquí no está el bote.' < LEL 09 1:74/el >
- b. *na'ʔi ma'ni 'bôte*
na'ʔi ma'ni 'bôte
 here sit.container can
 'Here is (sits) the can.'
 'Aquí está el bote.' < LEL 09 1:74/el >

Further examples of negative locative clauses with the predicate *i'té* in negative locative clauses are shown in (30).

(30) Negative polarity predicate *i'té*: further examples

- a. *ami'ná ke i'térimi 'lé wi'karâami ami'ná ko ba*
ami'nábi ke i'té-ri-mi a'lé wi'ka'râ-ame
 afterwards NEG be.NEG-RI-IRR.SG DUB sing-PTCP
ami'nábi=ko ba
 afterwards=EMPH CL
 'Afterwards there won't be any ritual singers.'
 'Después ya no va a haber cantador.' {FLP in243:12:45.3}

- b. *'má 'kátfi i'teli bi'lé mu'kí a'pátfe ba ami'nábi ko 'á wi'ká ri'hòrimi tfo a'lé ke 'ná*
'má 'ká tfe i'te-li bi'lé mu'kí a'pátfe ba
 already NEG NEG be.NEG-PST one woman apache CL
ami'nábi=ko 'á wi'ká ri'hò-ri=mi tfo a'lé ke
 afterwards=EMPH AFF many man-VBLZ=DEM anymore DUB NEG
'ná
 then
 'because there weren't any single Apache women, (otherwise)
 afterwards there would have been more (Apache) people'
 'porque ya no había ninguna mujer apache, (si no) hubiera habido
 mucha gente (apache)' {LEL tx110:2:41.8}

Postural verbs may also be used in negative polarity constructions with other negative particles. Examples of positional predicates in negative constructions are provided in (31).

(31) Postural verbs in negative locative clauses

- a. *'ká tfe 'wési mo'tfí biti'tfí ko ba*
'ká tfe 'wési mo'tfí biti'tfí=ko ba
 NEG NEG nobody sit.PL house=EMPH CL
 'Nobody stays (sits) at home.'
 'No se está nadie en la casa.' < BFL 09 1:65/el >
- b. *'i o'nátfi 'ká tfe wi'lí es'kʷéla ba*
'i o'nátfi 'ká tfe wi'lí es'kʷéla ba
 here here NEG NEG stand.SG school CL
 'The school is not here.'
 'Aquí no está la escuela.' < BFL 09 1:65/el >

Postural verbs in negative constructions may be used when the particular posture is in the scope of negation: in (32), for instance, it is predicated that nobody is sitting (i.e., but there might be people standing).

(32) Positional/postural predicates in the scope of negation

- tfi'ná 'ká tfe 'wési mu'tfúi ba*
'étfi 'ná 'ká tfe 'wési mu'tfúwi ba
 DEM DEM NEG NEG nobody sit.PL CL
 'There is nobody sitting there.'
 'No hay nadie sentado ahí.' < BFL 09 1:65/el >

A relevant question to ask in any language with positional verbs is which verb may be used as a “default”, as languages with these systems are documented to exhibit a default collocation, which may be subject to pragmatically-induced variation (Ameka & Levinson 2007). In the case of Choguita Rarámuri, a good candidate for a default postural copular verb in locative constructions for human beings and other referents is the verb *atí* ‘sit, sg’ (and plural suppletive verb *mutſúwi*). In the following narrative, a woman is scared by a coyote sitting outside (33a); in the next clause, the verb *mutſúwi* ‘sit, PL’ is used to describe how the scared woman, together with her friends, locks herself inside the house (33b); the postural verb in this case describes that the women are located inside of the locked house. The referents are not in sight and there is nothing inherent in their configuration that would preclude a description with, for instance, the verb *háwi* ‘stand, PL’.

(33) Default postural predicates

- a. *aʔlì 'wé ma'ḥāli 'étfi mu'kî basa t̪i riwi'sâ*
aʔlì 'wé ma'ḥā-li 'étfi mu'kî basa t̪i riwi-'sâ
 and INT get.scared-PST DEM woman coyote see-COND
 ‘So she got very scared when she saw the coyote.’
 ‘Entonces se asustó mucho la mujer cuando vió al coyote.’ {LEL
 tx_mawiya:1:02.6}
- b. *we 'érika mu'tfili patſá*
we 'éri-ka mu'tfūwi-li pa'tsá
 INT close-GER sit.PL-PST inside
 ‘She closed the door shut and they were inside.’
 ‘Cerró fuerte la puerta y estuvieron adentro.’ < LEL
 tx_mawiya:1:07.5 >

Thus, the default collocation when referring to human beings is ‘sit’. This is also shown in example (31) above, where the use of positional predicates in negative existential and negative locative clauses provides a test for default collocations. In contrast to human beings ‘sitting’ by default, the canonical position for buildings is to ‘stand’, as shown in (31b) above. This means that the default collocation involves presupposing, not asserting, the properties of the figure (Ameka & Levinson 2007: 859).

Finally, there are recorded examples where postural verbs may also have grammaticalized functions as aspectual markers, a common development cross-linguis-

tically (Ameka & Levinson 2007).⁸ The following examples show a contrast between a construction where the postural predicate *tʃu'kú*, 'be on four legs/bent/curved', has a habitual aspect meaning (34a) and a construction where the postural predicate *a'tí*, 'sit', has a non-habitual reading (34b) (There is no evidence in the Choguita Rarámuri corpus that other postural predicates have grammaticalized as aspectual markers.).

(34) Positional predicates with aspectual marking function

- a. *'nâtili 'àa tʃu'kú*
'nâta-li 'à-a tʃu'kú
 think-NMLZ give-PROG bent.PRS
 'He is giving advice (always).'
 '(Siempre) dando consejos.' {SFH tx12:12:40.2}
- b. *'étfi 'wé 'nâtili 'àa a'tí*
'étfi 'wé 'nâta-li 'à-a a'tí
 DEM INT think-NMLZ give-PROG sit.PRS
 'He is giving advice (for only a while).'
 'Dando consejos (sólo un rato).' < FMF 09 3:57/el >

In sum, the system of positional predicates in Choguita Rarámuri may be characterized as featuring properties characteristic of languages with small sets (3–5) of contrastive locative verbs, which contrast with languages with large-set positional languages (which may feature between 9 to up to several hundred predicates). The properties of small-set positional languages are described in (Ameka & Levinson 2007: 858–9), some of which are summarized in (35).

(35) Properties of small-set positional systems

- There is a central role of human posture verbs (e.g., 'sit', 'stand', 'lie down', etc.).
- There is a semantic categorization component, with reference to the spatial configuration of the referent (abstract axial and/or geometric).
- The default collocation use of positionals involves presupposing (vs. asserting) the properties of the figure.

⁸It is cross-linguistically common for postural verbs such as 'sit', 'stand', and 'lie' to have grammaticalised functions (e.g. as copula verbs, aspect markers, etc.). The regularity with which these postural verbs operate as a linker in locative constructions, in particular, led Ameka & Levinson (2007) to coin the label "postural-type language" (Gaby 2006: 461).

- There is a grammatical classification of nominal concepts which may be independent.

As has been shown in this section, Choguita Rarámuri exhibits these properties in its positional predicate system.

13.2.4 Existential clauses expressing predicate possession

In contrast to existential clauses containing locative predicates and a positional verb, where the existence of a given referent is given in function to a particular spatial location, ‘true’ existential clauses state the existence of a referent without providing any further information about the position of the referent or their grammatical classification. The latter kind of existential clauses in Choguita Rarámuri involve the verb *ni'lú* (with a suppletive stem *na'lú* appearing in free variation), a lexical verb meaning ‘exist’ or ‘to be in existence’. The examples in (36) illustrate this construction:

- (36) Existential constructions with predicate of existence
- 'pé ku'ríbi ni bi'lé bu'rítō **ni'lú** pa
 $\begin{array}{l} \text{pé ku'rí=bi} \quad \text{ni bi'lé bu'rítō} \quad \text{ni'lú pa} \\ \text{just recently=just} \quad \text{nor one} \quad \text{donkey exist CL} \end{array}$
 ‘Just barely, there were no donkeys either.’
 ‘Nomás apenas, ni burros había tampoco.’ < FLP 06 in61(230)/in >
 - $\begin{array}{l} \text{t̪í 'bíri 'nápi 'kim na'lúa 'lé ... ku'tfára} \\ \text{é't̪í 'bíri 'nápu 'ki=mi na'lú-a a'lé ku'tfára} \\ \text{DEM kind SUB SUB=DEM exist-PROG DUB spoons} \end{array}$
 ‘There are a lot of things of that kind... spoons.’
 ‘Muchas cosas que hay de ese tipo...cucharas.’ < SFH 06 in61(725)/in >
 - $\begin{array}{l} a'pit̪íri aʔ'lí 'píri 'fí 'tfé 'á **ni'lú?ni'lú** \\ \text{great.grandchildren and what else also AFF exist.PRS} \end{array}$
 ‘Greatgrandchildren and then, what else is there?’
 ‘Tataranietos y luego, ¿qué más hay?’ < SFH 06 in63(143)/in >
 - $\begin{array}{l} napaʔ'lí ke 't̪ó **ni'lúi** ko sekun'dâria ba \\ 'nápi aʔ'lí ke 't̪ó **ni'lú-i=ko** sekun'dâria ba \\ \text{SUB later NEG yet exist-IMPF=EMPH secondary CL} \end{array}$
 ‘when there wasn’t any secondary school yet’
 ‘cuando todavía no había secundaria’ {SFH tx12:1:22.2}

Existential verbs may bear the full range of inflectional marking attested in other verbs. Some examples of the predicate *ni'lú* with several tense/aspect distinctions are provided in (37).

(37) Predicate *ni'lú* in different inflectional contexts

- a. *we ni'lúmi 'lé 'lóali ba*
we ni'lú-mi a'lé 'lówa-li ba
 INT exist-IRR.SG DUB be.hungry-NMLZ CL
 'Perhaps there will be a lot of hunger.'
 'A lo mejor va a haber mucha hambre.' {SFH in243:20:23.8}
- b. *'pé ku'ríi 'hônsa ni'lúuli 'nápi ri'ká 'má ni'lúsa 'ét̄fí rupu'rá ba?*
'pé ku'ríi 'hônsa ni'lú-li 'nápu ri'ká 'má ni'lú-sa/
 just recently since exist.SG-PST SUB like already exist.SG-COND
'ét̄fí rupu'rá ba
 DEM AX CL
 'Just recently, when there were axes already?'
 '¿Hace poquito cuando ya hubo hacha?' {SFH in242:0:33.2}
- c. *'kát̄fí ka ni'lúi ti'jópa í ki'jà ko no'ráat̄fí be ko na'lína o'máwa*
noki'wái pa
'ká t̄fí ka ni'lú-i ti'jópa í ki'jà=ko no'ráat̄fí
 because NEG ka exist-IMPF church here before=EMPH Norogachi
be=ko na'lína o'máwa noki'-wá-i pa
 but=EMPH because party make-MPASS-IMPF CL
 'Because there was no church here before, they would make the
 celebrations in Norogachi.'
 'Porque antes aquí no había aquí iglesia, en Norogachi era donde
 hacían las fiestas.' < FLP 06 in61(424)/in >
- d. *we a'lá rutu'búri ora'káli ba ba'hít̄fí 'bélí ni'lúami ba?'wí pa*
we a'lá rutu'búri ora'ká-li ba ba'hít̄fí be'lá ni'lú-ame ba?'wí pa
 INT well rutubúri make-PST CL well indeed exist-PTCP water CL
 'Yes, a well done *rutubúri*, with water from the well.'
 'Sí, bien hecho el *rutubúri*, con agua del aguaje.' {FLP in243:0:32.1}

As seen in this examples, the predicate *ni'lú* may be inflected for irrealis singular (37a), conditional (37b), imperfective (37c) and participial (37d), among others.

Negative existential constructions may also be expressed through the predicate *ni'lú* and negative adverbs, as shown in (38).

- (38) *kátfi ni'lúuli ba ripu'rá pa*
 ká 'tfé ni'lú-li ba ripu'rá pa
 because NEG exist-PST CL axes CL
 'There were no axes.'
 'No había hachas.' {FLP in243:19:46.9}

Alternatively (and more frequently), negative existential clauses may be expressed through the negative predicate *i'té*, as shown for negative existential clauses involving positional/postural predicates, and as shown in (39).

- (39) The negative predicate *i'te* in existential clauses

- a. *ke bi'lé 'pé 'tâsi i'téeli ónam t̪a'bè ko?*
ke bi'lé 'pé 'tâsi i'té-li óna-ame t̪a'bè=ko
 NEG one just NEG exist.NEG-PST cure-PTCP before=EMPH
 'There wasn't any doctor before?'
 '¿No había doctor antes?' {SFH in61:6:39.6}
- b. *a?lì 'má ke i'téo 'lá 'nà 'háp ta'mò t̪íri'ká ru'jèma ko*
a?lì 'má ke i'té-o o'lá 'nà 'hápi ta'mò 'ét̪i ri'ká
 and already NEG exist.NEG-EP CER PROX SUB 1PL.ACC DEM like
ru'-è-ma=ko
 say-APPL-FUT.SG=EMPH
 'And then there is nothing for us to be told.'
 'Y luego ya no hay para que nos digan a nosotras.' {GFM tx905:2:04.1}
- c. *a'mí no'rát̪i ni'rúam 'níli 'nà le'hidot̪i 'ápu ke t̪ó a'náur-a-t̪i ko na'ñi*
ke t̪ó i'té-a-t̪i ko le'hidot̪i ba t̪ó
a'mí no'rát̪i ni'rú-ame 'ní-li 'nà le'hidot̪i 'ápu ke t̪ó
 DIST Norogachi exist-PTCP COP.PRS this ejido SUB NEG yet
a'náuri-a-t̪i=ko na'ñi ke t̪ó
 measure-PROG-TEMP=EMPH here NEG yet
i'té-a-t̪i=ko le'hidot̪i ba
 exist.NEG-PROG-TEMP=EMPH ejido CL
 'This ejido was Norogachi's when this ejido wasn't measured yet,
 when it wasn't yet an ejido.'
 'Este ejido era de Norogachi cuando todavía no se medía este ejido,
 cuando todavía no era ejido aquí.' {JMF tx817:0:08.6}

14 Sentence types

This chapter is concerned with non-basic, non-complex clause types that encode different illocutionary acts and other pragmatically-marked structures, including interrogatives, negatives and imperatives. These constructions are achieved by a number of syntactic and morphosyntactic strategies. This chapter also addresses the properties of comparative constructions. This description is organized in terms of morphosyntactic and syntactic properties of each construction, as well as the prosodic properties of a subset of these constructions. Each construction is described in terms of a comparison to the morphosyntactic (and, where relevant, prosodic) characteristics of declarative sentences.

This chapter is organized as follows. The basic properties of declarative sentences are summarized in §14.1, to serve as a baseline for the description of non-basic sentence types. Interrogatives are described in §14.2, including the distinction between polar questions (§14.2.1) and content questions (§14.2.2). Negative clauses are addressed in §14.3. Imperatives are addressed in §14.4. Finally, comparative constructions are reviewed in §14.5.

14.1 Declarative sentences

Choguita Rarámuri is a highly agglutinative, head-final language, where word order is canonically SOV, a pattern documented across Uto-Aztecan languages (Langacker 1977). The basic word order is exemplified below, with a clause headed by a ditransitive predicate with both pronominal and NP arguments (1a) and by a transitive predicate with pronominal arguments (1b).

(1) SOV word order in Choguita Rarámuri

- a. *'mò 'jèla ta'mí ha're ga'jèta 'ràko*
[*'mò* *'jè-la*_{agent} [*ta'mí*_{recipient} [*ha're* *ga'jèta*]_{theme}
2SG.NOM mother-POSS 1SG.ACC some cookie
'rà-k-o
give-PST.EGO-EP
'Your mom gave me some cookies'
'Tu mamá me dió unas galletas' < BFL 09 1:89/el >

- b. *baʔa'rîni 'mí 'àma*
baʔa'rî=[ni]_{agent} ['mí]_{theme} 'à-ma
 tomorrow=1SG.NOM 2SG.ACC look.for-FUT.SG
 'I'll look for you tomorrow'
 'Te voy a buscar mañana' < LEL 09 1:70/el >

Declarative sentences can be described morphosyntactically and syntactically in terms of the basic clause types as described in Chapter 13 (§13.1.1). The main morphosyntactic properties of basic clauses are summarized in (2):

(2) Basic clauses: morphosyntactic properties

- The basic clause consists of a predicate and the arguments it subcategorizes for.
- Pronominal forms encode core grammatical relations (subject and object), but there is no case marking in noun phrases.
- Given that noun phrases can be elided, a minimal clause in Choguita Rarámuri consists of an inflected verbal predicate.

Declaratives can also be characterized by the following prosodic properties (see §6.2; Caballero et al. 2014, Garellek et al. 2015):

(3) Prosodic properties of declarative sentences

- There is evidence of H% boundary tones
- Boundary H% tones may be overridden by lexical or grammatical HL tones
- There are “lead” (rhythmic) tones associated with lexical tones: lexical H and HL tones are optionally preceded by a L lead tone, while lexical L tones are optionally preceded by a H lead tone (Garellek et al. 2015)
- There are general and tone-specific non-tonal devices that encode intonation, including vowel re-articulation and lengthening at phrasal boundaries (Aguilar et al. 2015; Caballero et al. 2014)

Figure 6.2 and Figure 6.3 from Chapter 3 (repeated here as Figure 14.1 and Figure 14.2 for convenience) show the presence of H% boundary tones and their absence in sentences with a final lexical or grammatical HL tone, respectively.

The morphosyntactic and prosodic properties of declaratives provide the baseline for comparison when describing interrogative and imperative constructions. These are addressed next.

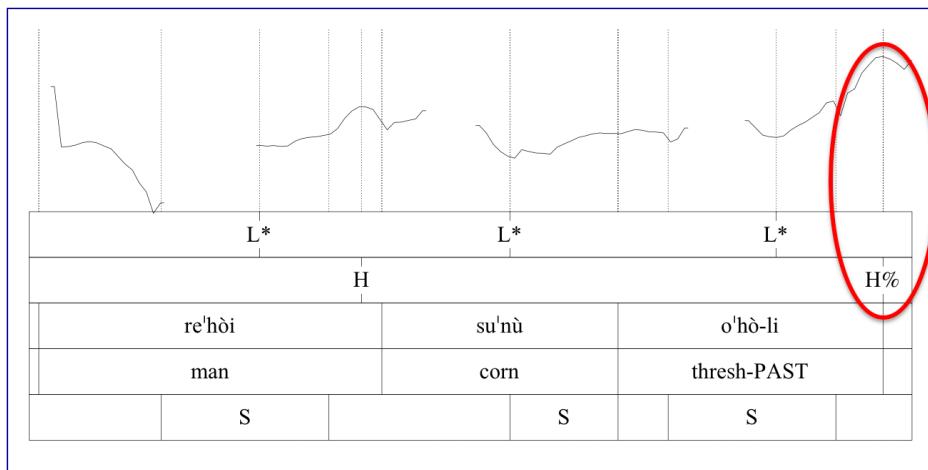


Figure 14.1: High boundary tone in declaratives (Garellek et al. 2015)

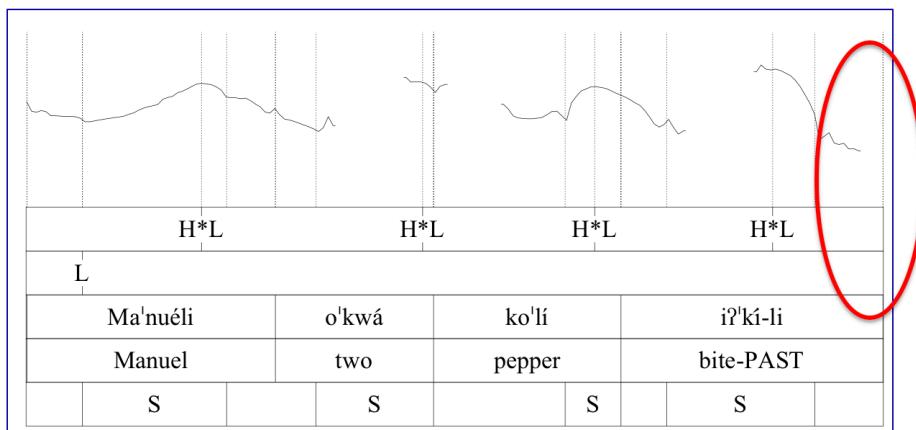


Figure 14.2: No high boundary tone in declaratives with lexical HL tones (Garellek et al. 2015)

14.2 Interrogative constructions

Different languages exploit a variety of morphosyntactic means to encode different speech acts, including assertions, commands and requests. While it is not uncommon that assertions or declarative sentences are unmarked, requests for information, or interrogative clauses, are cross-linguistically encoded through several grammatical devices. This section presents an overview of the conventionalized grammatical means Choguita Rarámuri exploits to express such requests for information.

Interrogative constructions in Choguita Rarámuri include a distinction between polar questions (discussed in §14.2.1) and content questions (discussed in §14.2.2), and each type in turn can be classified into different subtypes depending on their morphosyntactic and prosodic properties.

As discussed below, interrogative constructions that are morphosyntactically equivalent to declaratives are encoded exclusively through prosodic means, but prosody also plays a role in those interrogative constructions where there is a morphosyntactic device encoding the interrogative meaning. The existence of morphosyntactic mechanisms encoding different utterance types may preclude the use of distinctive intonational structures for the same purposes in some languages (e.g., Navajo (Athabaskan; McDonough 2002)). In Choguita Rarámuri, both polar and content interrogative constructions are characterized by two main prosodic properties. These are listed in (4):

(4) Prosodic properties of interrogative constructions

- A boundary H% tone targets the last stressed syllable of the utterance.
- There is raised register across the utterance.

While polar questions show some degree of variation in the realization of the boundary tone and the degree to which register is raised (discussed below and in Chapter 11), they consistently exhibit a high pitch target utterance-finally. As shown below, the magnitude of the peak is correlated with the presence/absence of an overt morphological device to encode a question, with the highest pitch excursions attested utterance-finally with morphosyntactically unmarked polar questions.

14.2.1 Polar questions

Polar questions may be classified morphosyntactically into three types:

(5) Polar questions: morphosyntactic types

- Morphosyntactically unmarked polar questions.
- Polar questions with interrogative particles.
- Polar questions with interrogative tags.

Each type is addressed in the following subsections.

14.2.1.1 Morphosyntactically unmarked polar questions

Polar interrogative clauses may be equivalent morphosyntactically to their declarative counterparts, differing only in their prosodic make-up. Some examples of unmarked polar questions are provided in (6) from conversational data.

(6) Morphosyntactically unmarked polar questions

- a. *pe u'sànabi?*

pe u'sàni-na=bi?

just six-DISTR=just

‘Just in six places?’

‘Nomás en seis partes?’ {SFH in61:04:37.8}

- b. *ke bi'lé pe 'tâfi i'têeli 'ónam tʃa'bè ko?*

ke bi'lé pe 'tâsi i'tê-li 'óna-ame tʃa'bè=ko

NEG one NEG NEG exist.NEG-PST cure-PTCP before=EMPH

‘There was no medicine before?’

‘No había medicina antes?’ {SFH in61:06:39.6}

As discussed in Chapter 6, closely-related Mountain Guarijío (Taracahitan; Uto-Aztecán) is reported to also have polar questions that are morphosyntactically equivalent to their declarative counterparts, with the interrogative meaning encoded through ascending intonation (“[g]eneralmente tienen entonación ascendente”) (Miller 1996: 112). A minimal pair between a declarative sentence and its morphosyntactically unmarked polar question counterpart in Choguita Rarámuri is provided in (7). Figure 14.3 and Figure 14.4 show the intonational difference between the declarative sentence in (7a) and the polar interrogative in (7b), respectively.

(7) Declarative vs. morphosyntactically unmarked polar question

- a. *'má 'tôlo*
 'má *'tô-li*
 already bury-PST
 ‘S/he buried him/her.’¹
 ‘Lo enterró.’ < BFL el1170 >
- b. *'má 'tôli?*
 'má *'tô-li?*
 already bury-PST
 ‘Did s/he bury him/her?’
 ‘¿Lo enterró?’ < BFL el1307 >

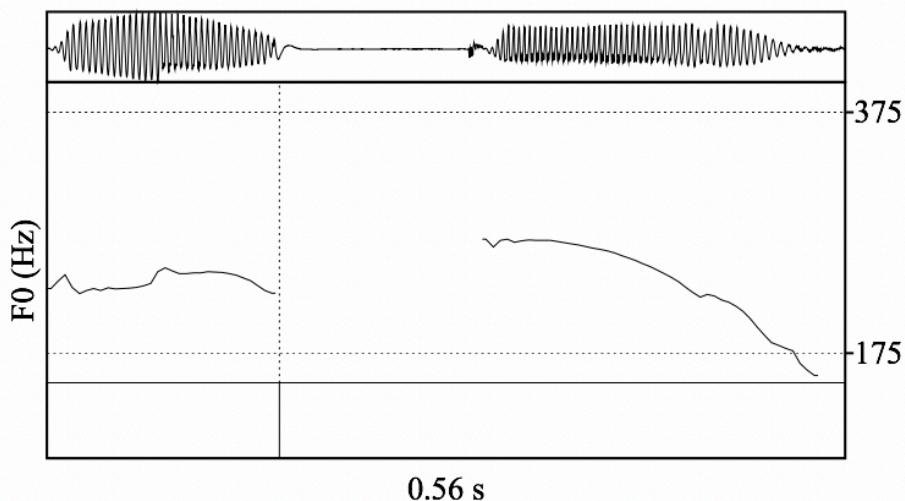


Figure 14.3: Declarative utterance: *'má 'tôlo* ‘S/he buried him/her’ (< BFL el1170 >)

The declarative sentence in Figure 14.3 features the falling pitch contour of the lexical HL tone of the verb (*tô* ‘to bury’) (note there is no evidence of a H% boundary tone found in declaratives in this utterance since the falling lexical tone in the stressed syllable overrides the boundary tone, as discussed in §11.4).

¹In this particular example, the suffix vowel surfaces as [o] given an optional round harmony process, where non-round vowels of certain suffixes may become round when preceded by a stressed back stem vowel. for more details about this process, see §9.4.3.5.

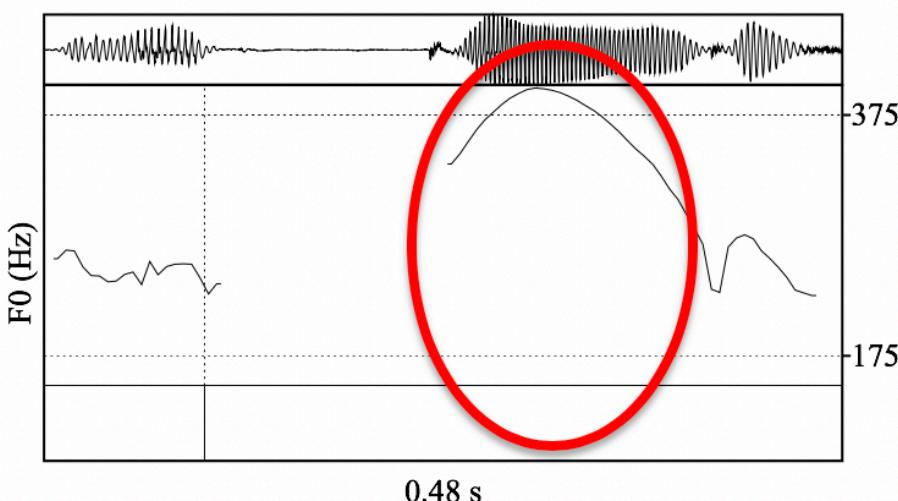


Figure 14.4: Morphosyntactically unmarked polar interrogative: 'má tōli? 'Did s/he bury him/her?' (< BFL el1307 >)

The comparison between the declarative utterance in Figure 14.3 and the interrogative one in Figure 14.4 shows raised register and significantly raised f0 in the stressed syllable in the interrogative (from 289 Hz to 396 Hz in this particular example for the same female speaker (BFL)). The high pitch target in the stressed syllable may be attributed to the interrogative H% intoneme aligning with the peak of the lexical HL tone in this stressed syllable.

A different intonation pattern is documented in interrogative sentences with a final stressed syllable specified for lexical L tone. This is shown in Figure 14.5.

As shown in this Figure, the lexical tone of the verb root is associated to the stressed syllable, while the H% boundary tone docks on a following, unstressed syllable. Thus, and as documented in declarative contexts, lexical tones are preserved over intonational ones (see §11.4 for further discussion).

14.2.1.2 Polar questions with interrogative particles

Polar questions may also be encoded through polar interrogative particle *'átfē* or its reduced form *'á*, which occur in clause initial position. Some examples of polar questions are provided in (8) (in these examples polar interrogative words are highlighted in **boldface**).

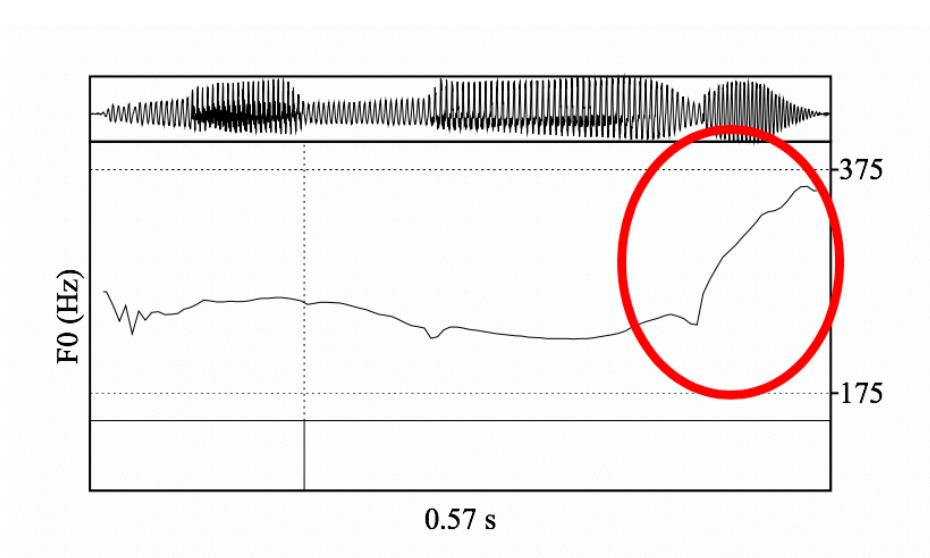


Figure 14.5: Accommodation of L tone and H% boundary tone in '*má 'neli?* 'Did s/he see him/her?' (< BFL el1307 >)

(8) Polar questions with interrogative particles

- a. *'átse wi'tfiara hu?*
'átse wi'tfiara hu?
 Q truth COP.PRS
 'Is it true?'
 '¿Es verdad? < SFH 06 in61(580)/in >
- b. *'átfi 'mí ri'wèki?*
'átse 'mí ri'wè-ki
 Q 2SG.NOM leave-PST.EGO
 'Did you leave it?'
 '¿Lo dejaste?' < GFP 09 3:14/el >
- c. *'ám ku 'pàa sa'míra?*
'á=mi ku 'pàa sa'míra?
 Q=2SG.NOM REV bring.PRS Samira
 'Did you already bring Samira?'
 '¿Ya trajiste a Samira?' < JLG co1237[0_496-0_506 >

The following minimal pair illustrates the contrast between declarative sentences (e.g., (9a)) and their polar interrogative counterparts (e.g., (9b)).

(9) Declarative vs. polar interrogative with 'átfé

- a. 'má naʔpôli naʔi
'má naʔpô-li naʔi
already weed-PST here
'S/he already weeded here.'
'Ya escardó aquí.' < SFH el1586 >
- b. 'átfé 'má naʔpôli naʔi?
'átfé 'má naʔpô-li naʔi?
Q yet weed-PST here
'Did s/he already weed here?'
'¿Ya escardó aquí?' < SFH el1586 >

As seen in this minimal pair, there is no change in the order of constituents in the interrogative construction.

The following minimal pair illustrates the prosodic difference between a declarative with a lexical L tone in utterance-final position ((9a) in Figure 14.6) and its polar interrogative counterpart with an interrogative particle ((9b) in Figure 14.7).

(10) Declarative vs. polar interrogative with 'átfé

- a. 'má na'wàli
'má na'wà-li
already arrive-PST
'S/he already arrived.'
'Ya llegó.' < SFH-nawa-arrive-L-minimal-sets >
- b. 'átfé 'má na'wàli?
'átfé 'má na'wà-li
Q already arrive-PST
'Did s/he already arrive?'
'¿Ya llegó?' < SFH-nawa-arrive-L-minimal-sets >

As attested in polar interrogatives that are morphosyntactically unmarked, the intonational encoding of polar questions with interrogative particles also involves the presence of a H% boundary tone, raised register and the preservation of lexical L tone: as seen in Figure 14.7, the sharp rise and peak of the H% tone is aligned with the final, post-tonic syllable.

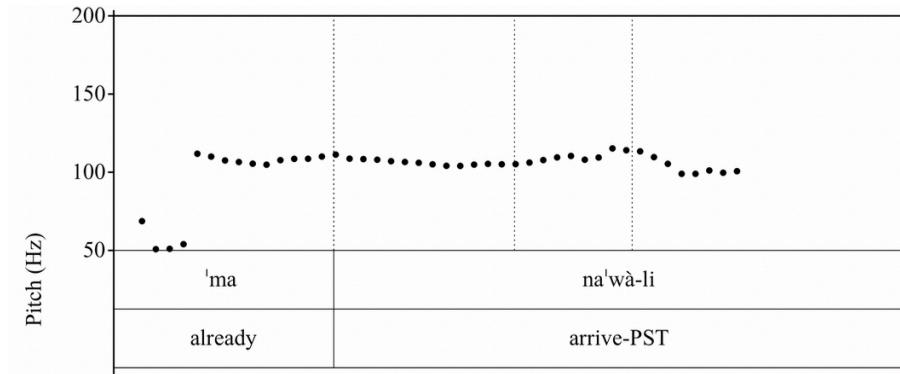


Figure 14.6: Declarative with utterance-final lexical L tone in '*má na'wàli* 'S/he already arrived.'

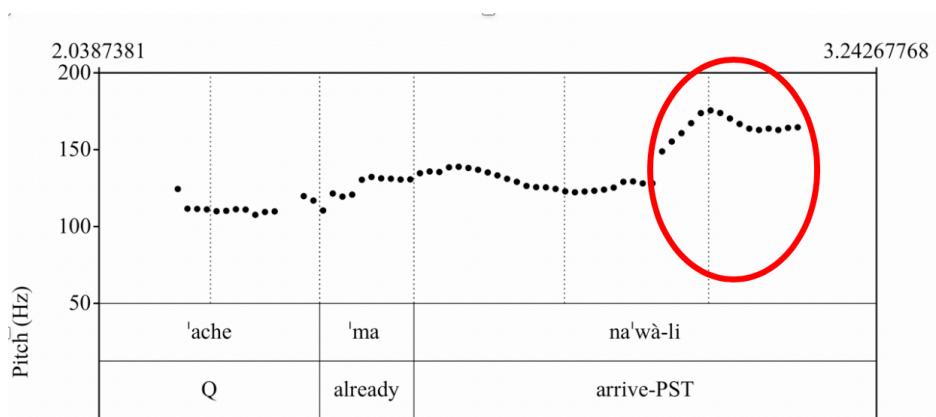


Figure 14.7: Polar interrogative with *átfé* and utterance-final lexical L tone in '*átfé má na'wàli?* 'Did s/he already arrive?'

14.2.1.3 Polar questions with interrogative tags

A third type of polar question involves the use of a negative interrogative tag (formally a phrase) at the end of the sentence. The negative interrogative tag characterizes sentences as questions, but also contributes an expectation that the answer will be positive. An example of this construction is provided in (11):

(11) Polar questions with interrogative tags

- a. *'má ku si'míli ma'nüel, we ra 'keo?*
'má ku si'mí-li ma'nüel, we ra 'ke-o?
 already REV go.SG-PST Manuel or or NEG-EP
 'Manuel already left, or not?'
 'Manuel ya se fue, ¿o no?' < BFL 09 1:45/el >

The tag question involves a disjunctive conjunction and a negative particle. In this particular example, the speaker expects a positive answer.

14.2.2 Content questions

In the canonical structure of content questions in Choguita Rarámuri, the question word appears in clause initial position. This is exemplified in (12).

(12) Content questions

- a. *'píri iʔ'kili ko'tí?*
'píri iʔ'kí-li ko'tí?
 what bite-PST dog
 'What did the dog bite?'
 '¿Qué mordió el perro?' < BFL 09 el725/el >
- b. *'hépi 'kwâmi 'yâbo ma'jéi wino'mî?*
'hêpi 'kwâ=mi 'yâ-bo ma'jê-i wino'mî?
 who=2SG.NOM give-FUT.PL think-IMPF money
 'Who did you think they were going to give the money to?'
 '¿A quién creías que le iban a dar el dinero?' < BFL 09 1:12/el >

As mentioned above, content (or information) questions are also characterized by a distinctive intonational contour: as shown in the contrast between a declarative sentence (shown in (13a), Figure 14.8) and a content question (shown in (13b), Figure 14.9).

(13) Declarative vs. content question

- a. *'má na'wàli*
'má na'wà-li
 already arrive-PST
 'S/he already arrived.'
 'Ya llegó.' < SFH-nawa-arrive-L-minimal-sets >
- b. *'hèpi 'kwâ na'wàli?*
'hèpi 'kwâ na'wà-li
 who who arrive-PST
 'Who arrived?'
 '¿Quién llegó?' < SFH-nawa-arrive-L-minimal-sets >

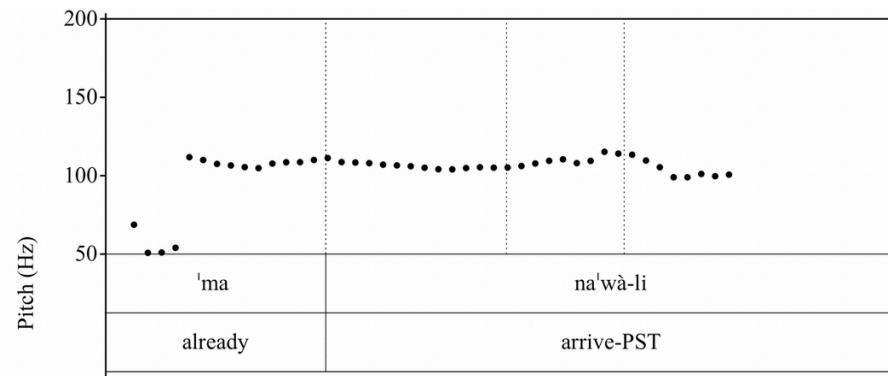


Figure 14.8: Declarative with utterance-final lexical L tone

The pitch track of the content question in Figure 14.9 shows a boundary H% tone in the last unstressed syllable of the utterance and register raising across the utterance.

A H% boundary tone is also present in content questions where a lexical H tone is associated to the final stressed syllable of the utterance. This is shown in (14), with a contrast between a declarative in (14a) (illustrated in Figure 14.10) and a content question in (14b) (illustrated in Figure 14.11).

(14) Declarative vs. content question: utterance-final, lexical H tone

- a. *'má mu'rúli*
'má mu'rú-li
 already carry.in.arms-PST
 'S/he already carried it in their arms'
 'Ya lo cargó en brazos' < BFL-muru-carry-H-minimal-sets >

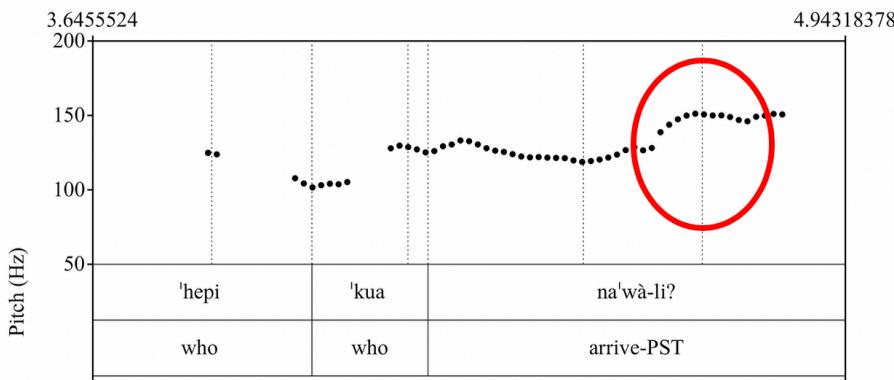


Figure 14.9: Content question with utterance-final lexical L tone

- b. *'hêpi 'kwâ mu'rúli?*
'hêpi 'kwâ mu'rú-li
 who who carry.in.arms-PST
 'Who carried it in their arms?'
 '¿Quién lo cargó en brazos?' < BFL-muru-carry-H-minimal-sets >

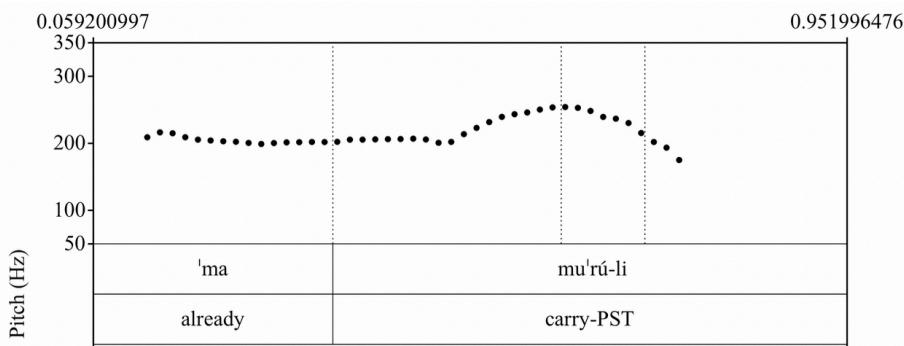


Figure 14.10: Declarative with utterance-final lexical H tone

In the declarative sentence represented in Figure 14.10 there is no evidence of a H% boundary tone, which is optional in declaratives. In the content question represented in Figure 14.11, on the other hand, there is a clear pitch target in the final, unstressed syllable of the utterance, which is higher than the one associated with the lexical H tone of the stressed syllable (a difference of almost 30Hz in this particular example).

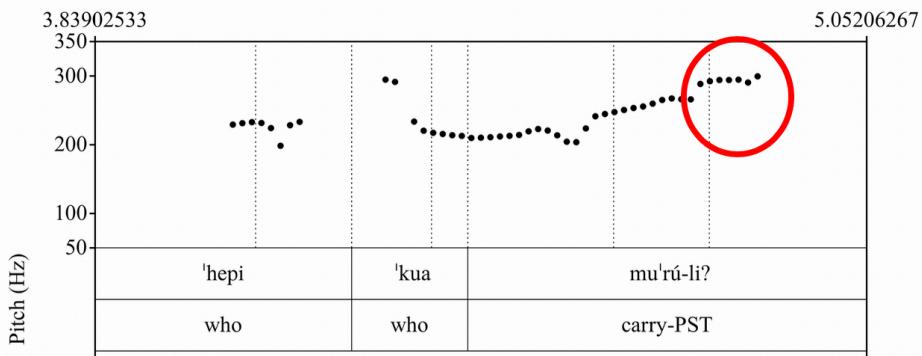


Figure 14.11: Content question with utterance-final lexical H tone

There is, however, no evidence of a H% boundary tone nor any register manipulation when the content question contains a lexical HL tone in utterance final position. This is shown in the contrast between the declarative sentence in (15a) (Figure 14.12) and its content question counterpart in (15b) (Figure 14.13).

(15) Declarative vs. content question: utterance-final, lexical HL tone

- a. *'má i'sili*
'má i'si-li
already pee-PST
'S/he already peed.'
'Ya orinó.' < BFL-isi-pee-HL-minimal-set >
- b. *'hēpi 'kwâ i'sili?*
'hēpi 'kwâ i'si-li
who who pee-PST
'Who peed?'
'¿Quién orinó?' < BFL-isi-pee-HL-minimal-set >

In this pair of examples (produced by the female speaker BFL), the highest pitch peak associated with the lexical HL tone is comparable (270Hz in the declarative in Figure 14.12 and 260Hz in the content question in Figure 14.13), and their pitch contours largely equivalent. Thus, the comparison between the intonational contours of these two sentences shows that there is no evidence of any distinctive intonational encoding of a content question where HL tones override the H% tone associated with interrogative constructions elsewhere. This stands in contrast to polar questions, where, as shown in Figure 14.4 above, there is significantly raised f0 in the final stressed syllable of the interrogative utterance.

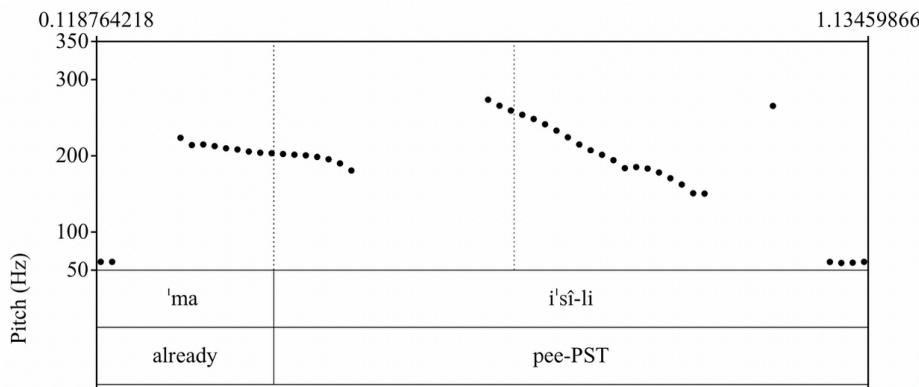


Figure 14.12: Declarative with utterance-final lexical HL tone

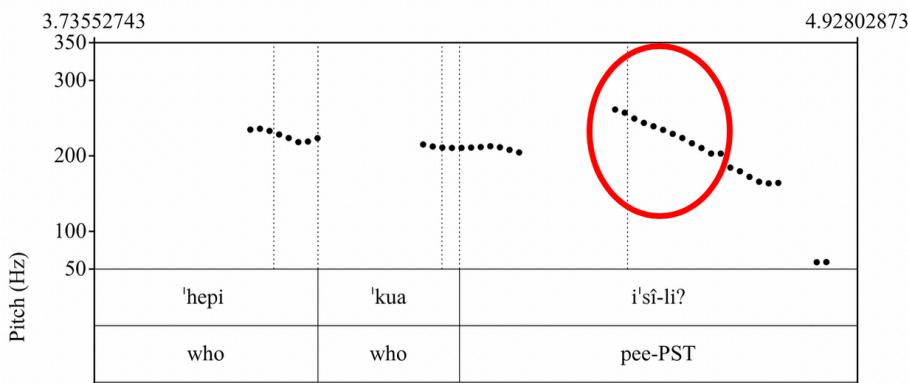


Figure 14.13: Content question with utterance-final lexical HL tone

Content or information questions use one of a set of interrogative pronouns and phrases (see also §10.1.4), which mark the clause as an interrogative one and fulfill the function of indicating which information is being requested. Table 14.1 displays the question words and phrases encountered in the Choguita Rarámuri corpus.

While the canonical position of interrogative words in content questions is in clause initial position (as in (16a)), they may also appear *in situ* (as in (16b)).

(16) Position of interrogative words in content questions

- a. *Fronted*
'piri i?kili ko'tsi?

- 'p̪iri iʔk̪i-li koʔt̪i?*
 what bite-PST dog
 ‘What did the dog bite?’
 ‘¿Qué mordió el perro?’ < BFL 09 el725/el >
- b. *In situ*
koʔt̪i 'p̪iri iʔk̪i-li?
koʔt̪i p̪iri iʔk̪i-li
 dog what PST
 ‘What did the dog bite?’
 ‘¿Qué mordió el perro?’ < BFL 09 el725/el >

As shown in (16b), the question word for the object appears pre-verbally and after the Subject NP, as in the unmarked SOV word order in Choguita Rarámuri (as described in §14.1).

Table 14.1: Choguita Rarámuri interrogative words and phrases

Forms	Gloss
<i>'p̪iri?</i>	What? (<u>¿Qué?</u>)
<i>he (pi) 'kwâ? (u?u'ka)</i>	Who? (<u>¿Quién?</u>)
<i>'kámi? 'kúmi?</i>	Where? (<u>¿Dónde?</u>)
<i>t̪ú (t̪e) ri'ká?</i>	How? (<u>¿Cómo?</u>)
<i>t̪ú?</i>	How? (<u>¿Cómo?</u>)
<i>t̪i 'jíri?</i>	Which kind? (<u>¿Qué tipo?</u>)
<i>(t̪ú) 'kípi?</i>	How many? (<u>¿Cuántos?</u>)
<i>t̪ú 'rúpi?</i>	How much? (<u>¿Qué tanto?</u>)
<i>t̪ú 'jêni?</i>	How much? (<u>¿Qué tanto?</u>)
<i>t̪ú i'kíana?</i>	How many places? (<u>¿Cuántos lugares?</u>)
<i>t̪ú ki'nápi?</i>	At how many places? (<u>¿Qué tantos lugares?</u>)
<i>t̪ú ri'kó?</i>	When? (<u>¿Cuándo?</u>)
<i>ka'bú?</i>	When? (<u>¿Cuándo?</u>)
<i>t̪ú (t̪e) o'lá?</i>	Why? (<u>¿Por qué?</u>)
<i>t̪ú 'jêni?</i>	At what time? (<u>¿A qué hora?</u>)
<i>t̪ú ki'rípi?</i>	How long? (<u>¿Cuánto tiempo?</u>)
<i>'p̪iri 'nà-ti?</i>	With what? (<u>¿Con qué?</u>)
<i>t̪ú 'nà-ti?</i>	With what? (<u>¿Con qué?</u>)
<i>(he pi) 'kwâ 'júa?</i>	With whom? (<u>¿Con quién?</u>)

The examples so far have shown constituent interrogatives in simple clauses. In complex clauses, it is possible to ask questions where the question word stands for an argument of a complement clause. In these cases, the interrogative word is fronted in the matrix clause. This is shown in the contrast between a declarative sentence with a subordinate clause (in (17a)) and the content question counterpart of this declarative (in (17b)). The question word is highlighted in boldface.

(17) Constituent interrogative: argument of subordinate clause

- a. *'nè ko ra'môn 'âbo ma'jêki wino'mî*
'nè=ko ra'môn 'â-bo ma'jê-ki wino'mî
 1SG.NOM=EMPH Ramón give-FUT.PL think-PST.EGO money
 'I thought they were going to give the money to Ramón.'
 'Yo pensé que le iban a dar el dinero a Ramón.' < BFL 09 1:12/el >
- b. *'hêpi 'kwâmi 'yâbo ma'jêi wino'mî*
'hêpi 'kwâ=mi' 'yâ-bo ma'jê-i wino'mî
 who who=2SG.NOM give-FUT.PL think-IMPF money
 'Who did you think they were going to give the money to?'
 '¿A quién pensaste que le iban a dar el dinero?' < BFL 09 1:12/el >

As can be seen in these examples, constituent order is not altered beyond placement of the question word in sentence initial position: both sentences share the property of having the theme argument of the complement clause in sentence final position (*wino'mî* 'money'), and the dependent verb (*'yâ* 'give') preceding the matrix verb (*ma'jê* 'think').

Further examples of constituent interrogatives of arguments of complement clauses are provided in (18).

(18) Constituent interrogative: argument of subordinate clause

- a. *'pîrimi ta'mí 'âlo ri'mù?*
'pîri=mi ta'mí 'â-li-o ri'mù
 what=2SG.NOM 2SG.ACC give-PST-EP dream
 'What did you dream he gave me?'
 '¿Qué soñaste que me dió?' < BFL 09 1:12/el >
- b. *'hêpu 'kwâmi ri'mù ['nápuni 'âlo bi'lé ri'mê]?*
'hêpi 'kwâ=mi ri'mù 'nápi=ni 'â-li-o bi'lé re'mê
 who who=2SG.NOM dream SUB=1SG.NOM give-PST-EP one tortilla
 'Who did you dream I gave a tortilla to?'
 '¿A quién soñaste que le di una tortilla?' < BFL 09 1:12/el >

These examples show a content question where the question word stands for an argument of a complement clause, an object argument in (18a) and a recipient argument (18b) of the ditransitive predicate *'?à* ‘to give’ (the complement clauses are indicated with square brackets). Further details on the syntax of complement clauses are provided in §15.1.

14.3 Negation

Negation may be expressed in Choguita Rarámuri through a number of mechanisms. First, there are several negative free forms, addressed in §14.3.1 below, which are antonyms of positive free forms (*a'jena* and *'tio* ‘yes’). Some of these forms are also deployed in clausal negation, as discussed in §14.3.2. Negative forms that function as constituent negators are described in §14.3.3. Finally, negative existential and negative locative clauses are addressed in §14.3.4.

The set of negative particles and complex negative markers available in Choguita Rarámuri are provided in Table 14.2, with their gloss, function and approximate translation (for more details about the morphological properties of negative particles, see §10.8.3).²

In addition to these negative particles and complex negative markers, there are morphologically complex negative quantifiers in the language which involve negative particles, including *ke/tâsi* (*bi'lé*) *na'mûti* ‘none, nothing’ and *ke/tâsi* *'wêsi* ‘nobody’.

14.3.1 Negative free forms

A range of negative forms, including *ke*, and *ke tâsi*, are frequently found in answers to questions, whether the questions are negative (as in (19)) or positive (as in (20) and (21)) indifferently (in contrast to languages that have specialized markers for answers contradicting negative questions, e.g. French *si*, German *doch*, *inter alia*).

²As discussed in Chapter 10 (§10.8), ‘particles’ are defined as a set of heterogeneous word classes that are characterized by being closed and morphologically simple, bearing no inflection or derivation and, in some cases, being phonologically reduced. Each class of particles is composed of fewer than a dozen members per class and may have a wide range of functions and meanings.

Table 14.2: Negative markers

Form	Gloss	Function	Translation
<i>ke</i>	NEG	interjection, clausal negation	'No'
<i>'kítí</i>	PROH	prohibitive (negative imperative)	'Don't!'
<i>ke 'tâsi</i>	NEG NEG	interjection, clausal negation	'No'
<i>pe ke bi'lé</i>	just NEG one	emphatic interjection	'Not at all!'
<i>ka t̪íè</i>	NEG.IRR again	clausal negation	'Not again/anymore'
<i>ke/tâsi t̪ó</i>	NEG yet	clausal negation	'Neither'
<i>ke/tâsi bi'lé</i>	NEG one	clausal negation, constituent neg.	'Nothing at all', 'No single'
<i>ni bi'lé</i>	nor one	constituent neg.	'Nor any'

(19) Negative forms: answering negative questions

- a. [GCH]: *ke me apa'rúame 'ét̪í*
ke me apa'rúame 'ét̪í?
 NEG almost fierce DEM
 'Is he not that fierce that one?
 '¿No es tan bravo ese?' < GCH co1136 >
- b. [MDH]: *B: ke, ke me o'báta 'lé*
ke, ke me o'báta a'lé
 NEG NEG almost fierce.PL DUB
 'No, they are not that fierce'
 'No, casi no son bravos (no se enojan)' {MDH co1136:14:41.4}

(20) Negative forms: answering positive questions

- a. [SFH]: *na'lína ke pe 'á t̪étimi it̪á'kámi ko'ýáa ono'káli a'lé*
t̪á'béewami ko 'nápu ri'ká 'náa ... 'nápu ri'ká re'pôjo 'mí it̪í'wáwamti?
na'lína ke pe 'á t̪é=timi it̪á'-kámi ko'ýá-a ono'ká-li
 so NEG just AFF also=2PL.NOM plant-PTCP eat-PROG do--PST
a'lé t̪á'bé-w-ami=ko 'nápu ri'ká 'ná 'nápu ri'ká re'pôjo
 DUB before-NMLZ-PTCP=EMPH SUB like DEM SUB like cabbage

'mí itʃi-wá-w-am-ti?

there plant-MPASS-W-PTCP-COM

‘And did you all indeed also plant (for eating) like ... like the planting of cabbage?’

‘¿Y sí sembrarían antes (cosas) como ... así como la siembra de repollo?’ {SFH in242:3:42.0}, {in242:3:52.8}

- b. [FLP]: *ke tâsi*

ke tâsi

NEG NEG

‘No.’ {FLP in242:03:55.7}

(21) Negative forms: answering positive questions

- a. [SFH]: *tfû ri'ká? 'nè wa'jéla jûa aſi'sâ?*

tfû ri'ká 'nè wa'jé-la jûa aſi-'sâ?

Q how 1SG.NOM younger.sister.male.POSS with sit-COND

‘How? As if he were (together) with my younger sister?’

‘¿Cómo? ¿Cómo si estuviera (emparejado) con mi hermana menor?’

{SFH in485:02:32.0}

- b. [ME]: *ke!*

ke!

NEG

‘No!’ {ME in485:02:33.8}

These negative forms are also used to contradict statements assumed by the speaker to be incorrect, as in (22).

(22) Negative forms: contradicting statements

- a. [GCH]: *'má na'wàli mi'kêli*

'má na'wà-li mi'kêli

already arrive-PST Michael

‘Michael already arrived’

‘Ya llegó Miguel’

- b. [MDH]: *ke tâsi, pe ke tʃó na'wàli*

ke tâsi pe ke tʃó na'wà-li

NEG NEG just NEG yet arrive-PST

‘No, he hasn’t arrived yet’

‘No, todavía no llega’

The form *pe ke bilé* is an emphatic interjection, adding emphasis to a question or statement to express a strong disagreement. Examples of this emphatic interjection are provided in (23) and (24).

(23) Emphatic negative interjection

- a. [FLP]: *'nápi sibi'ríko 'días atí ká 'tſé wili'bé wasa'rúi ba
'nápi sibi'ríko 'días atí ká 'tſé wili'bé*
SUB Federico Diaz be.sitting.PRS NEG NEG be.lying.PRS
wasa-'rú-i ba
plow-PST.PASS-IMPF CL
'Because where Federico Díaz is (lives) it was barely plowed (the
land).'
'Porque donde está Federico Díaz casi no estaba barbechado (no
estaba muy ancha la tierra).' {FLP in61:04:21.8}

b. [SFH]: *pe ke bi'lé!*
pe ke bi'lé!
just NEG one
'Not at all!'
'No, nada!' {SFH in61:04:25.4}

(24) Emphatic negative interjection

- a. [SFH]: *ke bi'lé kili'sântemi 'òuka ri'ká*
ke bi'lé kili'sân=timi 'òwi-ka *ri'ká*
 NEG one fertilizer=2PL.NOM cure.fertilize-GER like
 'Didn't you all cure (fertilize) with fertilizer?'
 '¿No curaban (fertilizaban) con fertilizante?' {SFH in484:01:50.0}

b. [ME]: *'pé ke bi'lé! 'pé ke bi'lé! 'pé ku'ríbi ko 'hônsa ni'lú a'lé*
'pé ke bi'lé! 'pé ke bi'lé! 'pé ku'rí=bi=ko 'hônsa
 just NEG one just NEG one just recently=just=EMPH since
ni'lú *a'lé*
 exist.PRS DUB
 'Not at all! Not at all! It just recently started (fertilizing crops)'
 'No, nada! No, nada! Hace poco que empezó (lo de fertilizar)' {ME
 in484:01:50.6}

The emphatic negative interjection '*pé ke bi'lé*' is not found with other constituents in clauses. The negative interjections *ke* and *ke 'tâsi*, on the other hand, may also occur in phrases and clauses and are involved in clausal negation, as described next.

14.3.2 Clausal negation

Clausal negation in Choguita Rarámuri is achieved using the forms *ke*, *ke 'tâsi*, *ka t̄e* and *ke/'tâsi t̄jō*. Negative forms typically occur before the predicate, following a cross-linguistic trend noted in (Dryer 2007a: 105).³ Negative forms may also occur in clauses where the predicate has been elided. This is shown in (25a) and (25b–c), respectively.

(25) Clausal negation

- a. *ke ni'lú?*
ke *ni'lú?*
 NEG EXIST
 ‘There wasn’t any?’
 ‘¿No había?’ {SFH in61:2:28.3}
- b. *kōt̄fini bu'kē, to'lí ko ke*
kōt̄fi=ni *bu'kē* *to'lí=ko* **ke**
 pigs=1SG.NOM have.domesticated.animals.PRS chicken=EMPH NEG
 ‘I have pigs, chickens no (I don’t).’
 ‘Tengo cochis, pollos no.’ < BFL 09 3:113/el >
- c. *t̄ja'bè ko=tí ke bi'lé 'níwi lúsi ru, a?li ke bi'lé ba?wí*
t̄ja'bè *ko=tí* **ke** *bi'lé* *'níwi* *lúsi* *ru* *a?li* **ke**
 before EMPH=1PL.NOM NEG one have electricity say.PRS and NEG
bi'lé ba?wí
 one water
 ‘Long ago we didn’t have electricity and no water.’
 ‘Antes no teníamos luz ni agua.’ < SFH 09 4:2/el >

Further examples of clausal negation are provided in (26).

(26) Clausal negation

- a. *ke 'tâsi /síli*
ke *'tâsi* *'sí-li*
 NEG NEG come.PL-PST
 ‘They didn’t come.’
 ‘No vinieron.’ {MDH co1136:03:12.0}

³In clausal negation in closely related Mountain Guarajío, Miller (1996) reports that the negative form *ka?í* appears in clause-initial position (1996: 119).

- b. *'ká 'tſè kai'nâma 'lé ke naʔpôsuwa 'ká ba*
'ká 'tſè kai'nâ-ma a'lé ke naʔpô-suwa
 NEG anymore yield.harvest-FUT.SG DUB NEG weed-COND.PASS
'ká ba
 COP.IRR CL
 'There won't be any (harvest) yield if there is no weeding.'
 'No se da (la cosecha) si no se escarda.' {MDH co1136:04:39.5}
- c. *'kítí ke tſo ri'hòoli 'má na'ñi ba*
'kítí ke tſo ri'hòo-li 'má na'ñi ba
 because NEG yet inhabit.PL-PST already here CL
 'Because there was almost no people (living) here yet.'
 'Porque casi no había gente aquí todavía.' {JMF tx817:00:36.9}
- d. *"ka bi'lé tſo a'wí ba" a'nè*
ka bi'lé tſo a'wí ba a'n-è
 NEG one yet dance CL say.IMP.SG-APPL
 'They haven't danced yet" you (should) tell them.'
 'Todavía no bailan", diles.' < JLG co1237[9_156-9_167] >

Clausal negation with *ka tſè*, as in (26b), is attested in conditional sentences where *ka tſè* appears in the main apodosis (consequence) clause, preceding the protasis clause. Other kinds of uses of *ka tſè* in clausal negation are attested in the context of a sequence of clauses where the negative form involves a negative consequence (roughly translated here as 'because not'). These uses are exemplified in (27) and (28).

(27) Clausal negation in clause chaining contexts

- a. *'pé 'má 'hém na'wâsa ta'mí, aʔlì 'nà ... aʔlì 'pé 'má ri'ká waʔ'lû*
buʔu'râaro 'lá 'nà
'pé 'má 'hém na'wâ-sa ta'mí, aʔlì 'nà aʔlì 'pé 'má
 just already here arrive-COND 1SG.ACC and DEM and just already
ri'ká waʔ'lû buʔu'-râ-ro o'lá 'nà
 like big road-VBLZ-PST.PASS CER DEM
 'Once I already arrived here then the big road was made.'
 'Ya cuando llegué yo aquí entonces hicieron el camino grande.' {ME
 in485:06:45.6}

- b. *ká 'tfè ko ulu'bê bu?u'rúi t̪á'bèi ko*
'ká 'tfè=ko wa?lu-'bê bu?u-'rú-i t̪á'bèi=ko
 NEG because=EMPH big-MORE road-VBLZ-IMPF before=EMPH
 'Because there was no road before.'
 'Porque antes no había camino grande.' {ME in485:06:50.6}
- (28) Clausal negation in clause chaining contexts
- a. *kíti ke 't̪ó ri'hòli 'má na'ñi ba*
'kíti ke 't̪ó ri'hò-li 'má na'ñi ba
 because NEG yet inhabit.PL-PST already here CL
 'Because there were almost no people here yet.'
 'Porque casi no había gente aquí.' {JMF tx817:00:36.9}
- b. *ká 'tfè wi^hka'bê ri'hòoli ba o'kwâ ri'hòoram ba 'pé be'sá ma'kòi ri'hòoli*
'lé
'ká 'tfè wi^hka'bê ri'hò-li ba o'kwâ
 NEG because many-MORE inhabit.PL-PST CL few
ri'hò-r-ame ba 'pé be'sá ma'kòi ri'hò-li a'lé
 inhabit.PL-PST-PTCP CL just three-times ten inhabit.PL-PST DUB
 'Because there were not that many people, (just) a few people, just
 about thirty people lived here, I think.'
 'Porque casi no había gente, había muy poquita como treinta yo
 creo.' {JMF tx817:00:36.9}

As shown in the following example (29), the elements of morphologically complex negative markers need not be contiguous (negative forms are highlighted in boldface).

- (29) Discontiguous negative forms
- aʔlì 'má **ke** 'nà 'tòli 't̪ó 'étfì ri'hò ali'wâla ko*
*aʔlì 'má **ke** 'nà 'tò-li 't̪ó 'étfì ri'hò ali'wâ-la=ko*
 and already NEG that take-PST anymore DEM man soul-POSS=EMPH
 'And then he didn't take the man's soul anymore.'
 'Y entonces ya no se llevó el alma del señor.' {LEL tx5:1:38.7}

14.3.3 Constituent negation

Constituent negation in Choguita Rarámuri is encoded through a series of negative constructions, involving *ke* 'no', *ke tâsi bi'lé* 'not one', *ni bi'lé* 'nor anything',⁴

⁴The form *ni* is a borrowing from Spanish, the negative conjunction.

ke 'tâsi na'mûti ‘not a thing’, and *ke 'tâsi 'wêsi* ‘nobody’. These negative forms appear immediately preceding the modified constituent. Examples of constituent negation are provided in (30).

(30) Constituent negation

- “**ká 'tse** *bi'lé ka'sè ma'tfîni ba 'ni*”
 ‘**ká 'tse** *bi'lé ka'sè ma'tfîni* *ba 'ni*
 NEG anymore one place come.out.SG CL ni
 “It’s not coming out in any place.”
 “No sale en ninguna parte.” {SFH tx152:6:37.5}

As described above, Choguita Rarámuri also expresses negation through two negative quantifiers: (*ke*) *'tâsi (bi'lé) na'mûti* ‘none, nothing’ (where the noun *na'mûti* means ‘thing’) and (*ke*) *'tâsi 'wêsi* ‘nobody’ (where *'wêsi* means ‘nobody, no one’, as it is not attested outside of negative contexts). These negative quantifiers are exemplified in (31).

(31) Negative quantifiers

- a. *a?li ke bi'lé na'mûti re'wáli hijéa*
a?li ke bi'lé na'mûti re'wá-li hijé-a
 and NEG one thing see-PST find.trace-PROG
 ‘And they found no trace.’
 ‘Y no hallaron ninguna huella.’ {LEL tx_mawiya:2:09.9}
- b. *ke bi'lé na'mûti 'níuka mo'tfîli 'nà ri'pá ri?lé*
ke bi'lé na'mûti 'níu-ka mo'tfî-li 'nà ri'pá re?lé
 NEG one thing have-GER inhabit.PL-PST DEM above down
 ‘They didn’t have anything down there where they lived.’
 ‘Que no tenían nada allá abajo en donde vivían.’ {LEL tx109:2:48.1}
- c. *a?li 'mò ro? ke 'wêsi be'nèri ko?*
a?li 'mò ro ke 'wêsi be'nè-ri=ko
 and 2SG.NOM and NEG nobody learn-CAUS=EMPH
 ‘And you? Don’t you teach anybody?’
 ‘¿Y tu? ¿No le enseñas a nadie?’ {SFH in243:11:27.7}

In cases where there is both clausal negation and constituent negation using negative quantifiers, the clausal negation form appears in clause initial position, preceding the negative quantifiers. This is shown in (32). The negative particles and quantifiers are highlighted in boldface.

- (32) *'tâsi=ni bi'lé 'wêsi 'nè-nali*
'tâsi=ni bi'lé 'wêsi i?nè-nale
 NEG=1SG.NOM one nobody see-DESID
 'I don't want to see anybody.'
 'No quiero ver a nadie.'

In this particular example, the 1st person singular subject is encoded through the enclitic *=ni*, which attaches after the first constituent, following the pattern for Wackernagel position clitics.

Finally, there are also cases where complex negative expressions are discontinuous in clauses with constituent negation. This is shown in (33).

- (33) Discontinuous negative forms in constituent negation
'pé 'wé ka?lá ka'jèni ki?àa ko ... 'wé a?lá ke bi ko bi'lé wita?fí na'kí ba
'pé 'wé ka?lá ka'jèni ki?à=ko 'wé a?lá ke=bi=ko bi'lé
 just INT well harvest.PRS before=EMPH INT well NEG=just=EMPH one
wita?fí na'kí ba
 fertilizer need CL
 'Crops would turn out well, there wasn't any need for fertilizer.'
 'Se daba muy bien antes la cosecha, no se necesitaba abono.' {FLP
 in61:02:46.8 0:02.0}, {FLP in61:2:49.8}

While discontiguous, the complex negative marker still precedes the modified constituent (the noun *wita?fí* 'fertilizer').

14.3.4 Negative existential and locative clauses

Existential negation is encoded through a dedicated negative predicate of existence used in conjunction with the negative particle *ke*, which contrasts with the positive polarity postural predicates deployed in locative clauses (see §13.2.3 and §13.2.4). Examples of negative existential predication are provided in (34).

- (34) Negative existential predication
- 'má ke i'tê ku, 'má o'kwâ bi'tí ko*
'má ke i'tê ku 'má o'kwâ bi'tí=ko
 anymore NEG be.NEG wood already two be.lying.PRS=EMPH
 'There is no more wood, there is only a little left.'
 'Ya no hay leña, ya nomás quedan unos pocos.' {MDH co1136:01:09.9}

- b. *ke bilé 'pé 'tâsi i'teeli 'ònám tʃá'bè ko?*
ke bilé 'pé 'tâsi i'tê-li 'òn-ame *tʃá'bè=ko*
 NEG one just NEG be.NEG-PST cure-PTCP before=EMPH
 'There was no doctor before?'
 '¿No había doctor antes?' {SFH in61:06:39.6}
- c. *'má 'kátſi i'têli baʔa'rîna ma nata'kêa bu'ʔili 'étfi re'hòi*
'má 'ká 'tſè i'tê-li *baʔa'rî-na* *ma* *nata'kê-a*
 already NEG NEG be.NEG-PST tomorrow-at already faint-PROG
bu'ʔi-li *'étfi* *re'hòi*
 lie.down.SG-PST DEM man
 'He wasn't there anymore the next day, he already lay fainted that man.'
 'Ya no estaba al otro día, ya estaba desmayado ese señor.' {LEL
 tx5:02:33.1}

Negative locative predication employs the same negative morphemes. This is shown in (35).

- (35) Negative existence markers *ke i'tê* in negative locative clauses
na'ʔi ke i'tê 'bôte
na'ʔi ke i'tê 'bôte
 here NEG be.NEG can
 'The can is not here.'
 'Aqui no está el bote.' < LEL 09 1:74/el >

14.4 Imperatives

Imperatives are defined as constructions that encode directive speech acts (including orders, requests, warnings, invitations, etc.), usually directed at addressees (second persons) König & Siemund (2007); in some cases the term “imperative” is extended to constructions where commands, requests, etc. are addressed to the first or third person. This section addresses the multiple constructions that encode directive speech acts in Choguita Rarámuri, including positive imperatives, prohibitives, hortatives and motion imperatives.

14.4.1 Positive imperative

Imperatives in Choguita Rarámuri are headed by an imperative-marked verb (for a description of imperative morphology, see Chapter 9). Imperative suffixes en-

code subject number distinctions, with a set of concatenative and non-concatenative allomorphs encoding a single addressee and a suffix encoding that the directive speech act is addressed to a group.

As discussed in §9.2.2, there are four allomorphs of the imperative singular: the stress-shifting *-kâ* suffix (36a), the stress-shifting *-sâ* suffix (36b–c), a rightward stress shift (36d) and a L tonal exponent (36f).

(36) Singular addressee imperatives

- a. *'wé sa'pù a'síkska! 'píri t̪u'kú na'ñ?*
'wé sa'pù a'sí-si-ka *'píri t̪u'kú nañ*
 INT hurry sit.up-MOT-IMP.SG what be.bent here
 ‘Hurry, get up! What’s here? (lit. What sits in four legs here?)’
 ‘¡Levántate pronto! ¿Qué hay (lit. está sentado en cuatro patas)
 aquí?’ {LEL tx5:0:52.7}
- b. *ko'sâ!*
ko'-sâ!
 eat.IMP.SG
 ‘Eat!’
 ‘¡Come!’
- c. *'màsa*
'mà-sa!
 run-IMP.SG
 ‘Run!’
 ‘¡Corre!’ < BFL 04/11/06/el >
- d. *na?so'wâ!*
na?so'wâ
 stir.IMP.SG
 ‘Stir it!’
 ‘¡Revuélvelo! < BFL el1957 >
- e. *cf. na?sòwa*
 ‘S/he stirs it.’
 ‘Lo revuelve.’
- f. *hi'ràa!*
hi'rà
 bet.IMP.SG
 ‘Bet!’
 ‘¡Apuesta!’ < SFH el 1925 >

- g. *cf. hirâ*
 'S/he bet.'
 'Apuesta.'

The stress-shift imperative allomorph is phonologically-conditioned, and is selected by unstressed trisyllabic roots (e.g., *naʔ'sòwa* 'to stir' in (36d)). The L tone allomorph of the imperative singular, on the other hand, is realized on the stressed syllable of HL-toned stems (e.g., *hirâ* 'to bet' in (36f)) (see §11.3.7 in Chapter 11). The distribution of the allomorphs is otherwise lexically determined, though there are stems where the same lexical root may be attested with more than one allomorph in an apparent case of free variation (i.e., with no apparent semantic differences) and without any multiple exponence (i.e., one or another allomorph will surface, but not both at the same time), as shown in (37) and (38). This availability of several imperative morphemes may be related to strategies to attenuate directive speech acts. Such distinctions are not apparent in the available corpus of the language, though a larger corpus with greater contextualization of social contexts may reveal differences in these terms for the different imperative devices available.⁵

(37) Free variation in imperative allomorph selection

- a. *niʔ'kika!*
niʔ'kî-ka
 bite.SG-IMP.SG
 'Bite it!'
 '¡Muérdelo!'< BFL 2014:65 >
 b. *niʔ'ki!*
niʔ'kì
 bite.SG.IMP.SG
 'Bite it!'
 '¡Muérdelo!'< BFL 2014:65 >

(38) Free variation in imperative allomorph selection

- a. *tò'kâ*
tò'-kâ
 take-IMP.SG
 'Take it!'
 '¡Llévatelo!' < BFL el1882 >

⁵This seconds a suggestion made in (Miller 1996: 107) about potential distinctions between imperative constructions in closely-related Mountain Guarajío, where several imperative suffixes appear to be in free variation.

- b. *tò'sâ*
tò-'sâ
 take-IMP.SG
 'Take it!'
 '¡Llévatelo! < BFL el1882 >
- c. *'tòo*
'tòo
 take.IMP.SG
 'Take it!'
 '¡Llévatelo!' < BFL el1882 >

As shown in these examples, variation in allomorph selection may involve a choice between two allomorphs (a suffix allomorph and a tonal allomorph in (37)), or it may involve three morphological marking options (two suffixal allomorphs and the tonal allomorph in (38)). In the latter example, the L tone allomorph of the imperative singular vacuously applies in the case of a L-toned stem like *tò* 'to take'.

In contrast to the imperative singular, the imperative plural involves no allomorphy, but a single productive suffix (stress-shifting *-si*), exemplified in (39).

(39) Plural addressee imperative

- a. *aʔlì 'má 'hê ani'mêa Lola "ku ba'hîsi ne ko!" ani'mêa*
aʔlì 'má 'hê ani-'mêa Lola "ku ba'hî-si ne=ko!"
 and already it say-FUT.SG Lola REV drink-IMP.PL EXH=EMPH
ani-'mêa
 say-FUT.SG
 'And Lola will promptly say: "Go on, drink up!", she will say.'
 'Y ya va a decir Lola: "¡Ya tómenle pues!", va a decir.' {JLG
 co1234:18:28.2}
- b. *aʔlì 'má wi'rôsa ko 'hê ani'mêa "ja ba'hîsi ba!" 'hê ani'mêa*
aʔlì 'má wi'rô-sa=ko 'hê ani-'mêa "ja
 and already throw.up.in.air-COND=EMPH it say-FUT.SG already
ba'hî-si ba!" 'hê ani-'mêa
 drink-IMP.PL CL it say-FUT.SG
 'And when they throw it up in the air (the corn beer), they say "You all drink already!", that's how it is said.'
 'Y ya cuando lo tiran (el tesgüino) para arriba, se dice "¡Ya tomen!", así se dice.' {JLG co1234:12:52.2}

- c. *bueno ko ... kaʔ'lá 'nè ko i'wêra ku aʔpésa si'mási ne koʔ'wámi aʔ'lá bi'látimi ba'nerlila ro 'pé kútfi ri'káatfi ko ba ne, 'má bi'látimi 'sèbili bueno=ko kaʔ'lá 'nè=ko i'wê-ra ku aʔpé-sa si'má-si ne koʔ'wá-ame aʔ'lá bi'lá=timi go.PL-IMP.PL INT eat-MPASS-PARTC good well=2PL.NOM ma'n-è-r-li-la 'ru 'pé kútfi be.located.container-APPL-CAUS-CAUS-REP say.PRS just little ri'ká=tfi=ko ba ne 'má bi'lá=timi 'sèbi-li like.that=DEM=EMPH CL INT already like=2PL.NOM be.enough-PST*
 ‘Well ... go on in peace, take the food, good thing is that you were given a little, it was so so enough for you all ...’
 ‘Bueno ... váyanse agosto, llévense la comida, lo bueno es que lo pusieron de a poquito, más o menos les alcanza a ustedes ...’ {MFH tx1131:00:09.6}
- d. *ku i'nârsi ki'rì a'wênili a wika'bébi i'fétimi ku 'sili 'tʃó a'lé ku i'nâri-si ki'rì a'wênili a wika-'bê=bi i'fè=timi REV go.IMP.PL peacefully alone.PL AFF far-more=just also=1PL.NOM ku 'sili 'tʃó a'lé REV go.PL.PL also DUB*
 ‘Go back in peace on your own, I think you may go with others.’
 ‘Regrésense tranquilos solos, yo creo que a lo mejor van entre muchos.’ {MFH tx1133:02:30.5}

As described above, the plural imperative is used when the speaker is addressing a group with a directive command. Crucially, the group excludes the speaker, as directive speech forms including the speaker deploy a different morphological construction, namely the hortative construction, described below in §14.4.3.⁶

A special form is used in positive imperatives, where the speaker conveys encouragement, possibly as a politeness strategy, in the directive speech. This form, involving the imperative-inflected verb plus an exhortative particle *ne* and the emphatic enclitic *ko*, is attested in a variety of contexts involving a polite encouragement. This is exemplified in the commonplace expression in (39a) and (39b) above and (40).

⁶Miller (1996: 110) describes that closely related Mountain Guarajío does not make a distinction between single and multiple addresses in imperative morphology, but the future plural suffix (-*po*/*bo*, cognate with the Choguita Rarámuri future plural -*pô* suffix) is used in conjunction with imperative suffixes to attenuate the force of the directive command. There are no equivalent forms in the Choguita Rarámuri corpus.

- (40) *ja ko'?*á *ne ko!*
ja *ko'?*á *ne=ko!*
 already eat.IMP.SG EXH=EMPH
 'Go on, eat!'
 '¡Come, pues!'

This construction is also deployed in affirmative answers to polite directive speech acts, as exemplified in another commonplace type of exchange (41b).

- (41) a. A: *ja ba'hisi ka'hêke!*
ja *ba'hî-si* *ka'hêke!*
 already drink-IMP.PL coffee
 'You all drink coffee!'
 '¡Ya tomen café!'
 b. B: *ho?*u *ne ko!*
*ho?*u *ne=ko!*
 yes EXH=EMPH
 'All right!'
 '¡Órale pues!'

14.4.2 Prohibitive

Negative imperatives or prohibitives in Choguita Rarámuri are encoded through a construction involving a dedicated prohibitive morpheme and an imperative-marked verb. The imperative morphology in the inflected verb is the same as in positive imperative clauses (see §14.4.1). Prohibitive clauses contain the prohibitive marker *kíti* in clause initial position. This is shown in (42).

- (42) Prohibitive clauses
- a. *'kíti na'laka!*
'kíti *na'là-ka*
 PROH cry-IMP.SG
 'Don't cry!'
 '¡No llores!' <BFL 05 2:89/el >
 - b. *'kíti ri?*ná *biti'sí!*
'kíti *ri?*ná *biti-'sí*
 PROH on.back lie.down.PL-IMP.PL
 "Don't sleep on your back!"
 "No se acuesten boca arriba!" {LEL tx5:06:00.1}

- c. “*kíti* ‘páka lo’kási!’”
 ‘*kíti* ‘pá-ka lo’ká-si!’”
 PROH throw-GER drink.pinole-IMP.PL
 “Don’t drink pinole spilling it!”
 “¡No tomen pinole tirándolo!” {MDH co1136:10:25.9}

The marker *kíti* is also used in subordinate clauses introducing reason clauses, as exemplified in (43) (see Chapter 15, §15.2.3).

- (43) a. *ke bi'lé a'wío 'lá, 'kíti ke u'kú a'lé ko*
ke bi'lé a'wí o'lá, 'kíti ke u'kú a'lé=ko
 NEG one dance CER SUB NEG rain.PRS DUB=EMPH
 ‘They don’t dance (ritually), that is why it doesn’t rain’
 ‘Pues no bailan, por eso no llueve’ {MDH co1136:06:23.1}
- b. *aʔ'limi no'kéema aʔ'lá 'nàri 'kíti ko ke mu'jáma*
aʔ'li=mi no'k-è-ma aʔ'lá 'nàri 'kíti=ko ke
 and=2SG.NOM move-APPL-FUT.SG well like.that SUB=EMPH NEG
mu'já-ma
 rot-FUT.SG
 ‘And you will move it well (often) so that it won’t rot.’
 ‘Y lo vas a mover bien (cada rato) para que no se pudra.’ {BFL
 tx60:00:43.1}
- c. *'pé a'wéni be ko ri'hwili tʃá'bè 'kíti 'pé ko'lì ti'jópatʃí 'níla 'ra si'néwi ko*
ba
'pé a'wéni be=ko ri'hwí- li tʃá'bè ['kíti 'pé ko'lì
 just alone.PL just=EMPH inhabit.PL-PST before SUB just side
ti'jópatʃí 'ní-la 'ra si'néwi=ko ba]
 church COP-REP say.MPASS first.time=EMPH CL
 ‘There were just a few people living (here) before, that is why it is said it was over there by the church the first time’
 ‘Vivían poquitos antes, por eso dicen que fue allá por aquel lado de la iglesia la primera vez’ {SFH tx12:00:52.0}

As shown in these examples, the clause introduced by *kíti* may be either positive (43a–b) or negative (43c).

14.4.3 Exhortative

Imperative constructions in Choguita Rarámuri with an exhortative meaning are marked with the clause initial particle *to* and may optionally have a closing exhortative particle *bo*. This construction is exemplified in (44).

- (44) a. *'too jêni 'dûlse iwkitali ja'dîra*
'to jêni 'dûlse iwi-ki-ti-li *ja'dîra*
- EXH Yéni candy bring.APPL-APPL-CAUS-IMP.SG Yadira
 'Go on, make Yeni bring candy for Yadira!'
 '¡Ve, haz que Yeni le traiga dulces a Yadira!' < BFL 07 1:62/el >
- b. *'too mi'tsiktili bo*
'to mi'tsí-ki-ti-li *bo*
- EXH carve-APPL-CAUS-IMP.SG EXH
 'Go on, carve it for him!'
 '¡Anda, lábraselo!' < BFL 08 1:107/el >
- c. *ni'bi! 'too i'ñé bo!*
ni'bi 'to i'ñé *bo*
- look EXH see.IMP.SG EXH
 'Look! Take a look at it!'
 '¡Mira! ¡Míralo!' < BFL 06 Nov04/el >

In these examples, the speaker encourages the addressee to carry out an activity in a polite fashion. These types of polite requests are frequent in every day conversation.

14.4.4 Motion Imperatives

One type of imperative construction in Choguita Rarámuri involves suffixes that, alone or in combination with imperative mood suffixes, encode a motion associated with the main verb of the event plus a command ('Go and do X!'), directed at a single or plural addressee. The stress-shifting suffix *-me* is used for single addressees. When there are multiple addressees, the Motion Imperative involves the stress-shifting suffix *-pi* (with stress-shifting allomorph *-bô*, followed by the imperative plural suffix. Examples of the motion imperative construction are provided in (45).

- (45) a. *'étfi 'hùrimi na!*
'étfi 'hùri-mi na
DEM send-MOT.IMP there
'Go and send (the fire bird) to him!'
'Ve y mándale (el pájaro de fuego) a ese!' < LEL 06 tx5(80)/tx >
- b. *ta'mí ku 'ákipisi*
ta'mí ku 'á-ki-pi-si
1SG.ACC REV look.for-APPL-MOT.IMP.PL-IMP.PL
'You all go and look for it for me!'
'Vayan a buscármelo!' < BFL 08 1:164/el >

As described in Chapter 9, there is an associated motion marker used in declarative sentences (for discussion about associated motion in cross-linguistic perspective, see Guillaume 2016).

14.5 Comparatives

The final type of specialized sentence type addressed in this chapter is comparative constructions. Across languages, comparative constructions involve a predicate that encodes a predicative scale, and two noun phrases, one which encodes the object of comparison (the Comparee NP), and another which encodes the standard of comparison (the Standard NP) (for an overview of the typological parameters of variation of comparative constructions, see Stassen 1985 and Haspelmath & the Leipzig Equative Constructions Team 2017). The Choguita Rarámuri comparative construction involves a gradable predicate expressed through an adjective, a deverbal nominalized form or a verbal predicate. If the gradable predicate is encoded through an adjective or a nominalized form, the comparative also features an associated copular verb. Degree is optionally expressed through an adverb or a comparative suffix in the predicate. The object of comparison is a nominal phrase optionally followed by an emphatic particle. Finally, the standard of comparison is introduced through the postpositions *'(j)ua* 'with' or *'kítara* 'about'. The schema in (46) shows the structure of Choguita Rarámuri comparative constructions.

- (46) Structure of comparative constructions
[Comparee NP] [(Adverb)] [Gradable predicate] [(Copula)] [Standard NP] [Postposition]

The examples in (47) illustrate the structure of comparative constructions.

- (47) a. *si'kâ wato'ná t̪f̪u'kúam ká 'wé ra'síra 'wáami 'hú kohi'ná j̪úa*
si'kâ wato'ná t̪f̪u'kú-ame ká 'wé ra'síra 'wá-ame
 arm.hand right be.bent-PTCP COP.IRR INT more be.strong-PTCP
'hú kohi'ná j̪úa
 COP.PRS left THAN
 'The right arm/hand if flexed is stronger than the left one.'
 'El brazo derecho si está flexionado es más fuerte que el izquierdo.' <
 BFL 09 1:30/el >
- b. *'mò ko wiʔlí 'hú ta'mí j̪úa*
'mò=ko wiʔlí 'hú ta'mí j̪úa
 2SG.NOM=EMPH tall COP.PRS 1SG.ACC THAN
 'You are taller than me.'
 'Tu estás más alto que yo.' < LEL 09 2:6/el >
- c. *'mò ko 'téeri 'hú ta'mí j̪úa*
'mò=ko 'téeri 'hú ta'mí j̪úa
 2SG.NOM=EMPH tall COP.PRS 1SG.ACC THAN
 'You are shorter than me.'
 'Tu estás más chaparro que yo.' < GFM 09 3:101/el >

All three examples in (47) involve an adjective or nominalized gradable predicate and the associated present tense copula *hu* 'is'. In (47a), the object of comparison noun phrase includes a relative clause, while the gradable predicate, the nominalized form '*wáami* 'strong', is modified by two degree adverbs (*we* 'very' and *ra'síram* 'more'). In all of the examples in (47), the object of comparison appears in the initial position in the construction, followed by the gradable predicate, the copula verb, the standard of comparison and the postposition.

Negative comparisons ('less than') are encoded through negative particles that have under their scope the gradable predicate. Negative comparison constructions are exemplified in (48).

- (48) a. *'et̪fi ti'wé ko ke me wa'ríni lo'rêna j̪úa*
'et̪fi te'wé=ko ke me wa'rína lo'rêna j̪úa
 DEM girl=EMPH NEG almost light Lorena THAN
 'That girl is less light (fast) than Lorena.'
 'Esa muchacha es menos ligera que Lorena.' < LEL 09 2:6/el >
- b. *'hê 'nà a'séite ko ke me nati'kí 'hê 'nà 'kítara*
'hê 'nà a'séite=ko ke me nati'kí 'hê 'nà 'kítara
 DEM PROX oil=EMPH NEG almost expensive DEM PROX THAN
 'This oil is less expensive than this other one.'
 'Este aceite es menos caro que este otro.' < LEL 09 2:6 Steffel/el >

- c. *wasa'tfí ko ke me apa'rûame 'hú wasa'tfí wa?lûara jûa
 basa'tfí=ko ke me apa'rû-ame 'hú basa'tfí wa?lû-a-ra
 coyote=EMPH NEG almost angry-PTCP COP.PRS coyote big-a-NMLZ
 jûa
 THAN*
 'The coyote is less dangerous than the wolf.'
 'El coyote es menos bravo que el lobo.' < SFH 09 3:85/el >

Comparative constructions may also be encoded via asyndetic conjunction or parataxis, the juxtaposition of clauses with no overt conjunction, with verbal ellipsis in the second clause. This is exemplified in (49).

- (49) *na'ñi ko ke me ruru'wá, ni'hê bi'térifí ko we
 [na'ñi=ko ke me ruru'wá] [ni'hê bi'térifí=ko we]
 here=EMPH NEG almost cold 1SG.NOM house=EMPH INT
 'It is less cold here than were I live' (lit. 'It is not very cold here. It is very
 (cold) where I live.')
 'Hace menos frío aquí que en donde vivo' (lit. 'Aquí casi no hace frío.
 Donde yo vivo, mucho.') < SFH 09 3:85/el >*

Comparative constructions may also include a gradable predicate which is morphologically marked as comparative through the suffix *-bê* 'more/surpass'. The examples in (50) illustrate this morphological marker:

- (50) a. *ká tñé wika'bê ri'hòo-li ba o'kwâ ri'hòorame ba 'pé be-'sá ma'kòi
 ri'hòo-li lé
 ká tñé wika'-bê rihói-li ba o'kwâ rihói-li-ame ba
 NEG NEG far-more inhabit.PL-PST CL few inhabit.PL-PST-PTCP CL
 'pé be-'sá ma'kòi ri'hòi-li a'lé
 just three-times ten inhabit.PL-PST DUB
 'Because there were almost no people living here, more far away,
 just like thirty lived here.'*
 'Porque casi no había gente aquí, había muy poquita como treinta
 yo creo.' < JMF 09 tx817(6)/tx >
- b. *ní-ma be 'là-o 'pé a wili-'bê i'ná-ma lé 'mò ko ba
 ní-ma be 'là-o 'pé a wili-'bê i'ná-ma a'lé
 COP-FUT.SG be think-EP just AFF long-more go.along.SG-FUT.SG DUB
 'mò=ko ba
 2SG.NOM=EMPH CL
 'I think so, you will be around (live) for a longer time.'*

‘Yo creo que si, tu si vas a andar mucho tiempo.’ < FLP 06 in61(704)/in >

- c. *'nápi sibi'ríko 'días a'tí 'kátʃí wili'bê wasa'rúi ba*
*'nápi sibi'ríko 'días a'tí 'kátʃí **wili**'bê wasa'rú-i ba*
 SUB Federico Díaz sit.SG.PRS NEG wide-MORE plow-NMLZ-IMPF CL
 ‘Where Federico Díaz lives there was not much plowed land (the land was not very wide).’
- ‘Donde está Federico Díaz casi no estaba barbechado (no estaba muy ancha la tierra).’ < FLP 06 in61(94)/in >
- d. *ah! a'bé=mi ripa-'bê si-'mê o'lá-li*
ah! a'bé=mi ripa-'bê si-'mêa o'lá-li
 Ah! more=2SG.NOM up-more go.SG-FUT.SG make-PST
 ‘Oh, you were going to go up higher (studying more).’
 ‘Ah, ibas a ir muy arriba (estudiando más).’ < SFH 06 in61(277)/in >

This morphological construction also marks superlative constructions, as shown in (51) below.

- (51) a. *aʔlì 'étʃí ta'bêara bini'lá ko 'á ri'pili 'étʃí ko*
aʔlì 'étʃí ta-'bê-a-ra bini'lá=ko 'á
 and DEM small-more-PROG-NMLZ small.sister-POSS=EMPH AFF
ri'pí-li 'étʃí=ko
 remain-PST DEM=EMPH
 ‘And then the youngest sister stayed.’
- ‘Y entonces la hermana menor se quedó.’ < LEL tx32(33)/tx >
- b. *sere'bêrio be ko ri'wèi ta'bêara ko*
sere'bêrio be=ko ri'wè-i ta-'bê-a-ra=ko
 Silverio be=EMPH be.named-IMPF small-more-PROG-NMLZ=EMPH
 ‘Silverio was the name of the youngest one.’
 ‘Se llamaba Silverio el más chico.’ < FLP 06 in61(286)/in >

Comparatives may also involve a non-copular verbal predicate, as the following examples in (52) show. The example in (52a) contains no gradable predicate.

- (52) a. *"nè ko 'wé ma'tʃí simè-a bio'lín 'mò 'kítara*
'nè=ko 'wé ma'tʃí se'mè-a bio'lín 'mò 'kítara
 1SG.NOM=EMPH INT know play-PROG violin 2SG.NOM THAN
 ‘I know how to play the violin better than you.’
 ‘Yo se tocar más el violín que tu.’ < GFM 09 3:101/el >

- b. *nè ko 'wé ra'síra 'nótíri o'lá be'nè-a mu'hê júa*
 'nè=ko 'wé ra'síra 'nótí-*li* o'lá be'nè-a mu'hê
 1SG.NOM=EMPH INT more struggle-PST CER learn-PROG 2SG.NOM
júa
 THAN
 'I struggle more to learn than you.'
 'Batallo más para aprender que tu.' < GFM 09 3:101/el >

The Choguita Rarámuri comparative construction is of a type that may be characterized as a 'locational/adverbial comparative' Stassen (1984), as the markers of the standard of comparison are postpositions in the language. The construction consists of a single clause and the comparee NP can fulfill any grammatical function. In contrast, other Uto-Aztecán languages have been analyzed as having a 'particle comparative', including Comanche (Numic; Smalley 1953), Tohono O'odham (Tepiman; Zepeda 1983), and Tümpisa Shoshone (Numic; Dayley 1989) (see discussion in Stassen 2013).

15 Complex clauses and complex predication

This chapter is concerned with the ways in which basic clauses may be extended through subordination, coordination and other devices in Choguita Rarámuri. The constructions addressed in this chapter are assumed to involve complex relationships between distinct events. These complex relationships are generally encoded cross-linguistically through subordination and coordination structures.

Three main types of subordinate clause constructions are discussed in the first section of this chapter: complement clauses in §15.1, adverbial clauses in §15.2, and relative clauses in §15.3). This classification depends on the main functions that subordinate clauses may have: to serve as the complement of a verbal predicate (complementation) or to modify a verb phrase or a whole clause in the periphery of a matrix clause (adverbial subordination). Choguita Rarámuri also exhibits other specialized complex clause constructions, including indirect causative constructions (§15.1.5) and complements of speech verbs (§15.1.7). A class of verbs, namely reportative verbs, exhibit switch reference marking in the complement clauses they head; these types of clauses are addressed in §15.1.6.

This chapter also addresses clausal coordination constructions, the type of syntactic constructions where two or more constituents that have equivalent status are combined into a larger syntactic unit and still have the same semantic relations with other surrounding elements (Haspelmath 2007). Choguita Rarámuri clause coordination constructions include conjunction (§15.4.1), disjunction (§15.4.2) and adversative conjunction (§15.4.3).

Another type of complex construction attested in the language addressed in this chapter involves verbal chaining structures (§15.5), where two or more predicates may convey that some events take place simultaneously or in a temporal sequence. Additionally, these constructions may imply associated semantic meanings related to chronological overlap and succession, such as cause and effect, result, and manner.

Finally, this chapter addresses constructions that may be analyzed as involving complex predicates, including light verb constructions (§15.6.1), auxiliary verb

constructions (§15.6.2), serial verb constructions (§15.6.3) and V-V incorporation constructions (§15.6.4).

15.1 Complement clauses

Complementation involves syntactic configurations where a notional sentence or predication is an argument of a matrix predicate (Noonan 2007). Complement clauses in Choguita Rarámuri are identified as such if the complement clause fulfills a syntactic argument of the matrix clause. In most instances, the complement clause is a syntactic argument of the matrix predicate; in the case of Choguita Rarámuri, complement clauses involve a matrix transitive predicate whose object is a complement clause. Four major types of complement clauses can be identified on the basis of their morphosyntactic properties:

- (1) Choguita Rarámuri complement clause types
 - a. Finite complement clauses with complementizer (§15.1.1).
 - b. Interrogative complement clauses (§15.1.2).
 - c. Asyndetic finite verb complement clauses (§15.1.3).
 - d. Reduced complement clauses (§15.1.4).

In addition to these four types of complement clauses, Choguita Rarámuri has specialized constructions that involve complementation, including an indirect causative construction (§15.1.5), a reportative clause construction that features switch reference marking (§15.1.6), and complement clauses of speech verbs (§15.1.7).

15.1.1 Finite complement clauses with complementizer

This type of complement clause has almost all of the properties of an independent clause and is introduced by a complementizer, the subordinating particle '*nápi* or its reduced form '*(n)ápi*, which also is used in other types of subordinate clause constructions (§15.2) and relative clauses (§15.3). This type of complement clause is exemplified in (2). The matrix clause always precedes the complement clause (represented in square brackets in the examples below).

- (2) a. *nè ko 'á bi'lá 'wé 'tfò 'á majéa 'níli 'ápi 'hípi ro'kò 'á no'rínima*
'nè-ko 'á bi'lá 'wé 'tfò 'á majé-a 'ní-li ['ápi
 1SG.NOM=EMPH AFF indeed INT also AFF think-PROG COP-PST SUB
'hípi ro'kò 'á no'ríní-ma]
 today night AFF return-FUT.SG
 'I also think that he will return tonight.'
 'Yo también pienso que va a venir hoy en la noche.' {LEL tx32:11:36.7}
 b. *ká ni ma'tfíki 'nápu 'tòoru ba*
'ká=ni ma'tfí-ki ['nápu 'tò-ru ba]
 NEG=1SG.NOM know-PST.EGO SUB take-PST.PASS CL
 'I didn't know he had been taken.'
 'No sabía que se lo habían llevado.' < BFL 09 1:39/el >

The finite verb of the complement clause appears in clause final position and is unrestricted in terms of TAM markers available in matrix clauses. In these particular examples, the complement verb is marked as future (2a) or may be passivized (2b). The matrix clause and complement clause can also be negated independently from each other: in (2b), only the main predicate is negated, but the complement is in the positive polarity, which points to the relative low degree of integration between the complement and the matrix clause in this type of complement clause structure.

15.1.2 Interrogative complement clauses

Another type of complement clause involves a subordinate finite clause introduced by an interrogative expression (see §10.1.4). Several verbs of speech and cognition can take this type of complement, as shown in (3). The interrogative word occurs in clause initial position as in matrix interrogative clauses (§14.2).

- (3) a. *'étfí ri'ká bi'lá ko matfí'nália 'í 'nà? ko 'náp ... tfú ri'kám 'ká ri'wèeli*
tʃá'bèè
'étfí ri'ká bi'lá=ko matfí-'náli-a 'í 'nà=ko
 DEM like indeed=EMPH know-DESID-PROG here here=EMPH
[tfú ri'ká=mi 'ká ri'wè-li tʃá'bè]
 Q how=DEM COP.IRR was.like-PST before
 'She wanted to know how it (life) was here before.'
 'Ella quería saber cómo era (la vida) antes aquí.' {SFH tx475:00:54.4}

- b. *ta'mò 'kútſuala 'tſō be'nèma 'tſō 'nà 'tſútimi ri'ká 'nàwa no'ká 'nà o'tſéla no'ká tſa'bè ki'?*à *ba*
ta'mò 'kútſua-la 'tſō be'nè-ma 'tſō 'nà ['tſú=timi
 1PL.NOM children-POSS also learn-FUT.SG also then how=2PL.NOM
ri'ká=m 'nàwa no'ká 'nà o'tſé-la no'ká tſa'bè
 indeed=DEM arrive.PRS do-GER then grow.old-REP do-GER before
*ki'?*à *ba]*
 long.ago CL
 'Our children are also going to learn how you all lived, how you
 grew up.'
 'Nuestros hijos también van a aprender cómo crecieron antes
 ustedes, como vivían.' {SFH in61:00:46.7}, {SFH in61:00:49.2}
- c. *'má 'mí ba?*a'rína 'mí ri'káatſi 'má a?lá matſi'sáa 'ká 'tſi 'níria 'étſi 'táa
*'má 'mí ba?*a'rína 'mí ri'káatſi 'má a?lá matſi'sáa
 already DEM next.day DEM perhaps already well know-COND
'ká ['tſú 'nír-a 'étſi 'tá 'ba]
 COP.IRR how feel-PROG DEF small.one CL
 'And then already the next morning I think he knows how the child
 is feeling.'
 'Ya a la mañana siguiente yo creo que va a saber qué siente el niño.'
 {SFH tx475:02:44.7}

As described above for declarative complement clauses with complementizers (§15.1.1), the matrix clause always precedes the complement clause. All properties identified for declarative finite complement clauses with complementizers hold for embedded questions, including the lack of restrictions in terms of TAM marking in the complement clause. As shown in the following example, negation also applies independently in the matrix clause and the complement clause: in (4), the negative particle in sentence initial position does not have scope over the complement clause.

- (4) *ke pi'láti bi'lé matſi'ká mo'tſíli ta'mò 'ká tſé wi'lé 'tſō matſi'wá a?*li *ko ba 'píri*
'nà ta na'júka suwi'já ba
ke bi'lá=ti bi'lé matſi'ká mo'tſí-li ta'mò 'ká tſé bi'lé
 NEG indeed=1PL.NOM one know-GER sit.PL-PST 1PL.NOM because NEG then
*'tſō matſi'wá a?*li=ko *ba ['píri 'nà ta na'jú-ka*
 also know-MPASS and=EMPH CL what DEM 1PL.NOM be.sick-GER

suwi-’já ba]

finish.off-PROG CL

‘We were without knowing, us, because then it wasn’t known yet what it was (that was) making us sick and dying (lit. ‘being finished off’).’

‘Pues nosotros estábamos sin saber, porque en ese tiempo todavía no se sabía nada de qué nos enfermábamos y nos moríamos.’ {LEL tx372:00:41.4}, {LEL tx372:00:47.4}

15.1.3 Asyndetic finite verb complement constructions

Another type of complement clause in Choguita Rarámuri involves asyndetic subordination, where the matrix and subordinate clause are juxtaposed without any overt complementizer. These constructions are exemplified in (5).

- (5) a. *’nàri kútſí i’wé ’má ... ’wé ’á ma’tſí ’tſó pe’lâto pa’kóa*
’nàri kútſí i’wé ’má ’wé ’á ma’tſí ’tſó [pe’lâto
 then young.PL girls already INT AFF know.PRS also plates
pa’kó-a]
 wash-PROG
 ‘And then the girls know very well how to wash the dishes.’
 ‘Y las niñas saben muy bien lavar los platos.’ {LEL tx73:02:13.4}
- b. *’nè ko ’pé ke ma’jé re’mē na’híbo na’ñi o’nátſí*
’nè=ko ’pé ke ma’jé [re’mē na’hí-bo na’ñi
 1SG.NOM=EMPH NEG NEG think.PRS tortillas give.away-FUT.PL here
o’nátſí]
 here
 ‘I don’t think they will give away tortillas here.’
 ‘No creo que vayan a dar tortillas aquí.’ < BFL 09 1:39/el >
- c. *ri’wáki ’tſéni ke ’mónulo ’trôkatſí*
ri’wá-ki ’tſé=ni [ke ’mó-nul-o ’trôkatſí]
 see-PST.EGO also=1SG.NOM NEG go.up-DESID-EP truck
 ‘I saw that he didn’t want to get on the truck.’
 ‘Vi que no se quiso subir a la troca.’ < BFL 09 1:39/el >
- d. *aʔlì ’má iʔnèli ’pé ’má muku’ká bu’yíli*
aʔlì ’má iʔnè-li [’pé ’má muku-’ká bu’yí-li]
 and already see-PST little already die-GER lie.down-PST
 ‘Then they saw that he was already lying down dead.’
 ‘Entonces ya vieron que ya estaba muerto.’ {LEL tx5:02:42.8}

In asyndetic finite verb complementation, the complement clause may have a different subject from the matrix clause. This is exemplified in (5b–d).

Utterance predicates may also encode complements through the asyndetic finite verb construction, as exemplified in (6).

- (6) a. *wa'bē bi'lá ki'jà 'nīla ... 'hē bi'lá ri'kám a'nía a'ní bi'sá t'fē t'fō'kēami na'hùla 'rá 'nà ka'wì*
wa'bē bi'lá ki'jà 'nī-la 'hē bi'lá ri'ká=mi a'ní-a
 INT indeed long.ago COP-REP it indeed like=DEM say-PROG
a'ní [bi'-sá t'fē t'fō'kē-ame na'hù-la ru'-wá 'nà
 say.PRS three-MLTP again begin-PTCP fall.down-REP sayMPASS this
ka'wì]
 world
 ‘They say that long, long ago the world began to fall apart three times.’¹
 ‘Dicen que mucho antes tres veces se empezó a caer este mundo.’
 {SFH tx43:11:18.2}
- b. *aʔlì 'hē a'níli: "nè ko 'á ra'è 'wé bi'lá 'nà ... 'wé bi'lá wi'h'kâ 'nà ...*
aʔlì 'hē a'ní-li: [nè=ko 'á ra'è 'wé bi'lá 'nà 'wé
 and it say-PST 1SG.NOM=EMPH AFF know INT indeed DEM INT
bi'lá wi'h'kâ 'nà]
 indeed many DEM
 ‘and then he said: “I do know (where he lives), (with) many ...”’
 ‘y entonces dijo: “Yo sí conozco (donde vive), (con) muchos...” {LEL
 tx32:02:29.0}
- c. *aʔlì 'he a'nèli: "wé sa'pù a'sísika! 'pili t'fū'kú na'ñi?"*
aʔlì 'he a'n-è-li [wé sa'pù a'sís-i-ka] ['pili t'fū'kú
 and it say-APPL-PST INT hurry get.up-IMP.SG what to.be.bent.PRS
na'ñi]
 here
 ‘And then she told him: “Hurry, get up! What is that sitting here?”’
 ‘Y luego le dijo: “¡Levántate pronto! ¿Qué hay (está) aquí?”’ {LEL
 tx5:00:52.7}

As shown in these examples, both indirect (6a) and direct (6b–c) speech is introduced through this type of construction. More details about the properties of complements of speech verbs are provided in §15.1.7.

¹In this sentence, the adverb *ki'jà* ‘long ago’ modifies the complement clause.

15.1.4 Reduced complement clauses

A fourth type of complement clause involves a reduced complement: there is argument sharing, and complement-taking verbs with this complement clause type take only same subject complements. These verbs are modal and phase verbs and other verbs with similar semantic characteristics. There appears to be no constraint on the transitivity or valence of the complement verb, and any type of subject is eligible for argument sharing. The complement clause is also restricted in terms of the TAM specification of the complement clause, and marked only as progressive or medio-passive. This type of complement clause is exemplified with complements of the phase verbs *'tfôta* 'begin' (7) and *su'ní* 'finish' (8).

- (7) a. *'má 'tfôtali a'wìa*
'má 'tfôta-li [a'wì-a]
 already begin-PST dance-PROG
 'They started dancing.'
 'Ya empezaron a bailar.' {JLG co1237:08:12.1}
- b. *'mán ra'pâko 'tfôtiki sú'a*
'má-ne ra'pâko 'tfôti-ki [sú-wa]
 already=INT yesterday start-PST.EGO sew-MPASS
 'They already started sowing yesterday.'
 'Ya comenzaron a coser ayer.' {BFL el259:11:54.9}
- (8) a. *'má su'níli a'wìa*
'má su'ní-li [a'wì-a]
 already finish-PST dance-PROG
 'S/he already finished dancing.'
 'Ya terminó de bailar.' {JLG el1275:00:27.4}
- b. *su'nísá na?pôa pa'tfì ... mu'nî ko 'ro*
su'ní-sa [na?pô-a pa'tfì] mu'nî=ko 'ru
 finish-COND weed-PROG corn beans=EMPH say.PRS
 'When they finish weed for (planting) corn, then the beans.'
 'Cuando terminan de escardar el maíz, después el frijol.' {MDH co1136:03:33.2}
- c. *su'nísá ?wìa 'má 'tfé?fo ku wi'líram ke wasa'râa*
su'ní-sa [?wì-a] 'má 'tfé 'tfó ku
 finish-COND harvest-PROG already again again REV

wi'lí-r-ame ke wasa'rá
 stand-PST.PASSS-PTCP COP.IMPF plow.PRS
 'When they finish harvesting, then he'd start plowing again.'
 'Cuando terminaban de pizcar luego se ponía a barbechar otra vez.'
 {LEL tx130:04:16.7}

Both *'tfóta* 'begin' and *su'ní* 'finish' precede the complement clause, as in the other complement types surveyed so far. The verb in the complement clause is marked present progressive (7a, 8) or medio-passive (7b).

Constructions with the modal verb *o'mèra* 'can' also involve a reduced complement clause with the same properties observed for phase predicates like 'begin' and 'finish' exemplified above. As shown in (9), the ordering main verb – complement clause is also attested in complements of this modal verb, and the subject argument is shared by the matrix and complement verbal predicates.

- (9) a. *'má ke o'mèro ripijáti siki'réa*
 'má ke o'mèr-o [ripi'já-ti siki'ré-a]
 already NEG can-EP knife-INST cut-PROG
 'S/he cannot cut with the knife anymore.'
 'Ya no puede cortar con el cuchillo.' {JLG co1234:00:09.5}
- b. *'má ke o'mèra ra'ñitfa, 'wé na'júami 'ú*
 'má ke o'mèr-a [ra'ñitfa] 'wé na'jú-ame 'hú
 anymore NEG can-PROG speak.PRS INT be.sick-PTCP COP.PRS
 'He can't speak anymore, he's very sick.'
 'Ya no puede hablar, está muy enfermo.' {JLG co1235:05:02.9}
- c. *ke o'mèra 'sèbia ba ku 'étfi 'ápi ba'tfámi ma'wá*
 ke o'mèra [sèbi-a ba ku 'étfi 'ápi ba'tfámi ma-'wá]
 NEG can.PRS reach-PROG CL REV DEM SUB first run-MPASS
 'She can't reach whoever runs first.'
 'No puede alcanzar a quien vaya delante.' {LEL tx19:03:26.9}
- d. *'má ke o'mèrili 'tfó 'mèa 'tfó 'nápi ni'hé wi'láli ko ba*
 'má ke o'mèrili 'tfó [mè-a 'tfó] 'nápi ni'hé
 already NEG can-PST either win-PROG either SUB 1SG.NOM
wi'lá-li=ko ba
 stand.TR-PST=EMPH CL
 'She couldn't win, the one I chose (lit. the one I stood, appointed).'
 'No pudo ganar la que puse yo (lit. la que yo paré).' {LEL tx19:04:28.0}

The example in (9d) shows that the main verb and the subordinate clause need not be adjacent in these complement clauses, as the main verb may be followed by an adverb modifying it (*'tʃó* ‘also’). The examples below show reduced complement clauses where the shared subject argument (10a), other adverbs (10b), and object noun phrases (10c) may be realized inside the complement clause.

- (10) a. *aʔlì bi'lá 'nà 'á ri'ká ke o'mèaki ti ro'plân ri'kîina*
aʔlì bi'lá 'nà 'á ri'ká ke o'mèa-ki [ti ro'plân
 and really then AFF like NEG be.able-EGO PLANE plane
ri'kî-na]
 down-VBLZ.PRS
 ‘Ya no pudo bajar el avión.’
 ‘The plane could not go down.’ {SFH tx12:02:10.7}
 b. *aʔlì ke me o'mèra pa'tʃâna si'míra*
aʔlì ke me o'mèra [pa'tʃâ-na si'míra]
 and NEG almost can.PRS inside-ALL pass.PRS
 ‘But he couldn’t get all the way inside (lit. ‘pass inside’)
 ‘Pero no pudo meterse todo adentro (lit. ‘pasar adentro’’ {LEL
 tx177:00:45.2}
 c. *aʔlì ke o'mèrali 'nà ku matʃi'bûa mo'ʔôla*
aʔlì ke o'mèra-li ['nà ku matʃi'-bû-a mo'ʔô-la]
 and NEG can-PST PROX REV outside-VBLZ-PROG head-POSS
 ‘And he couldn’t take his head out.’
 ‘Y no pudo sacar la cabeza.’ {LEL tx177:01:48.8}

There are also instances where the shared subject argument of the main and complement clause may be postponed, as shown in (11).²

- (11) *ke tâsi 'tʃó o'mèri bi'hí ra'ʔitʃâ 'étsi ko*
ke tâsi 'tʃó o'mèra [bi'hí ra'ʔitʃâ] 'étsi=ko
 NEG NEG also can.PRS yet speak.PRS DEM=EMPH
 ‘She can’t talk yet that one.’
 ‘Todavía no puede hablar esa.’ {JLG co1235:06:03.1}

Finally, these phase and modal complement-taking predicates are also attested without an overt complement, i.e., as intransitive predicates. This is shown in (12).

²Morales Moreno (2016) analyzes similar constructions in Rochéachi Rarámuri as instances of right-hand dislocation to encode a topical argument. Given (11) involves a third person argument, an expected co-referential pronominal form in the clause is not attested.

As shown in these examples, the lexical meaning of these predicates is the same, whether they host a complement clause or not.

- (12) a. *ba?arîn tʃötima 'ri*
ba?arî=ni tʃöt-i-ma 'ri
 tomorrow=1SG.NOM begin-FUT.SG EMPH
 'Tomorrow I will start.'
 'Mañana voy a comenzar.' {BFL el259:12:42.5}
- b. *má bi'lán su'níma 'a ri'ké pa*
má bi'lá=ni su'ní-ma 'a ri'ké pa
 already indeed=1SG.NOM finish-FUT.SG AFF would CL
 'I was about to finish.'
 'Ya iba a acabar yo.' {MDH co1137:09:43.0}
- c. *átʃi 'lé o'mèli 'má ba? jén 'á a'lé o'mèra 'lé 'a, 'tòa 'a*
átʃi a'lé o'mèli 'má ba jén 'á a'lé o'mèra a'lé 'á 'tò-a
 Q DUB can.PRS also CL AFF AFF DUB can.PRS DUB AFF take-PROG
 'a
 AFF
 'Who knows if he'd be able to (take him on)? I think he can (take him on), take him.'
 '¿Quién sabe si lo podrá? Yo creo que si lo puede, a lo mejor si puede llevárselo.' {MDH co1136:08:57.2}

Villalpando-Quiñonez (2019) describes several auxiliary verbs in Norogachi Rarámuri, which he proposes have been recently grammaticalized from matrix predicates and encode aspectual meanings in auxiliary verb constructions. Two of such verbs have cognates in Choguita Rarámuri that are identified here as involving complementation instead: (i) constructions with the verb *tʃöta* 'begin'; and (ii) constructions with the verb *su'ní* 'finish'. It is argued here that the phase and modal verbs in Choguita Rarámuri described in this section still exhibit the properties of full lexical predicates that take reduced complement clauses and have not yet undergone any process of auxiliation. Choguita Rarámuri auxiliary verb constructions are described in §15.6.2.

15.1.5 Indirect causative construction

Choguita Rarámuri possesses a distinct class construction encoding indirect causation. The contrast between direct and indirect causation in Choguita Rarámuri

is encoded morphosyntactically: a co-lexicalized structure entails physical contact between the causer and the causee (13a), while a periphrastic construction (exemplified in (13b)) entails that the causee may act on its own, with varying degrees of volition.

- (13) a. *ni'hē to'wí ko'?*átili
*ni'hē to'wí ko'?*á-ti-li
 1SG.NOM boy eat-CAUS-PST
 'I fed the boy' (forcing the spoon into his mouth).'
 'Hice comer al niño (dándole con una cuchara en la boca).'
 b. *ni'hē to'wí ko'?*ánula *nu'lèki*
*ni'hē to'wí ko'?*á-nula *nu'l-è-ki*
 1SG.NOM boy eat-ORDER order-APPL-PST.EGO
 'I ordered the boy to eat.'
 'Hice comer al niño (le ordené que comiera).'

Indirect causative constructions in Choguita Rarámuri involve a periphrastic construction in which a main jussive predicate takes the caused event as a complement. Some properties that characterize this structure are: (i) the lower verb is additionally marked with the jussive verbal affix *nula* 'order, command' deriving a co-lexicalized structure within the complement; (ii) although there are two causative verbs, the causer is expressed only once, as a core argument of the matrix predicate, i.e. the two jussive verbs share the actor. This is exemplified in (14).³

- (14) a. *'émi ta'mí a'nèki ni'hē 'tònula*
'émi ta'mí a'n-è-ki [ni'hē 'tò-nula]
 2PL.NOM 1SG.ACC tell-APPL-PST.EGO 1SG.NOM take-ORDER
 'You all told me to take it.'
 'Ustedes me hicieron que me lo llevara'
 b. *'huâni ko ta'mí to'lí 'pónula nu'lè*
'huâni=ko ta'mí [to'lí 'pó-nula] nu'l-è
 Juan=EMPH 1SG.ACC chicken pluck-ORDER order-APPL.PRS
 'Juan makes me pluck the chicken.'
 'Juan me hace que desplume pollos.'

³In (14d), there are three clauses: the matrix clause headed by *ma'jē* 'believe', a complement clause headed by the jussive predicate *nu'lè* 'to order', and the lower clause headed by the predicate *mi'?*á 'to kill'.

- c. *'pêgro ko nu'lèli mi'?*àsinula to'lí 'huân
 'pêgro=ko nu'l-è-li [mi'?à-si-nula to'lí 'huân]
 Pedro=EMPH order-APPL-PST kill.SG-MOT-ORDER chicken Juan
 'Pedro ordered Juan to go along killing chickens.'
 'Pedro hizo que Juan fuera matando pollos '
- d. *'pêgro ko nu'lèlo ma'jèli mi'?*ànula to'lí 'huân
 'pêgro=ko nu'l-è-l-o ma'jè-li [mi'?à-nula to'lí
 Pedro=EMPH order-APPL-PST-EP believe-PST kill-ORDER chicken
 'huân]
 Juan
 'Pedro thought that he ordered Juan to kill the chicken.'
 'Pedro pensó que le había ordenado a Juan matar el pollo.' < BFL 06
 4:145-146, 148 >

In these constructions, the causee may be expressed once, e.g. as an accusative argument in the main clause in (14b), or twice, as an accusative in the main clause and nominative within the lower clause in (14a). The lower verb cannot bear any inflection marker (though derivational morphology is possible as in (14c)) nor can it be modified by temporal adverbs or negation. The position of the dependent unit also varies, i.e. it may appear extraposed to the right (14a), but the sentence can display the canonical word order of main clauses, when the unit is embedded and followed by the matrix predicate or causee in clause-final position, as in (14b-c).

While any jussive predicate may be the matrix predicate in indirect causatives, giving different shades to the manipulative force, only the predicate *nula* may appear co-lexicalized with the lower predicate. This is exemplified in (15).

- (15) a. *'?wînula 'tfé 'tâsa ri'ké la 'ró*
 [?'wî-nula 'tfé] 'tâ-sa ri'ké la 'ró
 harvest-ORDER again ask-COND DUB perhaps DUB
 'Maybe we can ask (him/her) to harvest again.'
 'A lo mejor le pedimos que vuelva a pizcar.' < 06 4:94/el >
- b. *'mán 'hùraki ra?linula 'tiêndatfî*
 'má=ni 'hùra-ki [ra?li-nula 'tiêndatfî]
 now=1SG.NOM send.to-PST.EGO buy-ORDER store
 'I sent (him/her) to go buy to the store.'
 'Ya lo mandé a comprar a la tienda' < 06 2:48/el >

- c. *aʔlì tʃ̪i'hônsa ko 'má 'pé oʔférisa ko nulu'râ baʔwí tu'wúnula*
aʔlì tʃ̪i'hônsa=ko 'má 'pé oʔférí-sa=ko nulu'-râ
 and then=EMPH already little grow-COND=EMPH order-HAB.PASS
[baʔwí tu'wú-nula]
 water bring-ORDER
 'And then when [they, the children] already grow a little, they were sent to bring water.'
 'Y ya cuando crecen un poquito los mandan a traer agua.' {BFL tx48:00:41.4}, {BFL tx48:00:45.7}

The following example (in (16)) shows that a clause headed by a jussive predicate may have more than one subordinate clause, each of which will have *'nula* colexicalized with each lower predicate.

- (16) *'wàas 'má ni'sènula tʃ̪iba 'má bo'rêko 'má ni'sènula nulu'râ*
['wàsi 'má ni'sè-nula] [tʃ̪iba 'má bo'rêko 'má ni'sè-nula]
 cows also shepherd-ORDER goats also sheep also shepherd-ORDER
nulu'-râ
 order-HAB.PASS
 'They are sent to shepherd cows, too, to take care of goats and sheep.'
 'Los mandan a cuidar vacas también, a cuidar chivas, borregos también.'
 {BFL tx48:00:54.8}

The periphrastic structure is often used as an imperative, where the speaker verbally commands the addressee to instruct a third participant (present or absent) to perform an action, as below. Speakers use this formula often in every-day interactions, and they report it as a formula of polite request. This is exemplified in (17).

- (17) *ga'briêla nu'lè bi'lé tʃ̪imo'rí si'rûnula*
ga'briêla nu'l-è [bi'lé tʃ̪imo'rí si'rû-nula]
 Gabriela order-APPL.IMP one squirrel hunt-ORDER
 'Tell Gabriela to hunt a squirrel.'
 'Dile a Gabriela que cace una ardilla'.

Mountain Guarijío is also documented to have indirect causative structures, including a periphrastic structure with double encoding of the causative (Miller 1996), as shown in (18c).

- (18) Indirect Causative construction in Mountain Guarijío (Miller 1996: 219)

- a. *no?*ó *ko?*kónulani *teurusio*
*no?*ó *ko?*kó-***nula-ni*** *teurusio*
 1SG.ACC eat-ORDER-PRES Tiburcio
 ‘Tiburcio commands me to eat.’
 ‘Tiburcio manda que yo coma.’
- b. *nulani* *teurusio* *no?*ó *ko?*kómi *ruhka*
nula-ni *teurusio* *no?*ó *ko?*kó-mi *ruhka*
 order-PRES Tiburcio 1SG.ACC eat-ADV ADV
 ‘Tiburcio commands that I eat.’
 ‘Tiburcio manda que yo coma.’
- c. *nulani* *teurusio* *no?*ó *ko?*kónurega
nula-ni *teurusio* *no?*ó *ko?*kó-***nur-e-ga***
 command-PRES Tiburcio 1SG.ACC eat-ORDER-APPL-PTC.PRS
 ‘Tiburcio commands that I eat (lit. that/while I am eating).’
 ‘Tiburcio manda que yo coma.’

As shown in these examples, the predicate *nula/nule*, cognate of Choguita Rarámuri *nu'la*, may appear: (i) co-lexicalized with a matrix predicate (18a); (ii) as the matrix predicate in a complementation construction (18b); or (iii) both as the matrix predicate and co-lexicalized with the lower verb deriving a co-lexicalized structure within the complement (18c). Only the latter strategy is attested in Choguita Rarámuri.

15.1.6 Switch reference in reportative clauses

Switch-reference is a phenomenon where a set of morphemes associated with the juncture of two clauses encodes whether a prominent argument in each clause is co-referent. Typically, co-referent arguments are subject arguments, although in some switch-reference systems the tracked co-referent arguments are not the subjects of their clauses (McKenzie 2015). A phenomenon with an areal diffusion, switch reference is attested in the West and Southwest of North America (Jacobsen 1967; Jacobsen Jr 1983; McKenzie 2015). Within the Uto-Aztecan language family, switch reference has been documented in Southern Paiute (Numic; Sapir 1930), Comanche (Numic; Charney 1993), Hopi (Jeanne & Hale 2019), Tohono O'odham (Tepiman; Hale 1983; Hale 1992), Cupeño (Takic; Hill 2005), and closely related Mountain Guarijío (Tara-Guarijío; Miller 1996).

In Choguita Rarámuri, switch reference is attested in the reportative construction, an evidential construction that indicates that the speaker's source of information is not direct, but hearsay. Reportative constructions involve a matrix clause with a speech predicate and a complement clause, the content of the reported event. It involves a stress-neutral productive marker, and is added to the verb of the complement clause. When the notional subjects are correferential, the dependent verb is marked for tense/aspect and the epistemic *-o* suffix (19a) (this suffix is a replacive suffix that triggers vowel deletion on the base onto which it attaches). When the notional subjects are not correferential, the dependent verb suffixes the reportative *-la* suffix, which indicates disjoint reference (19b).

- (19) a. *ma'rìa ko ke si'míko 'rú*
ma'rìa=ko ke si'mí-ki-o 'rú
 Maria=EMPH NEG go.SG-PST.EGO-EP say.PRS
 'Maria_i says (she_i) didn't go.'
 'Dice María_i que (ella_i) no fue.' < BFL 09 3:115/el >
- b. *ma'rìa ko 'hè a'ní ho'sé ke si'míla 'ruá*
ma'rìa=ko 'hè a'ní ho'sé ke si'mí-la ru-'wá
 Maria=EMPH DEM say.PRS José NEG go.SG-REP.DS say-MPASS
 'Maria says that José didn't go.'
 'Dice María que José no fue.' < BFL 09 3:115/el >

More examples of reportative constructions with same and different referents are provided in (20) and (21), respectively.

(20) Switch reference: same reference

- a. *'á bi'lá ko a'ní 'mâgre ne'hê ama'tfíkoro 'ruá*
'á bi'lá=ko a'ní 'mâgre ne'hê ama'tfí-ki-li-o
 AFF really=EMPH say.PRS nuns 1SG.NOM pray-APPL-PST-EP
ru-'wá
 say-MPASS
 'The nuns_i say that (they_i) prayed for me.'
 'Las monjas_i dicen que (ellas_i) me rezaron.'
- b. *ma'nuéli ko 'wé bi'lá ri'kúlo 'rú*
ma'nuéli=ko 'wé be'la ri'kú-li-o 'rú
 Manuel=EMPH INT really get.drunk.SG-PST-EP say.PRS
 'Manuel_i says (he_i) got drunk.'
 'Manuel_i dice que (él_i) se emborrachó.'

- (21) Switch reference: different reference

- a. á bi'lá o'kám *tʃá'nía* ne ka 'hém isi'mâtara *ru'a tʃá'bè*
 á be'la o'ká=mi *tʃá'ní-a* ne ka 'hémi i-si'mâta-**ra**
 AFF really many=DEM sound-PRS INT ka here PL-pass.PL-REP.DS
ru-'wá tʃá'bè
 say-MPASS before
 'Many people_i say that they_j used to pass through here long time
 ago.'
 'Muchas personas_i dicen que por aquí pasaban_j mucho antes.' {LEL
 tx223:04:17.6}
 b. *tʃí'nà ba 'etʃí bi'lá tòola 'ruá ali'wâ-la ba*
'etʃí 'nà ba 'etʃí bi'lá tò-la 'ru-wá ali'wâ-la
 DEM there CL DEM indeed take.PST.PASS-REP.DS say-MPASS soul-POSSESS
ba
 CL
 'They_i say that that one_j got his soul stolen there.'
 'Cuentan_i que a ese_j ahí le llevó el alma.' {BFL tx_muerto:0:35.8}

This switch-reference system is restricted to reportative constructions, as it is not generalized to all constructions involving dependent clauses in Choguita Rarámuri. For Western Tarahumara, Burgess (1984) argues that switch reference is attested in adverbial clauses with the suffixes *-sa* and *-so*, glossed as 'when/having' (1984: 137) and cognate with the Choguita Rarámuri conditional *-sa* suffix. There is no evidence of switch reference in adverbial clauses of this type in Choguita Rarámuri (see §15.2.1 below).

15.1.7 Direct speech complements

Direct speech complementation involves a matrix clause with a verb of speaking (e.g., 'say') and a complement clause with reported speech as a direct quote, where the verb is finite and the clause is introduced without a complementizer. The following examples illustrate the properties of direct speech complements, where the complement may follow (22a) or precede (22b–c) the matrix clause. Prosodically, the reported clause constitutes its own Intonational Phrase (IP), and has the canonical intonation of the sentence type of the complement clause, e.g., declarative (22a–b) or interrogative (22c) (for details of the prosodic properties of declaratives and interrogatives, see §6.2, as well as §14.1 and §14.2).

- (22) a. *'hê be'la a'nía ru'wá t̪a'bōt̪i:* “ah, si aʔlá ka 'mí ra'ñia ka 'mí pa 'nàri ba'hîwa ba”
'hê be'la a'ní-a ru-'wá t̪a'bōt̪i [a si ne aʔlá ka=mi ra'ñia ka=mi pa 'nàri ba'hîwa ba]
 DEM really say-PROG say-MPASS mestizo ah INT INT good
 EMPH=DEM like-PROG EMPH=DEM CL that drink-MPASS CL
 ‘And the *mestizo* was saying: “ah, it is so good and tasty to drink this”.
 ‘Así dijo el *mestizo*: “¡Ay, cómo está rico tomar esto!”’ < SFH 06 choma(10) >
- b. *“á si 'ném ra'ñia 'kam pa 'nàri t̪oʔ'má ko ba” a'nía 'rá*
[a si 'né=mi ra'ñia 'ka=mi pa 'nàri t̪oʔ'má=ko ba] a'ní-a
 ah INT INT=DEM tasty EMPH=DEM CL PROX snot=EMPH CL say-PROG
ru-'wá
 say-MPASS
 ““This snot is really tasty”, he would say.”
 ““Está muy rico este moco”, así decía.’ < SFH 06 choma(15) >
- c. *“oko'ká ropa't̪i ba?” 'hê bi'lá ko a'nèla 'rá 'ét̪i ko 'kôasa a'lé ba*
[oko'ká ropa't̪i ba] 'hê bi'lá=ko a'n-è-la ru-'wá
 hurt-GER belly CL it indeed=EMPH say-APPL-REP say-MPASS
'ét̪i=ko 'kôa-sa a'lé ba
 DEM=EMPH feed-COND DUB CL
 ““Does your belly hurt?” asked those who were feeding him.”
 ““Te duele el estómago?” le preguntaban los que le dieron de comer.’
 {SFH tx43:10:01.5}

Indirect speech complements are encoded through the reportative clause construction described in §15.1.6 above.

15.2 Adverbial clauses

This section addresses adverbial clauses, which constitute a major type of non-matrix clause, together with complement clauses and relative clauses. While a complement clause functions as an argument of a higher predicate (Cristofaro 2005, Noonan 2007), adverbial clauses provide contextual information about the event described in the main clause, syntactically acting as a modifier of verb phrases or entire clauses (Thompson et al. 1985). The following subsections describe the different sub-types of adverbial clauses in Choguita Rarámuri in terms

of their function and morphosyntactic properties. Six main types of adverbial clause types are identified in this language: (i) conditional clauses (§15.2.1); (ii) purpose clauses (§15.2.2); (iii) reason clauses (§15.2.3); (iv) locative clauses (§15.2.4); (v) temporal clauses (§15.2.5); and (vi) manner clauses (§15.2.6).

15.2.1 Conditional clauses

Conditional clauses express a conditional relationship between two events and share the following structural properties in Choguita Rarámuri: (i) the protasis (condition clause) generally precedes the apodosis (description of the actual/potential outcome); (ii) the verb of the protasis clause is obligatorily marked with the stress-shifting conditional suffix *-sâ*⁴; and (iii) the protasis is optionally marked by *ka* in clause final position, a morpheme that is used as an irrealis copula in other contexts, but in conditional clauses marks the conditional clause as not yet realized. This is exemplified in (23) (protasis clauses are marked with squared brackets).

- (23) a. *aʔlì 'má aʔlì ko 'má aʔlá wafisâa ka ku sipi'báti ka 'nà*
 [aʔlì 'má aʔlì=ko 'má aʔlá wasi-'sâ ka] *ku*
 and already afterwards=EMPH already well cook-COND IRR REV
sipi-'bá-ti-ka 'nà
 be.cold-INCH-CAUS-GER DEM
 'And when it is cooked, you cool it off again.'
 'Y ya cuando se cose se enfriá otra vez.' {LEL tx68:01:30.6}
- b. *aʔlì 'má bi'kiá ro'kò 'nà tʃere'bása ka 'má kos'tâaltʃi mu'tʃuwuka*
 [aʔlì 'má bi'kiá ro'kò 'nà tʃere'bá-sa ka] 'má
 and already three night DEM spend.night-COND IRR already
kos'tâaltʃi mu'tʃuwu-ka
 sac put.in.PL-GER
 'And when three nights have passed, you put it in a sac.'
 'Y ya cuando pasan tres noches, se pone en un costal.' {LEL tx68:00:38.0}, {LEL tx68:00:40.4}
- c. *niʔ'wísa ka 'má uku'mêa a'lé*
 [niʔ'wí-sa ka] 'má uku-'mêa a'lé
 to.be.lightning-COND IRR already rain-FUT.SG DUB
 'When there is lightning, then it will rain.'
 'Cuando relampaguea, ya empieza a llover.' {MFH el1318:05:56.4}

⁴Felix Armendáriz (2006) reports that closely-related River Guaríjio has a conditional suffix *-so*, while Miller (1996) describes that Mountain Guaríjio has adverbial suffixes *-sa*, *-sao* that may be translated as 'when'.

- d. *aʔlì 'ét̪i kai'nâsa 'má t̪ō'nà mo'ñíram kúut̪í ba 'ne*
 [aʔlì 'ét̪i kai'nâ-sa] 'má 'ét̪i 'nà mo'ñí-r-ame
 and DEM finish-COND already DEM there go.in.PL-PST.PASS-PTCP
kúut̪í ba 'ne
 children CL ne
 'And when that one was finished, the children went there.'
 'Y ya cuando se terminó esa, ya ahí entraron los niños.' {SFH
 tx12:02:40.6}

While the verb in the protasis clause is always marked with the conditional mood suffix *-sâ*, the verb of the apodosis clause may be marked with a limited set of TAM and other markers: in (23a–b), as part of a procedural text, the suffix *-ká* in the apodosis has a gerundive meaning (see §15.5 for discussion of constructions where the suffix *-ká* is used in chaining structures); alternatively, the apodosis may be marked with future tense (23c) or it may be nominalized with a particpial marker (23d).

The examples in (24) show that, while the protasis generally precedes the apodosis, the opposite order is also attested.

- (24) a. *su'nù ni'hibo 'lá, wa'rì ni'hîsa ba*
 su'nù ni'hî-bo o'lá [wa'rì ni'hî-sa ba]
 corn give-FUT.PL CER palm.basket give-COND CL
 'We give corn when they give palm baskets.'
 'Damos maíz cuando dan waris (canastas de palma).' {MDH
 co1140:00:20.6}
- b. *'pé 'nabi 'lá awi'mêa 'lé, 'hípi 'má ba'tùsa ka ba*
 'pé 'na=bi o'lá awi'-mêa a'lé ['hípi 'má ba'tù-sa ka]
 just PROX=just CER dance-FUT.SG DUB now already grind-COND IRR
ba
 CL
 'This one will dance, I think, now that we grind the corn (for the
 corn beer).'
 'Este va a bailar yo creo ahora que ya muélamos (el tesgüino).'
 {MDH co1140:15:26.8}
- c. *u'mâa ru'wá na'mûti 'hêmi 'sírsa, 'wâsi, ka'bâjo*
 u'mâa ru-'wá na'mûti ['hêmi 'síri-sa] 'wâsi ka'bâjo
 all.kinds throw-MPASS things over.there pass.PL-COND cows horses
 'All kinds of things would be thrown when they would pass by over
 there, to the cows, the horses.'

‘De ahí les tiraban a los animales cuando pasaban por allá, a las vacas, los caballos.’ {LEL tx109:01:43.8}

While the order of the protasis and apodosis is relatively flexible, the apodosis surfaces with a subset of TAM suffixes available in the language. As shown above, the apodosis may also be marked as resultative or it may be nominalized, pointing to the morphosyntactic integration of clauses in the conditional construction. In addition to this, the two clauses are prosodically and semantically integrated: protasis and apodosis have a single prosodic contour, and a clause bearing conditional marking and having the conditional function may not stand as a complete utterance.

15.2.2 Purpose clauses

Adverbial clauses that express purpose are coded by a clause in which the verb is the minimally required element. The main clause encodes an event that is performed in order to bring about the event depicted in the purpose clause. The subordinate clause may be used with a purposive function even in the absence of dedicated morphology to indicate this function. Purpose clauses may appear at the right periphery of the main clause and are exemplified in (25).

- (25) a. *aʔlì tamu'hē 'má ... 'má aʔlì ra'wé 'máti napa'wí hirāmia*
aʔlì tamu'hē 'má aʔlì ra'wé má=tí napa'wí
 and 1PL.NOM already later day already=1PL.NOM gather
[hirā-mi-a]
 bet-MOT-PROG
 ‘And then we gather that day to bet.’
 ‘Entonces nosotros ese día ya nos juntamos para apostar.’ {LEL tx19:01:32.3}
- b. *ki'sâra koʔpô ba!*
ki'sâra [koʔ-'pô ba]
 cook.IMP.SG eat-FUT.PL CL
 ‘Cook so you all eat!’
 ‘¡Guisa para que coman!’ {MDH co1136:00:13.4}
- c. *ku napa'bâa 'má ku ka'têupo a'lé pa*
ku napa'bâa [má ku ka'têwi-po a'lé pa]
 REV gather-PROG already REV put.away-FUT.PL DUB CL
 ‘They are going to gather them to put them away.’
 ‘Ya lo van a juntar para guardarlos.’ {JLG co1234:16:22.1}

- d. *aʔlì 'nà 'wé bi'láni a'ñé 'nà ri'ká a'sâ tʃó ko'bísí kóbia tʃó ro'wéam ba 'wé i'wéri 'nà 'màmam pa*
aʔlì 'nà 'wé bi'lá=ni a'n-è 'nà ri'ká a'sâ tʃó
 and DEM INT really=1SG.NOM say-APPL DEM like.that sit.SG.TR also
ko'bísí kóbi-a tʃó ro'wé-ame ba [we i'wéri 'nà
 pinole give.pinole-PROG also women.race-PTCP CL INT strong DEM
'mà-m-ame pa]
 run.SG-M-PTCP CL
 'And then I tell them that I will give pinole to the runner, so that she
 will run faster.'
 'Y luego les digo que le estoy dando pinole a la corredora para que
 corra más recio.' {LEL tx19:04:02.7}

Purpose clauses may be marked with a subset of TAM specifications, including present (25a) or future (25b–c), or they may be nominalized (25d).

While purpose clauses are generally placed at the right edge of the main clause as in (25), there are also purpose clauses that precede the main clause, as shown in (26).

- (26) *ono'lá ku áfia a'kíbo*
[ono-'lâ ku 'á-si-a] a'kíbo
 father.male.ego-POSS REV look.for-MOT-PROG left
 'He left to look for her dad.'
 'Se fue a buscar a su papá.' < GFM 09 2:25/el >

Purpose clauses may also be introduced by a subordinator, *'nápu* or *'kíti*, as exemplified in (27). These subordinating morphemes, as discussed in this chapter, may introduce different types of subordinate clauses.

- (27) a. *aʔlì bi'láti 'yá jéntʃó 'á miʔlípi 'lé pa, bi'lé to'lí ba aʔlì tʃí'hónsa*
re'ménipi 'léti 'úa ba 'nápu ri'káti 'ábo 'étfí
aʔlì bi'lá=tí 'á jén tʃó 'á miʔlí-pi a'lé pa bi'lé
 and indeed=1PL.NOM AFF AFF also AFF kill.PL-IRR.PL DUB CL one
to'lí ba aʔlì tʃí'hónsa re'méní-pi a'lé=tí 'úa ba
 chicken CL and then make.tortillas-IRR.PL DUB=1PL.NOM with CL
['nápu ri'ká=tí 'á-bo 'étfí]
 SUB like.that=1PL.NOM give-FUT.PL DEM
 'And we'll also kill a chicken and then make some tortillas so we can
 give it to them.'

‘Y también vamos a matar una gallina y luego hacerle unas tortillas para que le demos.’ {SFH tx475:04:20.9}

- b. *aʔlimi no'kèema aʔlá 'nàri 'kítí ko ke mu'jâma*
aʔlì=mi no'k-è-ma aʔlá 'nàri ['kítí=ko ke
 then=2SG.NOM move-APPL-FUT.SG well then SUB=EMPH NEG
mu'jâ-ma]
 become.rotten-FUT.SG

‘And then you will stir it well (often) so that it won’t rot.’

‘Y lo vas a mover bien (cada rato) para que no se pudra.’ {BFL
tx60:00:43.1}

As with other subordinate clause constructions, a single intonation contour applies to the complex as a whole.

15.2.3 Reason clauses

While purpose clauses encode a motivating event that is unrealized at the time of occurrence of the main event, reason clauses encode a motivating event that is realized at the time of occurrence of the event encoded by the main clause (Thompson et al. 1985). In Choguita Rarámuri, reason clauses are marked as past tense (28a), mediopassive (28b) or other TAM distinctions that encode that the proposition encoded by the verbal predicate is realized. As shown in the examples in (28), reason clauses also appear at the right periphery of the main clause and are optionally introduced by the subordinator *kíti* (28c).

- (28) a. *'á 'jén 'á, aʔ'lá ka'jéna tʃá'bè, 'wé 'pé 'wé aʔ'lá u'kúli 'lina tʃá'bè ko ba*
'á 'jén 'á aʔ'lá ka'jéna tʃá'bè ['wé 'pé 'wé aʔ'lá
 AFF AFF AFF well yield.harvest.PRS before INT just INT well
u'kú-li aʔ'lina tʃá'bè=ko ba]
 rain-PST because before=EMPH CL
 'Yes, there was indeed a good yield (harvest) because it did rain a lot
 before.'

‘Sí, sí se daba muy bien (la cosecha) porque sí llovía mucho antes.’
 {ME in484:00:38.5}

b. *'má bi'lá ko oʔ'móna ti'bili 'lé 'étfí 'wénala ko 'má to'wáa ko bi'lé ba*
'má bi'lá=ko oʔ'móna ti'bili a'lé 'étfí
 already indeed=EMPH be.sad.PRS remain.PL-PST DUB DEM

- 'wêna-la=ko [má to-'wá=ko bi'lé ba]
 parents-POSS=EMPH already take-MPASS one CL
 'The parents remained very sad because one of them (their children) was taken away.'
- 'Ya los papás se quedaron muy tristes porque se llevaron a uno de ellos (de sus hijos).' {SFH tx152:11:11.5}
- c. 'pé a'wêni be ko ri'hòwili t̪a'bè kíti 'pé ko'lì ti'jópatfí níla rá si'néwi ko ba
 'pé a'wêni be=ko ri'hòwi-li t̪a'bè [kíti 'pé ko'lì
 just alone.PL just=EMPH live.people-PST before SUB just side
 ti'jópatfí 'nì-la ru-'wá si'néwi=ko ba]
 church COP-REP say-MPASS first.time=EMPH CL
 'There were just a few people living (here) before, that is why it is said it was over there by the church the first time.'
- 'Vivían poquitos antes, por eso dicen que fue allá por aquel lado de la iglesia la primera vez.' {SFH tx12:00:52.0}

As shown above, reason clauses may involve no subordinating morpheme (28a–b) or they may involve the subordinating morpheme *kíti* (28c). Reason clauses may also be introduced by the subordinating marker *ká t̪é* (a complex marker often surfacing in a reduced form as *kátfí*). For some speakers, this marker is exclusively attested in negative polarity clauses (e.g., (29a)), where there is no additional negative polarity morpheme). For other speakers, however, this morpheme may introduce reason clauses that have positive polarity, as shown in (29b).

- (29) a. 'máti ... t̪í'làa mu'tfí ba weti 'má a ri'gá noso'wípi 'lé 'kátfí bi'lé o'wâami ni'lú ki'?'à ko 'má ba
 'má=ti étfí 'là-a mu'tfí ba we=tí 'má
 already=1PL.NOM DEM think-PROG think CL INT=1PL.NOM already
 a ri'ká noso'wí-pi a'lé [ká 'tsé bi'lé o'wâ-ame
 AFF like.that be.finished-IRR.PL DUB because NEG one cure-PTCP
 ni'lú ki'?'à=ko 'má ba]
 EXIST before=EMPH also CL
 'And then we thought perhaps we will die (be finished) because there was no medicine before.'
- 'Y entonces pensábamos a lo mejor nos vamos a morir porque antes no había medicina.' {LEL tx372:02:00.0}

- b. *aʔlì 'nà 'wé bi'láti 'á maha'wá ta'mò aʔlì 'nà ba 'ká 'tſè 'wé mi'ká ri'hòi
 'má ba ha're 'tſò ko ba*
aʔlì 'nà 'wé bi'láti 'á maha'wá ta'mò aʔlì 'nà
 and then INT indeed=1PL.NOM AFF be.affraid.PRS 1PL.NOM and then
ba ['ká 'tſè 'wé mi'ká ri'hòi 'má ba] ha're 'tſò=ko
 CL because because INT far.away inhabit also CL some also=EMPH
ba
 CL
 'And then we were very scared because other people lived very far
 away.'
 'Y ya teníamos mucho miedo nosotras porque otros vivían muy lejos
 de allí.' {LEL tx84:07:20.2}

15.2.4 Locative adverbial clauses

Locative adverbial clauses in Choguita Rarámuri are introduced with the subordinating morpheme *'nápi* plus the proximal demonstrative *'na*. Locative clauses are exemplified in (30).

- (30) *'wé mikabé ni'lá ko 'nápo 'nà tʃá'bótfí 'mí ri'hòoa ri'wèli ko sekun'dâria ba*
'wé mikabé ni'lá=ko ['nápi 'nà tʃá'bótfí 'mí ri'hòwi-a
 INT far-more COP-POT=EMPH SUB PROX mestizos DIST live.SG-PROG
ri'wè-li=ko] sekun'dâria ba
 remain-PST=EMPH secondary.school CL
 'It must have been very far away, where the mestizos lived, the secondary
 school.'
 'Sería muy lejos, donde vivían los mestizos, la secundaria.' {SFH
 tx12:1:29.4}

The main clause may contain a demonstrative (in boldface) that is coreferential with the locative adverbial clause. This is shown in (31).

- (31) a. *'nápo 'nà ti ro'plâno bu'jèi 'étfò 'nà bi'láni má tʃuku'ká ne'hé*
['nápi 'nà ti ro'plâno bu'j-è-i] 'étfì 'nà
 SUB PROX DEF.BAD plane road-HAVE-IMPF DEM PROX
bi'lá=ni má tʃuku'ká ne'hé
 really=1SG.NOM already crawl-GER 1SG.NOM
 'There, where there was a road for the plane, I was going there.'
 'Ahí donde era el camino del avión, ahí iba yo.' {SFH tx12:02:14.7}

- b. *'pé bi'lé ri^htê a ri'pî tfo'nà ko 'nápo 'nàti mu'tfûwili
 'pé bi'lé ri^htê a ri'pî tfo'nà=ko ['nápi 'nà=tí
 just one stone AFF remain there=EMPH SUB PROX=1PL.NOM
 mu'tfûwi-li]
 sit.tr.PL-PST*
 'Just one stone remains there where we put them.'
 'Nomás queda una piedra ahí donde las pusimos.' {LEL tx19:02:35.0}

Locative adverbial clauses may precede (31a) or follow (31b) the main clause.⁵

15.2.5 Temporal clauses

There are two strategies in Choguita Rarámuri for encoding temporal clauses: (i) through a subordinating suffix *-t̪í* that attaches to the dependent verb conjugated for present tense (32a); and (ii) through the morphologically complex subordinator (*n*)*apa'lì* (a contraction from the subordinating particle *'nápi* and the time adverb *aʔlì* (32b).

- (32) a. *aʔlì a'já sa'jèli na'wàat̪í 'ét̪í kori'má pa'tfâ biti't̪í ba'kíli
 aʔlì a'já sa'jèli [na'wà-a-t̪í 'ét̪í kori'má pa'tfâ] biti't̪í
 and soon feel-PST arrive-PROG-LOC DEM korima inside house
 ba'kí-li
 go.in.SG-PST*
 'And then they felt when the *korima* arrived and went inside the house.'
 'Y luego sintieron cuando llegó el *korima* y entró a la casa.' {LEL tx5:00:42.8}
- b. *aʔlì 'má ku apa'lì 'má ke 'tékili mo'tfisili 'ét̪í ha'reára ko
 aʔlì 'má ku [apa'lì 'má ke 'téki-li]
 and already REV when already NEG be.drunk.PL-PST
 mo'tfî-si-li 'ét̪í ha'reára=ko
 get.up.PL-MOT-PST DEF some=EMPH*
 'And then when they were no longer drunk, the others (another group of people) got up.'
 'Y entonces ya cuando ya no estaban borrachos, los demás (otros) se levantaron.' {LEL tx5:02:35.7}

⁵Clauses headed by locative predicates are addressed in §13.2.3 above.

These two examples encode different semantic relationships between the temporal clauses and the main clause in terms of the temporal sequence between the two events they encode. Thus, in (32a), the subordinate clause marked with the subordinating suffix *-t̪i* encodes a proposition that is simultaneous to the proposition encoded by the main clause. In contrast, the subordinate clause introduced by the morpheme *napaʔli* in (32b) encodes an event that occurs before the event encoded by the main clause.

15.2.6 Manner clauses

Another type of adverbial clause attested in the Choguita Rarámuri corpus are manner subordinate clauses, which encode notions that can be replaced by a single word expressing manner relationships (Thompson et al. 1985). As shown in (33), manner subordinate clauses in Choguita Rarámuri may involve finite verbal predicates (33a, c) or verbs with the gerundive *-ká* suffix (33b) (constructions with clauses marked with this suffix in clause chaining are discussed in §15.5).

- (33) a. *aʔlì 'nà 'ét̪i 'nà moʔo't̪íki t̪su'kúrili t̪ṣapi'nála 'ét̪i re'hòi ali'wâla to'méa o'láli*
aʔlì 'nà 'ét̪i 'nà moʔo't̪íki t̪su'kúri-li t̪ṣapi-'nále-a
 and then DEM there headboard go.around-PST grab-DESID-PROG
'ét̪i re'hòi ali'wâ-la to-'méa o'lá-li
 DEM man soul-POSS take-FUT.SG make-PST
 'And then there it was going around near the headboard wanting to
 grab it, to take the man's soul.'
 'Y entonces ahí andaba por la cabecera queriéndolo agarrar, llevar el
 alma del señor.' {LEL tx5:01:11.3}
- b. *'pé ri'sóorka a'jénti t̪a'bèi ko ma't̪í ra'rèka be ti ko 'ám be'nèa no'ká*
['pé ri'só-ro-ka a'jéna=tí] t̪a'bèi=ko
 just suffer-MOV-GER go.around.PL=1PL.NOM before=EMPH
[ma't̪í ra'rè-ka] be=ti=ko 'á=mi
 go.barefoot go.barefoot-GER be=1PL.NOM=EMPH AFF=DEM
be'nè-a no'-ká
 learn-PROG do.PRS just
 'We were going around suffering long ago, barefoot, that's how we
 would learn (go to school).'
 'Nosotros andábamos así batallando, descalzos, así aprendíamos.'
 {SFH tx12:03:05.1}

- c. 'wé bi 'ko ri'sóa ri'ká 'má koʔ'wá ba t̪á'bèi ko
 'wé bi='ko [ri'só-a ri'ká] 'má koʔ-'wá ba t̪á'bèi=ko
 INT bi=EMPH suffer-PROG like already eat-MPASS CL before=EMPH
 'Before people would eat struggling.'
 'Antes comían batallando.' {SFH tx12:04:08.2}

As shown in these examples, manner adverbial clauses involve parataxis.

15.3 Relative clauses

This subsection addresses the structural properties of relative clauses in Choguita Rarámuri. Relative clauses are defined in the typological literature as subordinate clauses that restrict or delimit the reference of a noun phrase (Andrews 2007). Strictly speaking, this description applies to *headed relative clauses*. In contrast to headed relative clauses, *headless relative clauses* do not combine syntactically with a head noun but rather act like referential or quantificational nominals themselves (Caponigro 2021).

Choguita Rarámuri exhibits two types of headed relative clauses, namely those that involve nominalization (§15.3.1) and those that involve finite predicates and subordinators (§15.3.2). The question of whether there are instances of headless relative clauses in Choguita Rarámuri is left out of the scope of this grammar. Other subordination strategies in the language are addressed in Chapter 15.

15.3.1 Relative clauses via nominalization

Choguita Rarámuri employs a nominalization strategy to form relative clauses, as documented in closely related Mountain Guarajío (Miller 1996: 179) and Yaqui (Álvarez González 2012, Guerrero Valenzuela 2012) and other Uto-Aztecán languages (for a summary, see García Salido 2021). The nominalization strategy involves attaching participial suffixes (*-ame* or *-kame*) to the verb of the relative clause. This is exemplified in (34), with both relativized subjects and objects. As shown in these examples, the relative clause may precede the noun it modifies (34a), but most frequently the relative clause follows the noun it modifies (34b–e).

- (34) a. aʔli ko 'étfi ko 'hē bi'lá ani'wá t̪á'bè kiʔà 'étfi ... 'étfi 't̪éłame re'hòi
 aʔli=ko 'étfi=ko 'hē bi'lá ani'-wá t̪á'bè kiʔà 'étfi
 and=EMPH DEM=EMPH it really say-MPASS before long.ago DEM
 o't̪éł-ame re'hòi
 grow.old-PTCP man
 'and then they say that long ago that old man (the man who is old)'

- ‘y allí dicen que antes ese señor viejito (el señor que es viejito)’ {LEL tx71:01:43.9}
- b. *aʔlì 'et̪í 'tfiba mu'kúami ko ma ba'súa ko'yalí 'et̪o 'nà pe'rêami*
aʔlì 'et̪í 'tfiba mu'kú-ame=ko ma ba'sú-a ko'yalí 'et̪í
 and DEM goat die.SG-PTCP=EMPH already cook-PROG eat-PST DEM
'nà pe'rê-ame
 THERE inhabit.PL-PTCP
 ‘That dead goat (goat that is dead) was eaten cooked by the dwellers
 of (the ones that inhabit) that house.’
- ‘Esa chiva (que está) muerta se la comieron los (que habitan) de esa
 casa.’ {LEL tx_mawiya:02:43.9}
- c. *ta'mò 'hípi o'tfélami ke me aʔlá matfíká u'tfúwi*
ta'mò hípi o'tfél-ame ke me aʔlá matfí-ká
 1PL.NOM today grow.old-PTCP NEG almost well know-GER
u'tfúwi
 LIE.DOWN.PL.PRS
 ‘Those of us growing older now almost don’t know things well.’
- ‘Los que crecemos ahora, casi no estamos sabiendo bien.’ {SFH in61:00:36.2}
- d. *iʔwíra 'tʃó 'kíni 'nà ... kompa'pêro 'tʃó i 'tʃó'gítá pi'rêami 'tʃó ba*
iʔwíra 'tʃó 'kíni 'nà kompa'pêro 'tʃó i 'tʃó'gítá
 help.PL also 1POSS DEM friends also here Choguita
pi'rê-ame 'tʃó ba
 dwell.PL-PTCP also CL
 ‘helping out out friends, the ones that live here in Choguita’
 ‘ayudándoles a nuestros compañeros, los que viven aqui en
 Choguita’ {SFH tx12:12:10.1}
- e. *'et̪í koli'mí ani'ríame bi'lá 'wífsula ru'wá*
'et̪í koli'mí ani-ríwa-ame bi'lá 'wí-si-la ru-'wá
 DEM rainbow say-MPASS-PTCP indeed take-MOT-REP say-MPASS
 ‘It is said that the one that is called rainbow (*korimí*) goes along
 taking it.’
 ‘Se dice que ese que le dicen arcoiris (*korimí*) lo va llevando.’ {BFL tx_muerto:01:22.3}

Relative clauses formed via nominalization may lack an antecedent, as shown in (35), where the relative clause encodes the nominal predicate in a copular clause.

- (35) a. *'wé suku'rûame 'ú ku*
'wé suku'rû-ame *'hú=ko*
 INT do.evil.witchcraft-PTCP COP.PRS=EMPH
 'He is very evil.'
 'Es muy hechicero.' {CFH tx_korimaka:00:22.3}

b. *'ápi i'sélikami ka 'lé, bi'kiánika, su'wâba ma'jôra ma*
'nápi i'-séli-kame *ka* *a'lé bi'kiá-ni-ka* *su'wâba*
 SUB PL-governor.PL-PTCP COP.IRR DUB three-INCL-COLL all
ma'jôra ma
 manager also
 'those who are governors, the three of them, all of the managers,
 too'
 'los que son gobernadores, los tres (gobernadores), todos los
 mayores también' {JMF tx816:00:36.7}

As described for Mountain Guarijío (Miller 1996: 180), it is possible to analyze derived adjectives as relative clauses with an overt antecedent, and deverbal nouns like *sukurâume* in (35) as relative clause without an overt antecedent.

15.3.2 Relative clauses via finite clauses

A second productive strategy to encode relative clauses in Choguita Rarámuri involves a finite predicate and a subordinating particle *'nápi* (or its reduced form *'ápi*) and no co-referencing morphology within the relative clause (a case of “gapping” as defined in the typological literature Lehmann 1986). As discussed in §15.1 and §15.2, this subordinating morpheme introduces complement clauses and certain classes of adverbial clauses. This strategy is exemplified in (36). Relative clauses are indicated with square brackets.

- (36) a. *si'rínala 'bél 'á ani'rîa 'étſi 'nápu tſo'pé'm si'mèla no'ká, 'étſi 'nápu uku'wéa no'ká*
si'rínala be'lá 'á ani'-rî-a 'étſi ['nápi
 god.father-POSS indeed AFF say-MPASS-PROG DEM SUB
tſo'pé=mi si'mè-la no'ká] 'étſi ['nápi
 Montezuma.pine=DEM pass-REP do.PRS DEM SUB
uku'wéa no'ká]
 ukuwéa.ceremony do.PRS

‘They call him siríala (godfather) the one that passes the Montezuma pine (over someone’s head), the one that blesses with Ukuwéa.’

‘Le dicen siríala (padrino) a ese que hace con el ocote pasándolo, al que hace el ukuwéa.’ {SFH tx475:07:33.3}

- b. *aʔlì 'étfi 'ápu ro'wéma 'lé ko bi'nôi bi'lá a'ni: "jénan 'á sa'jèrima" 'á a'ni aʔlì 'étfi ['nápi ro'wé-ma a'lé]=ko bi'nôi bi'lá and DEM SUB run.womens.race-FUT.SG DUB=EMPH herself indeed a'ni "jéna=ni 'á sa'jèri-ma" 'á a'ni say.PRS AFF=1SG.NOM AFF take.on-FUT.SG AFF say.PRS*
 ‘And then the one who will run, herself, says: “yes, I will take on the challenge”.
- ‘Y entonces la que va a correr ella misma dice “sí le voy a entrar”. {LEL tx19:00:39.8}

The examples in (36) involve relativized subject arguments. Relative clauses encoded via finite predicates and subordinators may also encode other core arguments, such as objects (37).

- (37) a. *aʔlì tʃó'nà 'hônsa ko ti 'nà 'máti 'nâri 'ápu ro'wéma 'lé 'átfi ka'nílsa 'níli ro'wéa aʔlì tʃó'nà 'hônsa=ko=ti 'nà 'má=tí 'nâri and then from=EMPH=1PL.NOM DEM.PROX already=1PL.NOM ask.PRS ['nápi ro'wé-ma a'lé 'átfi ka'níli-sa 'ní-li SUB run.womens.race-FUT.SG DUB if be.happy-COND COP-PST ro'wé-a run.womens.race-PROG*
 ‘And then we ask the one (woman) who will run if she would like to race.’
 ‘Y entonces de ahí ya le preguntamos a la que va a correr a ver si se siente a gusto.’ {LEL tx19:00:33.2}

Relative clauses encoded with finite predicates and the subordinating particle *'nápi* can also encode adjunct arguments, including a time (38a), an instrument (38b), a location (38c) and a comitative argument (38d).

- (38) a. *'pé 'á 'má bu'áli tʃó 'étfi 'nà rupu'lá tʃá'bèi 'náp aʔlì mu'hê 'nâtatfi ko ba?*

'pé 'á 'má bu'à-li 'tʃó 'étfi 'nà rupu'lá tʃá'bèi ['nápi
 just AFF recently come.out-PST also DEM that ax before SUB
 a?li mu'hé 'náta-tʃí]=ko ba
 then 2SG.NOM think-TEMP=EMPH CL

'They had recently started using (appeared, come out) axes before, since the time you remember?'

'¿Ya apenas habían salido antes las hachas antes, cuando tu te acuerdas? {SFH in484:03:23.8}'

- b. *ripu'lá...nápu ri'ká mi'tʃípu ku'sí ba?*
ripu'lá ['nápi ri'ká mi'tʃípu ku'sí] ba
 ax SUB that carve sticks CL
 'an ax with which to carve the sticks'
 'hacha con que labrar los palos' {SFH in61:03:30.6}
 - c. *'nápi 'nà 'á pi'rê a'bôni si'né 'kátʃí 'máti 'á 'hâwamti 'á 'níbo ko*
['nápi 'nà 'á pi'rê] a'bôni si'né 'kátʃí
 SUB DEM.PROX AFF inhabit.PL EMPH.PL some times
'má=tí 'á 'hâwa-ame=tí 'á 'ní-bo=ko
 already=1PL.NOM AFF stand.PL-PTCP=1PL.NOM AFF COP-FUT.PL=EMPH
 'Where we live, perhaps we will some times be elected as authorities.'
 - d. *'á bi'lá 'tʃó bi'hí i'jêna 'tʃó 'étfi apa'nêrala ko 'hípi 'rú 'nápi 'uá i'jênilí 'rú ba*
'á bi'lá 'tʃó bi'hí i'jêna 'tʃó 'étfi apa'nêra-la=ko
 AFF indeed still still go.around.SG.PRS still DEM partner-POSS=EMPH
'hípi 'rú ['nápi 'júá i'jêni-li 'rú] ba
 today say.PRS SUB with go.around.-PST say.PRS CL
 'He is still together with his wife now, with the one he used to live with before.'
- 'Todavía anda con su mujer ahora, con la que vivía (andaba) antes.' {SFH tx43:04:34.0}

In the case of the relativized time clause in (38a), the relativized clause makes reference to an adverb, *tʃá'bèi* 'before'. In the relativized locative clause in (38c), there is no antecedent, nominal or otherwise (notionally, the relative clause refers to a place, Choguita). The relative clauses in (38b) and (38d), on the other hand,

have nominal antecedents, *ripulá* ‘ax’ and *apa'nérala* ‘partner, wife’, respectively. The head of the relative clause precedes the relative clause in every example, whether the relativized clause encodes a core argument or an adjunct.

The structure of Choguita Rarámuri relative clauses encoded through finite predicates has the same properties as the equivalent constructions in Rochéachi Rarámuri (Morales Moreno 2016: 38). The subordinating particle in Rochéachi Rarámuri is *'mapu* (cognate of Choguita Rarámuri *'nápi*), and also found in the speech of elderly Choguita Rarámuri speakers to introduce other subordinate clauses (addressed in Chapter 15).

15.4 Coordination

This section describes clausal coordination in Choguita Rarámuri, where two or more clauses are combined to form a larger syntactic unit. Three main types of coordination strategies are identified, namely conjunction (§15.4.1), disjunction (§15.4.2) and adversative conjunction (§15.4.3). Within each section, the description is organized in terms of the morphosyntactic properties of the different constructions of each coordination type.

15.4.1 Conjunction

15.4.1.1 Conjunction marked with *aʔlì*

Phrasal and clausal conjunction in Choguita Rarámuri may involve syndetic coordination with the connective *aʔlì* ‘and (then)’, that is placed before the second conjunct. Syndetic coordination marked with *aʔlì* is exemplified in (39).

- (39) a. *ba'tsá bi'lá ri'kása aʔlì moʔi'rìa ba*
ba'tsá bi'lá re'ká-sa aʔlì moʔi'rìa ba
 first indeed lay.down-COND and weave-MPASS-PROG CL
 ‘First you lay it down and then you weave it.’
 ‘Primero se pone y después se teje.’ {BFL tx1:01:10.5}
- b. *'nè t'sé bi'lé jàsa 'rú bi aʔlì 'ét'sí 'mín a'nèma 'lì*
'nè t'sé bi'lé 'à-sa 'rú bi aʔlì [étsí
 1SG.NOM again one look.for-COND say.PRS just and DEM
'mí=ni a'n-è-ma aʔlì
 2SG.ACC=1SG.NOM say-APPL-FUT.SG THEN
 “Let me look for another one and then I’ll tell you”;
 “Deja busco otra entonces te digo”: {LEL tx19:01:13.5}

- c. *'étfi ba'tfá hi'râsa aʔli 'má 'húmisi*
'étfi ba'tfá hi'râ-sa aʔli 'má húmasi
 DEM first bet-COND and already take.off.PL.PRS
 'First they bet and then they take off.'
 'Primero apuestan y ya arrancan.' {LEL tx19:01:40.3}
- d. *'wé a'nè 'hùria aʔli 'wé 'á si'mí étfi ro'wéami ko*
'wé a'n-è hùri-a aʔli 'wé 'á si'mí étfi
 INT say-APPL send.off-PROG and INT AFF go.SG DEF
ro'wé-ami=ko
 women.race-PTCP=EMPH
 'They tell her to run, and the runner then goes faster.'
 'Le dicen que corra y la corredora va corriendo más recio.' {LEL tx19:03:40.9}
- e. *'má aʔlá nata'kêa a'kíbi aʔli 'má ke a'nítfani tʃó*
'má aʔlá nata'kê-a a'kíbi aʔli 'má ke a'ní-tfani tʃó
 already well faint-PROG went and already NEG make.noise-EV also
 'She fainted and then it wasn't making noise anymore.'
 'Ya se desmayó y ya no se oía.' {LEL tx71:04:43.6}

As shown in these examples, coordination marked with *aʔli* involves a temporal relationship between the conjuncts where the event described in the second clause temporally follows the event described in the first clause. As shown in these examples, coordination involves full clauses with independent predicates and arguments, even if arguments may be co-referential (e.g., (39c)).

Clausal conjunction may involve ellipsis of the predicate of the second clause. This is exemplified in (40), where angled brackets <> indicate the ellipsis site in the second clause.

- (40) a. *aʔli re'hòi ko 'má bu'íli aʔli mu'kî ko ke tʃó*
aʔli re'hòi=ko 'má bu'í-li aʔli mu'kî=ko ke
 and man=EMPH already lay.down.SG-PST and woman=EMPH NEG
 <> *tʃó*
 <> yet
 'Y el señor ya estaba acostado y la mujer todavía no.'
 'And the man was already asleep but not the woman.' {LEL tx5:00:48.3}

As shown in (40), the connective may appear immediately preceding the first of two connected clauses or at the beginning of a clause or a sequence of clauses, as exemplified in (41).

- (41) a. *aʔlì bi'lá ko 'nà 'étʃi mu'kî ko 'ébifuwa 'étʃi saʔpá oʔ'wí 'pé bi'lá ko 'á ri'ká ko'ʔáa ru'á 'rám pa 'nápu ri'ká 'nàa aʔlì bi'lá=ko 'nà 'étʃi mu'kî=ko 'ébi-suwa 'étʃi and indeed=EMPH then DEM woman=EMPH bring-COND.PASS DEM saʔpá oʔ'wí 'pé bi'lá=ko 'á ri'ká ko'ʔá-a ru'wá meat raw just indeed=EMPH AFF like.that eat-PROG say-MPASS ru'wá=mi pa 'nápi ri'ká 'nà say-MPASS=DEM CL that like DEM*
 ‘And then the woman had been brought raw meat and she would eat it like that, they say.’
 ‘Y entonces a la mujer le traía carne cruda y tenía que comer así.’
 {SFH tx43:06:17.3}

Details of the function of this and other connectives in Choguita Rarámuri discourse are left out of the scope of this grammar.

15.4.1.2 Asyndetic conjunction

Clausal conjunction in Choguita Rarámuri may also be encoded through asyndetic conjunction, i.e., through juxtaposition of finite clauses with no overt conjunction marker. This is exemplified in (42). Conjoined clauses exhibit prosodic unification.

- (42) a. *'pé ni'hé a'ni'ami 'ú: "ku roho'nâsa, ro'haʃi ba"*
 'pé ni'hé a'ni-ame 'hú ku roha-'nâ-sa ro'ha-si
 just 1SG.NOM say-PTCP COP REV separate-TR-IMP.SG separate-IMPL.PL
 ba
 CL
 ‘I just tell them (the women betting with me): “Separate it (the bet), and separate yourselves”.’
 ‘Yo nomás digo: “Aparten (la apuesta) y apártense (las que apuestan conmigo)”.’ {LEL tx19:04:24.9}
- b. *bana'ká 'páli ripijá, 'nè ku 'tèaki aʔlì 'lé ba*
 bana'ká 'pá-li ripijá, 'nè ku 'tèa-ki aʔlì a'lé ba
 over.there throw-PST knife 1SG.NOM REV find-PST.EGO later DUB CL
 ‘He threw the knife there and I found it later.’

‘Tiró el cuchillo allá y yo lo encontré más tarde.’ {JLG co1234:03:29.4}

As in conjunction constructions that involve a connective, the ordering of clauses is iconic, with the first clause describing an event that precedes temporally the event described by the second clause, as shown in (42). In other cases, however, asyndetic coordination does not involve temporal succession. This is illustrated in (43).

- (43) *kárka na'pònili, kárka ka'sìnili*
 'ká *ri'ká* *na'pò-na-li* 'ká *ri'ká* *ka'sì-na-li*
 everything like.that break-TR-PST everything like.that tear.apart-TR-PST
 ‘He broke it all and tore it all.’
 ‘Lo quebró todo y lo desmoronó.’ {MDH co1137:00:36.2}

15.4.2 Disjunction

Disjunctive clausal coordination is achieved through a variety of morphosyntactic means, including: (i) a construction with the borrowed Spanish disjunctive conjunction *o* ‘or’; (ii) a disjunctive prepositive conjunction *wera* ‘or’; (iii) a post-positive enclitic *=ma* ‘or’ that attaches to each disjunctive clause; or (iv) through parataxis. Each of these strategies is described next.

15.4.2.1 Disjunction marked with *o* ‘or’

A frequently attested strategy for encoding disjunction in the Choguita Rarámuri corpus involves the borrowed Spanish conjunction *o* ‘or’. Its use in clausal disjunctive coordination is exemplified in (44), which shows a fragment of a narrative.

- (44) a. *bi'lé suku'rûame 'hùria ru'wá*
bi'lé suku'rûame 'hùri-a ru-'wá
 one evil.shaman send-PROG say-MPASS
 ‘They say that an evil shaman sends it (the fire bird).’
 ‘Dicen que lo manda un curandero brujo (malo) (al 'pájaro de fuego).’
 {LEL tx5:05:09.5}
 b. *'étfi 'hápi ke 'mí ka'léa 'níli, o bi'lé 'tfó má 'hê a'níame ka ru'wá: "nà*
'étfi 'hùrimi 'nà"

'étfí 'nápi ke 'mí ka'lé-a 'ní-li o bi'lé 'tfó 'má 'hê
 DEM SUB NEG DEM like-PROG COP-PST or one also already it
 a'ní-ame ka ru-'wá 'ná 'étfí 'hùri-mi 'ná
 say-PTCP COP.IRR say-MPASS PROX DEM send-MOT.IMP.SG PROX
 '(He sends it) to someone he doesn't like or someone else tells
 him: "go and send it to that one".

'(Se lo manda) a uno que no le cae bien u otro le dice: "mándaselo a
 ese". {LEL tx5:05:11.8}, {LEL tx5:05:15.5}

The use of the borrowed Spanish disjunctive conjunction *o* is also attested in coordination of interrogative clauses, as shown in (45).

- (45) *naʔpôma? o i si'kâ-la ka'pôma?*
naʔpô-ma o i si'kâ-la ka'pô-ma?
 weed-FUT.SG or here hand-POSS break-FUT.SG
 '(You mean) to weed? Or to break one's hand here?⁶
 '¿(Quieres decir) escardar? ¿O quebrarse aquí en la mano?' {JLG
 co1236:00:06.4}

15.4.2.2 Disjunction marked with *wèra* 'or'

A second construction that employs syndetic coordination to encode disjunction is one that employs the marker '*wèra*', which has the same distribution as the borrowed disjunctive conjunction *o*. This construction is exemplified in (46).

- (46) a. *kúmi 'átfí 'tôla 'lé, 'wèra 'pé riso'tfí roʔáli 'lé*
kúmi 'átfí 'tô-la a'lé 'wèra 'pé riso'tfí
 where Q take.PST.PASS-REP DUB or just cave
roʔ-á-li a'lé
 lay.down.SG-TR-PST DUB
 'They don't know if they would bury him or they would lay him
 down in a cave.'
 'No saben si lo enterraban o lo llevaban a una cueva.' {LEL
 tx109:03:02.7}

⁶The speaker points at her own hand.

15.4.2.3 Disjunction marked with *=ma* ‘or’

Clausal disjunction may also be achieved through cliticization of the disjunctive connective *=ma*, a postpositive marker. This is exemplified in (47).

- (47) a. *ko'bísi lo'kása ba, baʔ'wí ma, ba'hirfia 'ma ba*
ko'bísi lo'ká-sa ba baʔ'wí=ma ba'hi-ri-si-a=ma ba
 pinole take.pinole-COND CL water=or drink-CAUS-MOT-PROG=or CL
 ‘When she takes pinole, or water, or giving her to drink some water.’
 ‘Cuando toma pinole o agua o dándole de tomar agua.’ {LEL
 tx19:04:08.4}

Disjunction of phrases is also attested with the enclitic *=ma*. This is exemplified below, where the disjunction morpheme appears after each phrase in a monosyndetic construction (48a), or the two last phrases in a construction with multiple coordinands (48b).

- (48) a. *'pé bi'lé ba'ríka ma 'pé o'kwâ ma*
'pé bi'lé ba'ríka=ma 'pé o'kwâ=ma
 just one tank=or just two=or
 ‘One cask or two.’
 ‘Una barrica o dos.’ {BFL tx60:00:24.8}
 b. *bi'lé ari'mûli, o'kwâ ari'mûli ma bi'kiá ari'mûli ma*
bi'lé ari'mûli, o'kwâ ari'mûli=ma bi'kiá ari'mûli=ma
 one decaliter two decaliter=or three decaliter=or
 ‘One decaliter, two decaliters or three decaliters.’
 ‘Un decalitro o dos decalitros o tres decalitros.’ {LEL tx68:00:25.8}

15.4.2.4 Disjunction through parataxis

Disjunction may also be achieved through parataxis. This is exemplified in the following text fragment, where (49b) is interpreted involving disjunction within the larger context.

- (49) a. *kúm ko 'tòli ba?*
kúmi=ko 'tò-li ba
 where=EMPH take-PST CL
 ‘Where did he take it?’
 ‘¿Dónde lo llevaría?’ {LEL tx84:07:15.2}

- b. *'má bi'lá bi'nôi su'wára a'lé, 'nà ri'páki ra'bô 'tòli 'lé pa*
'má bi'lá bi'nôi su'wára a'lé 'nà ri'pá-ki ra'bô 'tò-li
 already indeed himself finish.PRS DUB DEM up-SUPE hill take-PST
a'lé pa
 DUB CL
 'He finished it up or took him up the hill.'
 'Se lo acabó o se lo llevó para el cerro.' {LEL tx84:07:16.1}
- c. *ke pi'láti ma'tfí kúm 'tòli ba*
ke bi'lá=tí ma'tfí kúmi 'tò-li ba
 NEG really=1PL.NOM know.PRS where=DEM take-PST CL
 'We don't know where he took him.'
 'No sabemos dónde se lo llevó.' {LEL tx84:07:18.6}

15.4.3 Adversative conjunction

Adversative conjunction may be encoded through asyndesis or through syndetic coordination with a dedicated adversative conjunction. Each of these constructions is addressed next.

15.4.3.1 Asyndetic adversative conjunction

Choguita Rarámuri possesses an adversative conjunction construction, which may be encoded through parataxis, like other forms of clausal coordination. This is shown in (50).

- (50) a. *wi^hkâ napa'wíka ra'ʔitfíli 'mí riʔ'lé-ki es'k^wélitfí ko, 'nè ke si'né ijéna*
wi^hkâ napa'wí-ka ra'ʔitfí-li 'mí reʔ'lé-ki es'k^wélá-tfí=ko,
 many gather-GER speak-PST DIST below-SUPE school-LOC=EMPH
'nè ke si'né ijéna
 1SG.NOM NEG once go.SG.PST
 'Many (people) got together to speak over there at the school, but
 I've never gone.'
 'Se juntaron muchos allá en la escuela a platicar, pero yo nunca he
 ido.' {MDH co1137:07:34.8}
- b. *'má bi'lá riki'nâmo o'lá ri'ké ti ro'plâno ke bi'lá o'mêaki ri'kína*
'má bi'lá riki'nâ-mo o'lá ri'ké ti ro'plâno ke
 already really go.down-FUT.SG CER perhaps DEF.BAD plane NEG

bi'lá o'mêaki ri'kîna
really be.able-PST go.down

‘And the plane was about to go down, but it couldn’t go down.’

‘Ya se iba a bajar el avión, nomás que no pudo bajar.’ {SFH tx12:01:58.8}

- c. *ke bilé mu'rúli 'hípi ko, 'étfi bilá 'á mu'rúma a'lé ba*
ke bilé mu'rúli 'hípi=ko 'étfi bilá 'á
 NEG one carry.with.arms-PST today=EMPH DEM indeed AFF
mu'rúma a'lé ba
 carry.with.arms-FUT.SG DUB CL
 'He didn't carry any (wood), but he will bring it.'
 'Ahora no trajo (leña), pero él la va a acarrear.' {JLG co1236:03:21.1}

15.4.3.2 Adversative conjunction marked with *na'lîna* 'but'

Adversative conjunction may also be marked through the connective *na'lina* 'but' (or its reduced form *a'lina* or *'lina*). As the following examples show, in these constructions the adversative conjunction appears between the two conjoined clauses (e.g., (51)).

- (51) a. *aʔlì 'nà kotfíká bu'ʔílo ma'jéli, lína ke 'tâsi kotfíká bu'ʔíli 'étfí re'hòi ko aʔlì 'nà kotfí-ká bu'ʔí-l-o ma'jé-li lína ke 'tâsi*
 and then sleep-GER lay.down.SG-PST-EP think-PST but NEG NEG
kotfí-ká bu'ʔí-li 'étfí re'hòi=ko
 sleep-GER lay.down-PST DEM man=EMPH
 'And then he thought he was asleep, but the man was not asleep.'
 'Nomás que pensó que estaba dormido (lit. acostado durmiendo),
 nomás que no estaba dormido el señor.' {LEL tx5:00:35.0}, {LEL
 tx5:00:38.3}

b. *mo'ʔéa tʃú'kúrili 'tʃó 'áa ba, pa'tfá 'sàbia ke 'lé ba, na'lína be ke 'tâsi ri'wáli 'tʃó 'á ri'ká ba*
mo'ʔ-é-a tʃú'kúrili 'tʃó 'á-a ba pa'tfá
 head-VBLZ-PROG become.bent-PST also look.for-PROG CL inside
'sàwi-a ke a'lé ba, na'lína be ke 'tâsi ri'wá-li 'tʃó 'á
 smell-PROG perhaps DUB CL but be NEG NEG see-PST also AFF
ri'ká ba
 indeed CL
 'He got his head in it (the bottle) looking for it, smelling inside, but

he didn't see him.'

'Metió la cabeza buscando, oliendo para buscarlo, pero de todas formas no lo vió.' {SFH tx152:01:32.6}, {SFH tx152:01:36.1}

- c. 'pé 'táa bi'lá ko ri'hòi 'níla 'rá a?lì 'étfi ko na'lína 'wé na'lína 'wé
 hi'wélami 'tʃó 'níla 'lá 'nápu ri'ká
 just small.SG indeed=EMPH man COP-REP say-MPASS and DEM=EMPH

na'lína 'wé na'lína 'wé hi'wé-l-ame 'tʃó 'ní-la
 but INT but INT be.strong-PST-PTCP also COP-REP
 ru-'wá
 say-MPASS

'He was very small, but he was a very strong man.'

'Era muy chiquito, pero nomás que era un hombre muy fuerte.' {SFH tx43:02:38.9}

15.5 Verbal chaining structures

Choguita Rarámuri has a construction that involves a sequence of clauses, where one of the clauses may be marked with canonical inflection (and show no restrictions in terms of TAM marking), while the remaining clauses can only be marked with special inflection (the gerundive suffix *-ká*) and show overall more restricted structures. This inflection mainly conveys a temporal relation of chronological overlap or chronological sequence, though, as discussed below, these temporal notions may have extended semantic meanings in some cases. In the following example, the first clause, marked with the stress-shifting suffix *-ká*, glossed as gerundive (GER), conveys that two events (drinking and resting) take place simultaneously (52).

- (52) 'wé pi ko ne ku i'sâbika ba'híba 'lé, 'má 'òwisa 'nà pa'tfi pa
 'wé pi=ko ne ku i'sâbi-ka ba'hí-ba a'lé 'má 'òwi-sa
 INT just=EMPH INT REV rest-GER drink-IRR.PL DUB already fertilize-COND
 'nà pa'tfi pa
 DEM corn CL
 'They need to drink while they rest when they (are done) fertilizing this corn.'
 'Necesitan tomar descansando hasta que (terminen de) fertilizar este maíz.' {FLP in243:17:22.2}

In contrast, in (53) the events conveyed occur in a temporal sequence, such that the event described in the finite clause (performing a ritual blessing) occurs after a series of events, described by the *ka*-marked clauses, have taken place.

- (53) *baʔwí rata'bátíka, tʃo'pé júa si'mèrika, ku a'wílitʃí simi'ká, wi'rónipo kútʃí pa'tʃí ba*
baʔwí rata'-bá-tʃí-ka tʃo'pé júa si'mèri-ka ku
 water be.hot-INCH-TR-GER Montezuma.pine with pass.on.top-GER REV
a'wílitʃí simi- 'ká wi'ró-ni-po kútʃí pa'tʃí ba
 ritual.patio go.SG-GER make.blessing-APPL-FUT.PL DEF corn CL
 'Having heated up the water, and having passed on top with a (lit)
 Montezuma pine, and having gone back to the ritual patio, we make the
 blessing with corn.'
 'Calentando agua, pasando por arriba con un ocote (prendido), yendo al
 patio ritual, hacemos la bendición ("echamos el agua") con el maíz.' {ME
 in485:07:08.4}, {ME in485:07:11.4}

This construction is extremely frequent and attested extensively across speech genres in the Choguita Rarámuri corpus. The following examples are from procedural texts, where the temporal relations involve sequences of events (54) (the finite clauses in these examples are marked as medio-passive).

- (54) a. *a'náwika be'lá rupu'nàwa ba*
a'náwi-ka be'lá rupu-'nà-wa ba
 measure-GER really tear-TR-MPASS CL
 'Having measured it, it is torn up.'
 'Una vez medido se troza.' {BFL tx1:01:21.4}
- b. *su'nù ku a'náaga a'río o'lá wa'rítʃí ko*
su'nù ku a'náwi-ka a'-ríwo o'lá wa'rí-tʃí=ko
 corn REV measure-GER give-MPASS CER palm.basket-LOC=EMPH
 'Having measured the corn, it is given to them, in the *wari* (palm
 basket).'
 'Se mide el maíz y se les da, en el wari (canasta de palma).' {MDH
 co1136:05:44.8}
- c. *aʔlì 'má 'nà ... 'má o'tʃé ku 'nà baʔ'wétfí 'nà ... 'nà mu'tʃúuka ku 'nà*
pa'kóka 'nà batu'síwa mata'tʃí

aʔlì 'má o'i̪é ku 'nà baʔ'wé-tfí 'nà mu'i̪fúwi-**ka** ku
 and already once.again REV DEM water-LOC DEM put-GER REV
 'nà pa'kó-**ka** 'nà batu'sí-wa mata-'**tfí**
 DEM wasah-GER DEM grind-MPASS grinding.stone-LOC
 'And then having soaked (placed) it again in the water, and having
 washed (rinsed) it, then it is ground in the grinding stone.'
 'Y luego se remoja otra vez en agua y se enjuaga ya para molerlo en
 el metate.' {LEL tx68:00:58.8}

Clauses marked with *-ká* are non-finite, while the final clause in each of these examples (the ‘unmarked’ clause) may be inflected like an independent sentence. Furthermore, marked clauses are not introduced by any overt subordinator. These properties are characteristic of clause chaining structures (see Longacre 2007 for an overview), though the formal and semantic properties of the Choguita Rarámuri construction with *ka*-marked clauses blur the lines between clause chaining and other types of related constructions in this language.⁷

As exemplified in (52) above, the *ka* construction in Choguita Rarámuri often involves two verbs which are covalent, i.e. they share one or more arguments, a property also present in serial verb constructions (see §15.6.3 below). As shown in (53) and below in (55), the *ka*-marked clauses may contain an overt object argument not shared with the unmarked clause.

- (55) a. *ke bi'lé 'pé ta 'sôda ba'híka o'tférila tʃa'bè go*
*ke bi'lé 'pé ta 'sôda ba'hí-**ka** o'tférí-la tʃa'bè=ko*
 NEG one just DEF soda drink-GER grow-REP.DS before=EMPH CL
 'They_j say they_k grew up without drinking soda before.'
 'Dicen_j que crecieron_k sin tomar soda antes.' {SFH tx12:04:18.7}
- b. *'táa tʃíkító mu'túka ku na'wàli 'tʃó*
*'tá tʃíkító mu'tú-**ka** ku na'wà-li 'tʃó*
 small small hold.on.arms-GER REV arrive-PST also
 'She arrived holding a small one in her arms too.'
 'Llegó con un chiquito en los brazos también.' {LEL tx32:09:03.3}

⁷Morales Moreno (2016) analyzes cognate constructions with the suffix *-ká* as involving secondary predication in Rochéachi Rarámuri. This suffix is described as a resultative state suffix in Norogachi Rarámuri (Villalpando-Quiñonez 2019). The cognate *-ka/ga* suffix is described as a past participle (Miller 1996) in closely-related Mountain Guarajío, as a participial in River Guarajío (Felix Armendáriz 2006) and as a participial also in Yaqui (Dedrick & Casad 1999, Guerrero Valenzuela & Van Valin 2004, Guerrero Valenzuela & García Salido 2019).

- c. *tʃá'bèe go, si'néam 'ká bi'lá ko 'wé awi'wái tʃá'bèe go ba, napa'bûka ba su'nù*
tʃá'bè=ko si'né-ame 'ká bi'lá=ko 'wé
 before=EMPH all-PTCP COP.IRR indeed=EMPH INT
awi-'wá-i tʃá'bè=ko ba, napa'bû-ka ba su'nù
 dance-MPASS-IMPF before=EMPH CL get.together-TR-GER CL corn
 'Long time ago, everybody used to dance a lot long ago, while gathering corn.'
 'Hace mucho, todos bailaban mucho antes, juntando maíz.' {MDH co1140:15:46.3}

In each of the examples in (55), the finite clause is headed by an intransitive verbal predicate. In (56) below, the finite clause is headed by a transitive verb, and the *ka*-marked clause contains an overt object (*bi'lé ba'ríka* 'one cask') that is non-coreferential with the object argument of the finite clause (*ba?wí* 'water'). Both clauses share an external argument, the second singular subject argument marked in the main, finite clause.

- (56) *aʔli 'mámi ba?wí roʔèma o'hòsa a'nâuka bi'lé ba'ríka*
aʔli 'má-mi ba?wí roʔ-è-ma o'hò-sa
 and already=2SG.NOM water pour.APPL-FUT.SG dekernel-COND
a'nâwi-ka bi'lé ba'ríka
 measure-GER one cask
 'When you dekernel it you pour water, having measured one cask.'
 'Cuando lo desgranas y ya le echas agua, ya que mides una barrica.' {BFL tx60:00:27.2}

In this example (as in (55c)), the clause marked with *-ká* appears after the finite clause. Clause chaining structures are often described as 'medial-final' clause chaining in the typological literature (Longacre 2007), but in Choguita Rarámuri the linear order of the marked and unmarked clauses is variable (as also documented in Northern Paiute (Numic) (Toosarvandani 2016)). Another example of this is shown in (57).

- (57) *no'kí na'wàko 'lá po'tʃíka*
no'kí na'wà-ki o'lá po'tʃí-ka
 almost arrive-PST.EGO CER jump-GER
 'He almost arrived jumping ("with a single jump").'
 'Casi llegó a la puerta brincando ("de un brinco").' {LEL tx84:03:31.1}

In (57), the *ka*-marked clause depicts an event that temporally precedes the event described in the finite clause, and can be interpreted as encoding manner (the event, arriving to a location, was accomplished through jumping). Other examples where the *ka*-marked clauses may be interpreted in a manner sense are shown in (58).

- (58) a. *ku'sitini wipi'sóka mi'?*àki
ku'si-ti=ni *wipi'só-ka* *mi'?*à-ki
 stick-INST=1SG.NOM hit.w.stick-GER kill.SG-PST.EGO
 'I hit it to death with a stick.'
 'La maté a palos (a la rata).' < BFL 09 1:88/el >
- b. *ba'tfókati ni'wâbo ka'lí*
ba'tfó-ka=ti *ni'wâ-bo* *ka'lí*
 fix.with.mud-GER=1PL.NOM make-FUT.PL house
 'We made the house by fixing the walls with mud.'
 'Enzoquetando hicimos la casa.' < BFL 09 1:88/el >
- c. *we'páka mi'?*àlo *basa'tfí*
we'pá-ka *mi'?*à-li *basa'tfí*
 hit-GER kill.SG-PST coyote
 'They hit the coyote to death.'
 'Mataron a golpes al coyote.' < BFL 09 1:88/el >
- d. *na'hâтика mi'?*àa *ru'wáo tñimo'ví tñá'bèi*
na'hâti-ka *mi'?*à-a *ru'-wá-o* *tñimo'ví tñá'bèi*
 chase-GER kill.SG-PROG say-MPASS-EP deer before
 'They say they would chase deer to death before.'
 'Dicen que persiguiéndolo lo mataban al venado antes.' < BFL 09 1:88/el >
- e. *bani'sükani mo?o'bûko 'kâha*
bani'sú-ka=ni *mo?o-'bû-ki* *'kâha*
 pull-GER=1SG.NOM go.up-TR-PST.EGO box
 'I got the box up by pulling it.'
 'Jalando subí la caja.' < BFL 09 1:88/el >
- f. *"ni'hê 'má ku 'mètika na'wàki" a'ni*
ni'hê *'má* *ku 'mèti-ka* *na'wà-ki* *a'ni*
 1SG.NOM already REV drive-GER arrive-PST.EGO say.PRS
 "I arrived driving" it is said.
 "Llegué manejando" se dice.' {JLG el1278:03:47.5}

In these examples, the marked clauses precede temporally the event described in the finite clause. In other cases, as shown in (59), the sense of manner is conveyed also in cases where the temporal relationship would be one of chronological simultaneity.

- (59) a. *'étfi ri'ká bi'lám wi'róka ri'ká bi'lá ku ba'jèa 'rú ba 'ni*
'étfi ri'ká bi'lá=m wi'ró-ka ri'ká bi'lá ku ba'jè-a
DEM like indeed=DEM throw.up-GER like indeed REV call-PROG
'rú ba 'ni
say.PRS CL EMPH
'Like that, throwing water up (blessing), that is how they would call it (the rain).'
'Así tirando para arriba (bendiciendo) así era como le llamaban (a la lluvia).' {ME in484:05:29.8}
- b. *'pé itfá'ká ko ko'záa-li*
'pé itfá-ka=kó ko'zá-li
just sow-GER=EMPH eat-PST
'They ate from what they planted.'
'Sembrando comían ("comen sembrado").' {SFH tx12:04:09.9}
- c. *'étfi ri'gá na'sòoka 'bel ko?pôo ba*
'étfi ri'ká na'sòwi-ka 'bel ko?-pô ba
DEM like.that mix-GER indeed eat-FUT.PL CL
'One has to eat like that, by mixing (the foods).'
'Hay que comer así revuelto.' {MDH co1136:00:52.8}
- d. *'mèti 'bél a'lé ba, 'mèka 'bél isi'mípili a'lé ku ba*
'mèti be'lá a'lé ba 'mè-ka be'lá i-si'mípi-li a'lé ku ba
drive.PRS indeed DUB CL drive-GER indeed PL-go.PL-PST DUB REV CL
'They drive, they go back (in their trucks) by driving.'
'Manejan, se van (en las camionetas) otra vez manejando.' {MDH co1136:07:57.2}
- e. *'nâli 'pé be'láni ko 'nè i'jèla i?nèka bi'nè 'nè ko tñü re'ká o'lá 'étfi ba*
'nâli 'pé be'lá=ni=ko 'nè i'jè-la i?nè-ka
then just really=1SG.NOM=EMPH 1SG.NOM mom-POSS watch-GER
bi'nè 'nè=ko tñü re'ká o'lá 'étfi ba
learn.PST 1SG.NOM=EMPH how like do.PRS DEM CL
'Then I learned by watching my mom, how would she make it.'

‘Entonces yo aprendí viendo a mi mamá a ver cómo le hacía.’ {BFL
tx1:00:55.5}

In the following example (60), the temporal sequence between the clauses has an interpretation of cause and effect.

- (60) *bani'wítika, witfi' mēa 'lémi!*
bani'wítí-ka witfi-'mēa a'lé=mi
 entangle-GER fall-FUT.SG DUB=2SG.NOM
 ‘You will trip and you will fall!’
 ‘¡Te vas a enredar y te vas a caer!’ {MDH co1136:12:18.6}

According to Longacre (2007: 400), the temporal relations encoded in clause chaining may give rise to associated semantic readings, such as result, cause and effect, among others. The sentences in (58) and (59) may thus be analyzed as clause chaining.⁸

As exemplified so far, none of the *ka*-marked clauses are introduced by an overt subordinator. There are, however, cases, where an overt coordinator may appear in a clause chain. This is shown in (61), where the coordinator occurs sentence-initially, as well as in the clause chain.

- (61) *aʔ'lì baʔ'wí 'húa na'sòo-ka aʔ'lì 'hē ri'ká ta'mò u'tf-è-i*
aʔ'lì baʔ'wí 'húa na'sòwi-ka aʔ'lì 'hē ri'ká ta'mò u'tf-è-i
 and water with mix-GER and it like.that 1PL.ACC put-APPL-IMPF
 ‘And so mixing it with water, and then he would put it on us like that.’
 ‘Y entonces mezclándola con agua y entonces así nos lo ponía.’ {GFM
tx785:02:49.6}

As discussed in Toosarvandani (to appear), other Uto-Aztecán languages that are documented to have clause chaining allow overt coordinators in chaining structures.

Finally, there are cases where negation only has scope over the *ka*-marked clause. This is exemplified in (62).

- (62) *ke pi'láti bi'lé matfi'ká mo'tfíli ta'mò ká 't'fè wi'le 't'fó matfi'wá aʔ'lì ko ba*

⁸ Alternatively, the gerundive *-ka* suffix may be deployed in a different type of construction that may be better analyzed as involving adverbial modification, with *ka*-marked clauses better analyzed as sentence margins in a co-ranking structure.

ke bi'lá=tí *bi'lé [matfi-'***ká** mo'tfi-li] *ta'mò, 'ká*
 NEG indeed=1PL.NOM one know-GER be.sitting.PL-PST 1PL.NOM because
 't^{fi} bi'lé 't^{fi} matfi-'wá aʔli=ko ba
 NEG one yet know-MPASS then=EMPH CL
 'Well, we were without knowing, because then nothing was known yet.'
 'Pues nosotros estábamos sin saber porque en ese tiempo todavía no se
 sabía nada.' {LEL tx372:00:41.4}

The Choguita Rarámuri *-ká* suffix is cognate with a *-ka* marker in Hiaki (Taracahitan) that is analyzed as a medial verb marker (Martínez Fabián 2006), which may convey both a simultaneous and a sequential interpretation.⁹ Elsewhere in the Taracahitan branch, Mountain Guaríjio is also described as possessing a system of medial markers, five morphemes, which may encode same vs. different subject distinctions, in addition to sequential and simultaneous distinctions (Miller 1996: 200). Miller (1996) remarks that this morphological system of medial verb markers is a recent innovation in the language.

15.6 Complex predicates

Choguita Rarámuri has complex constructions that can be broadly defined as involving complex predicates. While variously characterized in the literature depending on the particular morphosyntactic properties of individual languages under consideration, complex predicate constructions are nevertheless defined as involving a complex argument structure and a grammatical functional structure of a single predicate (Butt 1995: 108). Complex predicates thus involve a single 'inflectional domain' containing two or more distinct predicates, each of which selects for at least one argument in its argument structure (Baker 1997: 247) and each of which contributes to the predicate information that in other constructions is associated with a head (Butt & Geuder 2001).

Complex predicate constructions may be further classified into sub-types, including light verb constructions and serial verb constructions, based on their syntactic and semantic properties (Butt 1995, Svenonius 2008). The status of auxiliary verb constructions as a type of complex predicate construction varies within the literature: Butt (1995), for instance, excludes auxiliary verb constructions from the class of complex predicates in her typology, but the boundaries between this

⁹It should be noted, however, that other studies of Yaqui syntax (Dedrick & Casad 1999, Guerrero Valenzuela & Van Valin 2004, Guerrero Valenzuela & García Salido 2019) do not analyze this marker as a medial verb marker.

type of construction and others uncontroversially defined as involving complex predicates may be blurry (Svenonius 2008). There are four types of constructions in Choguita Rarámuri that may be broadly characterized as involving complex predicates: light verb constructions (§15.6.1), auxiliary verb constructions (§15.6.2), serial verb constructions (§15.6.3) and multi-predicate verb constructions involving V-V incorporation that have been analyzed as serial verb constructions or light verb constructions in other Uto-Aztecán languages (§15.6.4).

15.6.1 Light verb constructions

While the term “light verb” is typically employed in the literature to characterize a wide range of structures cross-linguistically, it is typically used to refer to a class of verbs that are semantically bleached and which appear in a syntactically formed complex predicate (Brugman 2001, Brugman 2001, Butt & Geuder 2001, Bowern 2004). According to Butt (1995), one key defining characteristic of light verbs is that they have a main verb use, which contrasts with its light counterpart in bearing descriptive content (see also Svenonius 2008; cf. Tubino Blanco et al. 2014). In addition to these characteristics, light verbs may impose selectional restrictions on the types of complements and arguments they combine with (e.g., light verbs may require their complement be of a certain transitivity value), in contrast to auxiliary verbs and serial verbs, which do not impose selectional restrictions. For discussion of light verb constructions in the closely related Hiaki language (Taracahitan), see Tubino Blanco et al. (2014).

A set of constructions in Choguita Rarámuri fit the definition of light verb constructions. These constructions consist of two predicates, the first of which (the heavy predicate) contributes most of the lexical meaning, while the second (the light verb) contributes finite verbal categories, stance or valence. Choguita Rarámuri light verb constructions include the *no'ká* 'do' construction (§15.6.1.1), the *ni-* 'do' construction (§15.6.1.2), and the *i'sì* 'do' construction (§15.6.1.3).

15.6.1.1 The *no'ká* 'do' construction

Like light verb constructions documented cross-linguistically, the verb *no'ká* has a main verb use and a light verb use. As a main verb form, *no'ká* means 'move', a predicate that describes a change in posture and which may undergo valence related alternations through the affixation of transitive and applicative suffixes that replace the final vowel of the stem (see §9.1.5). Examples of this predicate as a main, free standing verbal predicate are given in (63).

- (63) a. *'má no'káli*
'má no'ká-li
 already move-PST
 'S/he already moved.'
 'Ya se movió.' <BFL 05 1:114/el>
- b. *ni'hé 'má noko'méa*
ni'hé 'má noko-'méa
 1SG.NOM already move-FUT.SG
 'I will move.'
 'Ya me voy a mover.' <SFH 05 1:80/el>
- c. *ni'hé 'mí 'trôka no'kèli*
ni'hé 'mí 'trôka no'k-è-li
 1SG.NOM 2SG.ACC truck move-APPL-PST
 'I will move the truck for you.'
 'Te voy a mover la troca.' <SFH 05 1:80/el>

This predicate has a semantically bleached version found in multi-predicate constructions, acting as a light verb bearing inflection and following a verbal predicate that bears descriptive content (the descriptive (heavy) verb always precedes the light verb). This is exemplified in (64), where the heavy-light verb sequence is shown in square brackets.

- (64) a. *napa'wí-a no'káli 'lé 'ét̪í 'nà bi'lé ri'hò a?lì bi'lé tʃá'bótʃí sì?i*
[napa'wí-a no'ká-li a'lé] 'ét̪í 'nà bi'lé ri'hò a?lì bi'lé
 get.together-PROG do-PST DUB DEM DEM one man and one
tʃá'bótʃí 'sì
 mestizo also
 'A (Rarámuri) man and a *mestizo* (mixed mexican) man got together.'
 'Se juntaron un hombre (Rarámuri) y un mestizo.' <SFH 06
 choma(2)/tx>
- b. *'náp a?lì 'í bi'lá ... napa'búa no'kíla 'ét̪í tʃá'bótʃí a?lì 'ét̪í ri'hò 'úá ba*
'nápi a?lì 'í bi'lá [napa'bú-a no'kí-la] 'ét̪í tʃá'bótʃí a?lì 'ét̪í
 REL then here really gather-PROG do-MPASS DEM mestizo and DEM
ri'hò 'úá ba
 man with CL
 'When the man and the mestizo were gathered.'
 'Cuando los juntaron al hombre y al mestizo.' <SFH 06
 choma(36)/tx>

- c. *ta'mò 'kútʃuala 'tʃó be'nèma 'tʃó 'nà 'tʃútimi ri'kám 'nàwa no'ká 'nà o'tséra no'ká tʃa'bè ki'rà ba*
ta'mò 'kútʃua-la 'tʃó be'nè-ma 'tʃó 'nà 'tʃú=timi
 1PL.NOM children-POSS also learn-FUT.SG also then Q=2PL.NOM
ri'ká=mi ['nàwa no'ká] 'nà [o'tsér-a no'ká] tʃa'bè ki'rà ba
 like=DEM arrive.PRS do.PRS then grow-PROG do.PRS before before CL
 'Our children will learn how you all grew up like before, how you used to live.'
 'Nuestros hijos también van a aprender cómo crecieron ustedes antes, como vivían.' {SFH in61:00:46.7}, {SFH in61:00:49.2}
- d. *nabi'súra no'kítʃino*
[nabi'súr-a no'kí-tʃino]
 form.line-PROG move-EV
 'It sounds like they are forming a line.'
 'Se oye que se andan acomodando en fila.' < BFL 07 el 30 04]
- e. *ha'ré ko=tí ke tʃíkó=timi riso'tʃí má=m ka'téw-a no'ká-la 'rú?*
ha'ré=ko=tí ke tʃíkó=timi riso'tʃí má=mi
 some=EMPH=1PL.NOM NEG tʃíkó=2PL.NOM caves already=DEM
[ka'téwi-a no'ká-la] 'rú
 keep-PROG do-REP say.PRS
 'Don't some say that you all used to keep (corn) like that in caves?'
 '¿Que no dicen que unos guardaban así en cuevas?' {SFH in61:03:43.4}

As shown in these examples, the light verb construction with *no'ká* is attested with heavy predicates that encode activities, e.g., *napa'wía* 'get together' (64a), *'nàwa* 'arrive' (64c), *nabi'súra* 'get in a line' (64d) and *ka'téwa* 'store' (64e). In contrast, other light verbs may select for other types of predicates (e.g., the light verb *ni-* 'do' selects for stative and mental attitude predicates, as described in §15.6.1.2 below).

The verb *no'ká* has a morphologically related form *ono'ká*, a plural/pluractional form derived through a prefix which is aligned in color with the vowel quality of the first vowel of the root (see §8.2 for more details about pluractional marking in this language). While the semantically full version of this predicate may be used in contexts involving multiple participants, it is not clear that the light verb *ono'ká* marks plurality. Examples of this predicate in light verb constructions is shown in (65).

- (65) a. *su'nù su'wâbuka 't̪út̪imi ri'kám i't̪à ono'ká t̪a'bè*
su'nù su'wâbuka 't̪ú=t̪imi ri'ká=mi [i't̪à ono'ká] t̪a'bè
 corn everything Q=2PL.NOM like=DEM SOW.PRS do.PRS before
 'Corn, everything, how did you use to plant the crops before.'
 'El maíz, todo, cómo sembraban antes.' {SFH in61:01:02.7}
- b. *'t̪ú 'jêni 't̪émi ka'jêni ono'ká 'ét̪i su'nù it̪i-sùa 'ét̪i bi'lé ba'míbiri t̪a'bè*
...?
't̪ú 'jêni 't̪é=mi [ka'jêni ono'ká] 'ét̪i su'nù
 how much also=DEM yield.harvest.PRS do.PRS DEM corn
it̪i-sùa 'ét̪i bi'lé ba'míbiri t̪a'bè
 sow-COND.PASS DEM one year before
 'And how much corn would the harvest yield in a year when you
 used to sow, before?'
 '¿Y cuánto se les daba de maíz cuando sembraban en un año, antes?'
 {SFH in61:02:42.5}
- c. *'pé ri'pòpa 'bítimi 'á kawi'ká na'zá ono'ká ba?*
'pé ri'pòpa 'bi=t̪imi 'á kawi'ká [na'zá ono'ká] ba
 just back just=2PL.NOM AFF bring.wood-GER make.fire do.PRS CL
 'Just with your backs did you used to carry wood, that's how you
 used to make fire?'
 'Nomás en el lomo ustedes traían leña, ¿así hacían lumbre?' < SFH
 06 in61(233)/in >

There seem to be no restrictions as to the inflectional marking the light verb might bear. In most cases, the light predicate is inflected for present tense (as in, e.g., (65)), but in the following examples, the light verb is marked as imperfective (66a) or past tense (66b).

- (66) a. *a?lítimi 't̪út̪imi i'jêni kotimi? 'píri 'uátimi i't̪à ono'ká-i t̪a'bè ko?*
a?lì=t̪imi 't̪ú=t̪imi i'jêni=ko=t̪imi 'píri jùa=t̪imi
 and=2PL.NOM Q=2PL.NOM go.PL=EMPH=2PL.NOM Q with=2PL.NOM
[i't̪à ono'ká-i] t̪a'bè=ko?
 sow do-IMPF before=EMPH
 'And how did you go? With what did you use to sow before?'
 '¿Y ustedes cómo iban? ¿Con qué sembraban antes?' {SFH
 in61:02:15.5}

- b. *'tfútimi ri'kám o'máwa ono'káli ba ... 'tfútimi ri'ká=m ka'jéna ba ...*
'tfú=timi ri'ká=mi [o'máwa ono'ká-li] ba 'tfú=timi
 Q=2PL.NOM like=DEM make.party.PRS do-PST CL Q=2PL.NOM
ri'ká=mi ka'jéna ba
 like=DEM yield.harvest.PRS CL
 'How did you make the parties? How good were the harvests?'
 '¿Cómo hacían ustedes las fiestas? ¿Cómo se les daban las cosechas?' {SFH in61:00:53.4}, {SFH in61:00:56.0}

Finally, the light verb *no'ká* is also frequently found in constructions where the more descriptive predicate is an adjective. This is shown in (67), with the adjectival predicate *'tfá*, 'ugly'.

- (67) a. *'ét̪í 'mí si'pá-am-ti 'wé 'tfá noko-'ká si'pá-ame ru-'wá ri'ké t̪á'béi*
m=a'ní-a bi'lá a'ní
'ét̪í 'mí si'pá-ame-ti 'wé ['tfá noko-'ká]
 DEM DEM use.peyote-PTCP-NMLZ INT ugly do-GER
si'pá-ame ru-'wá ri'ké t̪á'béi mi=a'ní-a bi'lá
 use.peyote-PTCP say-MPASS like.that before DEM=say-PROG really
a'ní
 say.PRS
 'That the peyote shamans would do bad things before, they would say.'
 'Que los raspadores hacían cosas malas raspaban antes, decían.' < SFH 06 in61(580)/in >
- b. *'wé 'tfá noko'ká si'páami ri'holi t̪á'béè ko ma'nía bi'lá a'ní*
'wé ['tfá noko-'ká] si'pá-ame ri'holi t̪á'bé=ko
 INT ugly do-GER use.peyote-PTCP man-VBLZ before=EMPH
m=a'ní-a bi'lá a'ní
 DEM=say-PROG really say.PRS
 'They would do many bad things the peyote shamans before.'
 'Hacían muchas cosas malas antes para raspar.' < SFH 06 in61(601)/in >

15.6.1.2 The '*ní*-‘do’ construction

Another light verb construction in Choguita Rarámuri involves the bound verbal root *ní*. As a main predicate, this verb is a copular predicate, as exemplified in (68) (see §13.2.1 for more details of copular predicates).

- (68) a. *'nè u'mûala 'nîli 'ét̄fi ba?*
 'nè u'mûa-la 'nî-li 'ét̄fi ba
 1SG.NOM great.grandfather-POSS COP-PST DEM CL
 'Was he my great grandfather?'
 '¿Era mi bisabuelo él?' < SFH 06 in61(117)/in >
- b. *"tamu'hê bi'lá 'lîna 'nîma ri'ké pa 'ét̄fi 'lîna 'tòli ba" 'hê bi'lá a'nîli ba*
 tamu'hê bi'lá 'lîna 'nî-ma ri'ké pa 'ét̄fi 'lîna 'tò-li ba" 'hê
 1PL.ACC really but COP-FUT perhaps CL DEM but take-PST CL DEM
 bi'lá a'nî-li ba
 really say-PST CL
 '“It was going to be us, but it took him”, that’s what she said.’
 ‘Ibamos a ser nosotros y fue él” así dijo.’ {LEL tx5:04:26.3}

The following examples show the verb *'nî-* used as a light verb (69). Like in the constructions with *no'ká*, these light verb constructions involve an order where the descriptive predicate precedes the auxiliary verb. In these constructions, the light verb may only appear with past tense marking, as exemplified below.¹⁰ The descriptive (heavy) predicate in the construction is marked present or progressive.

- (69) a. *'kítî ni ke o'sáa bahu'réma 'pâli, 'nè 'lâa 'nîli*
 'kítî=ni ke o'-sá bahu'ré-ma 'pâli 'nè
 so.that=1SG.NOM NEG two-MLTP invite-FUT.SG priest 1SG.NOM
 [lâ-a 'nî-li]
 think-PROG do-PST
 'So that I won't have to invite the priest twice, I was thinking.’
 ‘Para no invitar dos veces al padre, pienso.’ < SFH 06 in61(693)/in >
- b. *'ét̄fi 'hápi ke 'mí ka'léa 'nîli*
 'ét̄fi 'hápi ke 'mí [ka'lé-a 'nî-li]
 DEM SUBL NEG DEM like-PROG do-PST
 'That, the one he doesn't like.’
 ‘Ese, el que no le cae bien.’ {LEL tx5:05:11.8}
- c. *'nâ ka'ènila 'rá 'mí 'tû 'nè 'pé 'ám 'nâta 'nîli*
 'nâ ka'èni-la ru-'wá 'mí 'tû 'nè 'pé 'á=mi
 then finish-REP say-MPASS DIST down 1SG.NOM just AFF=DEM

¹⁰In contrast, the copular verb *'ni-* may bear other TAM markers (see §13.2.1).

[*nâta* *ní-li*]

remember.PRS do-PST

‘They said it was finished down there, I can barely remember.’

‘Dicen que se hizo allá abajo, yo apenas me acuerdo.’ {SFH
tx12:01:46.4}

- d. *pé bí ke me ri'sí 'níli tʃó a'lé ...*

pé bí ke me [ri'sí ní-li] tʃó a'lé

just just NEG almost be.tired.PRS do-PST also DUB

‘But one would not get tired.’

‘Nomás que casi no se cansaba uno.’ < SFH 06 in61(235)/in >

- e. *aʔlì 'nà 'péní ma'jéa 'níli 'wé aʔ'lá saʔ'miāmi 'níla 'lé tʃó'nà 'étʃí ka'wì*

aʔlì 'nà 'pé=ni [ma'jé-a ní-li] 'wé aʔ'lá saʔ'mi-ame

and then just=1SG.NOM believe-PROG do-PST INT well humid-PTCP

'ní-la a'lé tʃó'nà 'étʃí ka'wì

COP-REP DUB there DEM land

‘I believe that land was very humid.’

‘Yo creo que esa tierra estaba muy bien mojado.’ {LEL tx130:02:21.0}

The light verb construction with *ní* ‘do’ selects for stative or mental attitude heavy predicates: *la* ‘think’ (69a), *ka'lé* ‘like’ (69b), *nâta* ‘remember’ (69c), *ri'sí* ‘be tired’ (69d) and *ma'jé* ‘believe’ (69e). This stands in contrast with the constructions with *no'ká* where the light verb selects for activity predicates.

15.6.1.3 The *i'sí* ‘do’ construction

A third light verb construction involves the verb *i'sí* ‘do’. As the main predicate in a clause, this verb has the meaning ‘do’, as exemplified in (70).

- (70) a. *hê kwâ i'sili?*

hê kwâ i'sí-li

who who do-PST

‘Who did it?’

‘¿Quién lo hizo?’ {MAF el1240:02:29.3}

- b. *á jén 'á lo'mí tʃí i'sia ba*

á jén 'á lo'mí tʃí i'sí-a ba

AFF AFF AFF know how do-PROG CL

‘I do know how to do that.’

‘Sí se hacer eso.’ {JLG co1236:03:43.0}

As a light verb accompanying a heavy verb, the verb *i'sì* bears tense/aspect inflection, while the descriptive predicate can only be marked present or progressive. As in the other light verb constructions described so far, the order is descriptive verb – light verb. This is shown in (71).

- (71) a. *'pé bi'lá 'pé ki'lím tʃóna i'sìi ba*
 '*pé bi'lá 'pé ki'lí=mi* [*'tʃón-a i'sì-i*] *ba*
 little really little slowly=DEM smash-PROG do-IMPF CL
 'I would smash it slowly.'
 'Le aplastaba despacito.' {BFL tx1:01:04.2}
- b. *'pé aʔli bi'lá 'pé ku'rím ka'jèna i'sìa ru'wá es'kʷēlatʃi aʔli ba*
 '*pé aʔli bi'lá 'pé ku'rí=mi* [*ka'jèni-a i'sì-a*] *ru-'wá*
 just later really just recently=DEM finish-PROG do-PROG say-MPASS
 es'kʷēlatʃi aʔli ba
 school then CL
 'That time it was said that they were just recently finishing the
 school.'
- 'Esa vez dicen que apenas estaba terminando la escuela.' {SFH
 tx12:02:35.8}
- c. *aʔli bi'lá ko 'á ri'ká 'nà bo'téja moko'ʔôka bi'lá ko ri'pámi tʃó'm itʃu'kûba*
 i'sili a'lé 'nà ben'tâantʃi ba
 aʔli bi'lá=ko '*á ri'ká 'nà bo'téja moko'ʔô-ka*
 and really=EMPH AFF like DEM bottle in.head.crown-GER
 bi'lá=ko *ri'pá-mi* *tʃó=mi* [*itʃu'kûba i'sì-li*] *a'lé 'nà*
 really=EMPH up-SUPE also=DEM peek.PRS do-PST DUB DEM
 ben'tâan-tʃi ba
 window-LOC CL
 'Like that, he was peeking through the window with the bottle in
 his head (like a crown).'
- 'Así como ya se asomaba por la ventana con la botella puesta.' {SFH
 tx152:02:14.4}

In these examples, the light verb is marked imperfective (71a), progressive (71b) and past (71c). In all instances, the heavy predicate is marked present tense or present progressive.

In the following example (in (72)), *i'sì* is nominalized through an agentive participial marker and preceded by the adjectival predicate *tʃá* 'ugly', which contributes the main descriptive content of the construction. The light verb con-

struction is in turn the complement of a higher predicate (the motion verb *a'jéna* ‘go’).

- (72) *'tfá i'sikam jénam kori'má ba*
 [*'tfá i'si-kame*] *a'jéna=mi kori'má ba*
 ugly do-PST.PTCP go.SG=DEM korima CL
 “The *korima* (fire bird) was bothering (lit. doing bad/ugly)”.
 “Anduvo molestando (lit. haciendo feo/mal) el *korimá* (pájaro de fuego)”.
 {LEL tx5:03:43.0}

Whether the descriptive predicate is an adjective or a verb, the light verb in this construction appears to indicate that the event encoded by the construction is an activity.

15.6.2 Auxiliary verb constructions

Auxiliary verbs are defined in this grammar as functional verbal elements that are combined with a semantically descriptive verbal predicate in a mono-clausal structure; the descriptive verbal predicate contributes lexical content to the construction, while auxiliary verbs may encode aspectual, temporal, modal or evidential information (Anderson 2006; Svenonius 2008). While auxiliary verb constructions and light verb constructions (and other complex predicate types) are proposed to be discrete classes of constructions (Butt & Geuder 2001) (cf. Anderson 2006), the boundary between them may not be sharp (Svenonius 2008). Two main criteria are assumed here in distinguishing auxiliary verb constructions from light verb constructions in Choguita Rarámuri: (i) while light verbs may impose selectional restrictions on their complements, auxiliary verbs do not impose such selectional restrictions nor do they contribute lexical-semantic (argument structural) content (Butt 1995); and (ii) while auxiliary verbs and light verbs both involve semantic bleaching, auxiliary verbs have less semantic content than light verbs or may lack descriptive content altogether (Butt 1995; see also Tubino Blanco et al. 2014).

Choguita Rarámuri features multi-verb constructions that may be analyzed as auxiliary verb constructions. These involve the paradigm of positional/posture verbs, which exhibit suppletion and affixation encoding number (singular vs. plural) and transitivity (stative, inchoative and causative) contrasts when functioning as main predicates in locative clauses. The morphological and syntactic properties of posture predicates are described in §13.2.3. The posture predicate paradigm is presented in Table 15.1.

Table 15.1: Posture/positional predicates in Choguita Rarámuri

	Stative		Inchoative		Causative	
	Sg	Pl	Sg	Pl	Sg	Pl
‘sit’	<i>a'tí</i>	<i>mu'tfúwi</i>	<i>asi/a'sá</i>	<i>mo'tfíwi</i>	<i>a'tfá</i>	<i>mu'tfúwi/</i> <i>mutfú'wá</i>
‘sit (container)’	<i>ma'ní</i> <i>~ba'ní</i>	<i>a-'máni</i>	<i>bani-'bá</i> <i>~mani-'bá</i>	<i>bani-'bá/</i> <i>ba'ní-ba</i> <i>~mani-bá</i>	<i>ba'ná</i> <i>~ma'ná</i>	<i>a-ma'ná</i>
‘stand’	<i>wi'lí</i>	<i>hâwi</i>	<i>wi'lísi</i>	<i>hási</i>	<i>wi'lá</i>	<i>ha'wá</i>
‘lie down’	<i>bu'ýí</i>	<i>bi'tí</i>	<i>bu'ýu-</i>	<i>bi'tí</i>	<i>riki/ri'ká</i>	<i>ro'ýá</i>
‘bent, curved, on four legs’	<i>tfú'kú</i>	<i>u'tfúwi</i>	<i>tfú'kú-ba/</i> <i>tfuku-'bá</i>	<i>i-'t'fúpi/</i> <i>i-tfú'pá</i> <i>~u-'t'fúpi</i>	<i>u'tfá</i>	<i>i-'t'fútfí</i> <i>~u-'t'fútfí</i>

A subset of these predicates, namely stative and inchoative posture predicates, are deployed in auxiliary verb constructions encoding progressive aspect, indicating that an event takes place continuously over a given time frame. These constructions are analytic, with auxiliary verbs being separate prosodic words (the criteria for defining the prosodic word in Choguita Rarámuri are discussed in §11.1). The auxiliary verb bears tense marking (present, past or future), while the main lexical verb is inflected for present tense regardless of the tense marking on the auxiliary. Auxiliary verb constructions are exemplified in (73).

- (73) a. *a?lì tñi ko 'étñi 'nà 'hônsa ko a?lì bi'léna 'tñó biti'tñi si'míli 'ápu ko 'nà ba'híá mo'tñili*
a?lì tñi=ko 'étñi 'nà 'hônsa=ko a?lì bi'lé-na 'tñó biti'tñi
and tñi=EMPH DEM PROX since=EMPH and one-INCL also house
si'mí-li 'nápi=ko 'nà [ba'hí-a mo'tñi-li]
gosG-PST SUB=EMPH DEM drink-PROG sit.down.PL-PST
‘And then from there he went to another house where people were drinking.’

- ‘Y entonces de ahí se fue en otra casa donde estaban tomando.’ {LEL tx5:01:43.4}
- b. *'má nata'kēa bu'ʔili 'nà bi'ʔà ro'kò*
'má [nata'kē-a bu'ʔi-li] 'nà bi'ʔà ro'kò
 already faint-PROG lie.down.SG-PST then early night
 ‘He had already fainted before dawn.’
- ‘Ya estaba desmayado en la madrugada.’ {LEL tx5:04:03.7}
- c. *aʔlì 'nè ko 'má biti'tfí 'á bu'jèa a'tí*
aʔlì 'nè=ko 'má biti'tfí 'á [bu'jè-a a'tí]
 and 1SG.NOM=EMPH then house AFF wait-PROG sit.SG.PRS
 ‘And then I am waiting for her in the house.’
- ‘Y entonces yo ya la estoy esperando en la casa.’ {LEL tx19:01:17.9}
- d. *"tfin o'lá ko 'étfí", 'hē bi'lá ko 'lā a'sáli 'lé ru'tükuri ko ba*
tfin=ni o'lá=ko 'étfí 'hē bi'lá=ko ['lā-a
a'sá-li] a'lé ru'tükuri=ko ba
 sit.SG-PST DUB owl=EMPH CL
 “That’s how I did it to them” that’s what he was thinking, the owl”.
- “Así les hice a esos” eso estaba pensando, el tecolote”. {SFH tx152:07:01.9}

In contrast to light verbs, auxiliary verbs do not impose any selectional restrictions on the verb encoding the main lexical content of the clause, e.g., the descriptive verb of the construction may be an activity predicate (*ba'hi* ‘drink’ in (73a)), a telic (bounded) predicate (*nata'kē* ‘faint’ in (73b)) or a stative predicate (*'lā* ‘think’ in (73d)). The progressive auxiliary verb construction encodes that an event is ongoing at some specified time frame internal to ongoing discourse: in (73a), an activity (‘drinking’) is carried out over a period of time (in this context, a drinking party). This construction may also denote that a state of affairs is transitory, rather than permanent: when combining with a stative predicate, this construction denotes a type of temporary activity, as in (73d), where a participant is in a state of thinking about an action carried out.

The verbs bearing inflection in these constructions are not completely devoid of the semantic contrasts they encode as main predicates in locative clauses. Specifically, number contrasts and some lexical distinctions are retained. In terms of their lexical meaning, auxiliaries may be selected in terms of the posture of referents, e.g., a man that has fainted lies down (73b), and the default collocation for human beings are the auxiliaries derived from the posture predicate ‘sit’

((73a) and (73c)) (for more discussion about default collocations and categorization involving posture predicates, see §13.2.3).

Number distinctions are also retained in auxiliary verbs. This is shown in (73a): the auxiliary employed *mo'tfí* encodes plural number as a positional verb and is used as an auxiliary in a context where the event described is a drinking party involving multiple participants; in contrast, in (73b) the auxiliary employed (*bu'zí*) encodes singular number and is used in a context where the event involves a single participant (a man who is in the state of having fainted). Likewise, in (73c–d), the auxiliary verbs (*a'tí* and *a'sá*, respectively) encode singular number with singular subjects. Further examples of number contrasts in auxiliaries is exemplified in (74), where the auxiliaries in each case derive from the singular (*wi'li*) and plural (*hâwi*) forms of the positional predicate ‘stand’.

- (74) a. *'nè lèa wi'lí t̪o'nà rapi'tfí 'nápu ko 'nà me'zàli ba*
'nè 'l-è-a wi'lí t̪o'nà rapi-t̪fí 'nápi=ko
 INT blood-VBLZ-PROG stand.PRS there sandstone-LOC SUB=EMPH
'nà me'zàli ba
 DEM go.around-PST CL
 ‘It was bloody over there by the sandstone where he had been.’
 ‘Estaba sangrado allí en las lajas donde anduvo.’ {LEL tx84:05:58.4}
 b. *a?li 'nà 'wé ja t̪a'kéna ra'wéa 'hâwipo ru'wá*
a?li 'nà 'wé ja t̪a'kéna [ra'wé-a 'hâwi-po]
 and then INT fast another.side turn-PROG stand.PL-FUT.PL
ru-'wá
 say-MPASS
 ‘And then one has to stand turning to another side, it is said.’
 ‘Y entonces dicen que pronto hay que voltearse de otro lado.’ {LEL tx5:04:53.8}

In (74a), the auxiliary verb *wi'li* encodes singular number in a construction denoting a transitory state of a location (the sandstone that is bloody), while in (74b) the auxiliary verb *hâwi* encodes plural number in a context where an ongoing process (turning to face another side) is something that must be done by hearers of the advice provided in the narrative.

While number and other lexical contrasts are retained in auxiliation, not all forms in the posture/positional predicate paradigm are attested in auxiliary verb constructions. Specifically, there are no instances in the corpus where a causative positional predicate appears in an auxiliary verb construction. Furthermore, it appears the choice between a stative positional verb (*bu'zí* ‘lie down, sg’, *a'tí* ‘sit, sg’

or *hâwi* ‘stand, PL’) and an inchoative positional verb (*mo'tfîwi* ‘sit, PL’ or *a'sá* ‘sit, SG’) is arbitrary. That semantic bleaching in this construction is only partial is not surprising considering that posture/positional predicates are common lexical sources for auxiliary verb constructions encoding progressive aspect and that the multi-predicate constructions do not significantly differ semantically from their lexical sources in locative clauses (Bybee & Dahl 1989). But while the number contrasts are retained in auxiliary verb constructions, transitivity contrasts encoded by the posture predicates as main predicates are not retained in their auxiliary function.

15.6.3 Serial verb constructions

Serialization forms complex predicates with specialized functions. Cross-linguistically, serial verb constructions can be characterized by the following properties (Foley & Olson 1985, Sebba 1987, Aikhenvald 2006):

(75) Main properties of Serial Verb Constructions

- a. Each serial verb construction contains at least two verbs without any overt marker of subordination or coordination.
- b. Either verb of the construction could function as the predicate of its own clause.
- c. The construction depicts what could be conceived as a single event.
- d. The argument structure of the construction corresponds to that of a single clause, with a single internal and external argument.
- e. The construction has a single set of tense, aspect, mood and polarity values.
- f. Intonationally, serial verb constructions may behave like a single clause.

A relatively infrequent construction in Choguita Rarámuri involving motion verbs meets the criteria for serial verb constructions: (i) the verbal complex lacks any overt marker of subordination or coordination; (ii) each verb of the construction may also function in non-serial constructions as a main predicate; (iii) the two verbs form depict a single event; (iv) the overall argument structure corresponds to that of a single clause; (v) the construction features a single value for tense, mood, aspect and polarity; and (vi) the construction may have a prosodic contour that corresponds to a single Intonational Phrase (IP). These properties are illustrated in (76).

- (76) a. *'étfi ko 'wé na'làfia na'wàli*
'étfi=ko 'wé [na'là-si-a na'wà-li]
 DEM=EMPH INT cry-MOT-PROG arrive-PST
 'She arrived crying.'
 'Llegó llorando.' {LEL tx5:03:09.6}
- b. *'hê a'nè a'nífia na'wàli 'étfi na'mú ni'rà su'wá ba 'á ru'wè-li*
'hê a'n-è [a'ní-si-a na'wà-li] étfi na'mú ni'rà
 DEM say-APPL say-MOT-PROG arrive-PST DEM something relatives
su'wá ba 'á ru'w-è-li
 everybody CL AFF say-PST
 'A relative arrived saying, telling everybody.'
 'Llegó diciendo un familiar, diciéndoles a todos.' {LEL tx5:04:07.0}
- c. *a?li 'étfi 'ápu ro'wéa 'úmi ko 'á bi'lá riti'wá t'fú t'fú'rú a'tí*
a?li 'étfi 'nápi [ro'wé-a 'húmi]=ko 'á bi'lá
 and DEM SUB women.race-PROG run.PL.PRS=emph AFF indeed
riti'-wá t'fú t'fú'rú a'tí
 see.-MPASS how much sit.SG.PRS
 'And then the ones running the ariweta race see how many things
 there are (lit. sit) (things people bet).'
 'Y entonces las que andan corriendo carrera de ariweta ven que
 tanto va.' {LEL tx19:03:10.4}
- d. *apa'lì 'má bi'lé 'tòoru ne pa'tfúsia i'náliro ri'páti ra'bô*
'nápi a?li 'má bi'lé 'tò-ru ne [pa'tfú-si-a
 when then already one take-PST.PASS INT drip-MOT-PROG
i'náli-li-ro] ri'pá-ti ra'bô
 go-PST-MOV up-ALL hill
 'When one was already taken it goes dripping something by the top
 of the hill.'
 'Cuando ya lleva uno va goteando algo por arriba del cerro.' {LEL
 tx5:06:17.1}

The meaning of this construction is that of motion with associated manner. In Choguita Rarámuri serial verb constructions, the open class verb is marked with progressive aspect, while the motion verb, the defining member of the construction, may be inflected with a variety of tense values (e.g., past tense (76a–b, d) or present tense (76c)).¹¹ Thus, the open class predicate bears argument marking for

¹¹In example (76d) the final stem syllable and past tense suffix syllable have identical onsets, and undergo stem-suffix haplology (see §9.4.3.1).

the entire clause, while the motion predicate bears tense marking for the entire clause. The open class verb may additionally bear associated motion marking, as in (76a–b,d). The motion predicate may also be marked with an unproductive motion suffix, *-ro*, as in (76d).¹² Each verb is a separate prosodic word (in contrast to V-V incorporation constructions, where the two verbs are combined in a stem, equivalent to a single prosodic word, as described in §15.6.4 below).

A second construction In Choguita Rarámuri has properties of a serial verb construction and involves predicates of speaking. This construction is exemplified in (77).

- (77) a. *aʔlì bi'lá tʃō'ná tʃu'kúli tʃō'lé bo ba'jèa a'níá es'ta to'wí tʃō'ná pa'tʃá ati'kó ma'jèli ... étʃí ri'mò ba*
aʔlì bi'lá tʃō'ná tʃu'kúli tʃō' a'lé bo [ba'jè-a a'ní-a]
 and indeed there be.bent-PST also DUB EMPH call-PROG say-PROG
'étʃí 'tá to'wí tʃō'ná pa'tʃá ati'=kó ma'jè-li étʃí ri'mò ba
 DEM DEF boy there inside sit.SG=EMPH believe-PST DEM frog CL
 'And then the boy was there calling it (lit. calling saying), he
 thought that the frog was in there'
 'Y entonces allí estuvo llamándole (lit. llamando diciendo) el niño,
 pensó que allí adentro estaba el sapo.' {SFH tx152:05:25.2}
- b. *aʔlì bi'lá ko ti étʃí ru'ká bi'lámi kom 'nâra atʃa'ní ba*
aʔlì bi'lá=ko=ti étʃí ru'ká
 and indeed=EMPH=1PL.NOM DEM say-GER
bi'lá=mi=ko=ni ['nâri-a atʃa'ní] ba
 indeed=DEM=EMPH=1SG.NOM ask-PROG make.noise.PRS CL
 'Then saying I'd ask (lit. ask make noise) her.'
 'Entonces diciendo yo le preguntaba (lit. pregunto hago ruido).' {SFH
 tx43:01:45.3}

In (77a), the second verb of the complex verb construction is the verb that defines the construction (*a'ní* 'say'), while the first verb describes the manner of speaking (*ba'jè* 'call'). Both verbs are marked with progressive aspect and describe a single event with a single internal and external argument. In (77b), the construction encodes that the act of speech (encoded with the verb *atʃa'ní* 'make noise') involves asking.

¹²The cognate suffix in Mountain Guarajío (*-tó/ro*) is described with a distributive sense, e.g., 'to go do X in more than one place' or 'do X more than once' (Miller 1996: 165). It is not possible to determine if the Choguita Rarámuri *-ro* suffix has the same meaning given how infrequently it is attested in the corpus.

Serial verb constructions are not generally documented in Uto-Aztecán languages, but some complex verb constructions are analyzed as involving serialization in Southeastern Tepehuan (Tepiman) (García Salido 2007b) and Northern Paiute (Numic) (Thornes 2011), where an open class verb combines with a verb of a restricted class (primarily motion predicates in Southeastern Tepehuan, and motion and posture predicates in Northern Paiute). The constructions analyzed as serial verb constructions in Northern Paiute involve a single phonological word, which can be characterized as verb-verb compounding or incorporation. A different set of constructions in Choguita Rarámuri have this formal property and are addressed next.

15.6.4 V-V incorporation (secondary verb constructions)

Choguita Rarámuri features V-V incorporation construction. As discussed in §9.4, the Choguita Rarámuri verbal morphological structure includes a domain, namely the “aspectual stem”, where suffixes encoding desiderative, associated motion and auditory evidential meanings are transparently related to independent verbs in the language. Table 15.2 lists these suffixes, their grammaticalized meanings and their independent lexical verb sources.

Table 15.2: Choguita Rarámuri aspectual suffixes and their lexical counterparts

Aspectual suffixes	Independent lexical verb
<i>-'nále</i> ‘desiderative (DESID)’	<i>'nále</i> ‘want’
<i>-simi</i> ‘associated motion (MOT)’	<i>si'mí</i> ‘go.SG’
<i>-tʃáne</i> ‘auditory evidential (EV)’	<i>(a)tʃáne</i> ‘say, make noise’

Verbal roots attaching these suffixes have properties that are characteristic of complex predicates, with the derivational suffixes in Table 15.2 attaching to a verbal root of an open class and forming a verb cluster. In the resulting complex, the suffix may introduce its own arguments to the construction and take the embedded phrase as its semantic complement. The verb complex has a single value for tense, aspect, mood and polarity.

These structures resemble a multi-verb construction documented across Uto-Aztecán languages and known in the Uto-Aztecánist literature as the “secondary verb” construction (Crapo 1970; Thornes 2011). These constructions involve a verb which may be used as a main verb in a clause or may appear phonologically bound to another verb. In their suffixed form, secondary verbs encode

aspectual or adverbial meanings. In Choguita Rarámuri, V-V incorporation is productive and involves two verbal predicates in sequence, the first of which is an open class verb followed by the defining member of the construction. V-V incorporation is exemplified in (78). Similar multi-verb constructions in other Uto-Aztecán languages have been alternatively analyzed as involving serialization (e.g., in Northern Paiute (Numic) (Thornes 2011)) or light verb constructions (e.g., in Hiaki (Taracahitan) (Tubino Blanco et al. 2014)).

- (78) a. *'wé a'nátʃo, ka bi'lé i'ʃinili ba*
 'wé a'nátʃa-o ka bi'lé i'si-nale ba
 INT endure-EP NEG one urinate-DESID CL
 ‘She endures a lot, she doesn’t want to pee.’
 ‘Aguantan mucho, no quiere orinar.’ {MDH co1140:11:30.4}
- b. *'má busu'rēsimi*
 'má busu'rē-simi
 already wake.up-MOT
 ‘She’s going along waking up.’
 ‘Va despertando.’ {SFH el1007:01:54.7}
- c. *aʔlì bi'lá me'tēsimá 'rá ba*
 aʔlì bi'lá me'tē-simi-ma ru-'wá ba
 and indeed cut.with.ax-MOT-FUT.SG say-MPASS CL
 ‘And then they say they will go along cutting with the ax.’
 ‘Y luego dicen que van a ir cortando con el hacha.’ {FLP in61:05:58.9}
- d. “*má 'wé a'wítʃani a'nítʃani a'bé 'lôla riʔlíná 'rú*
 má 'wé a'wí-tʃane a'ní-tʃane a'be 'lôla riʔlín-a 'rú
 already INT dance-EV say-EV earlier Lola down-ALL say.PRS
 “It sounds like they’re already dancing a lot” (it sounded like) Lola
 said earlier down there.”
 “*Ya se oyen bailar mucho*” así (se oyó que) dijo Lola hace rato allá
 abajo.’ {JLG co1237:08:15.1}

In addition to the desiderative, associated motion and auditory evidential, indirect causative constructions also involve V-V incorporation: as detailed in §15.1.5 and exemplified in (79), the complement of the jussive predicate *nulé* ‘order, command’ is a clause where the lower verb is additional marked with the jussive verbal affix *nula* ‘order, command’ deriving a co-lexicalized structure within the complement. This is another instance of V-V incorporation.

- (79) a. *wi'tfônula nulu'râ 'pé kútſi ká 'hônsa*
wi'tfô-nula nulu-râ 'pé kútſi ká 'hônsa
 wash.clothes-ORDER order-MPASS just small COP.IRR since
 'They make them wash clothes since they are little.'
 'Las mandan a lavar la ropa desde que son chiquitas.' {BFL
 tx48:02:01.5}
- b. *'á ha'ré ko ku bi'lá mu'rúnula nulu'rîwi 'ru ba, kútſi kûruwi ko*
'á ha'ré=ko ku bi'lá mu'rú-nula
 AFF some=EMPH wood indeed gather.with.hands-ORDER
nulu-'rîwi 'ru ba kútſi kûruwi=ko
 order-MPASS say.PRS CL small children=EMPH
 'Some send them to bring wood, the children.'
 'Unos los mandan a traer leña, a los niños.' {LEL tx73:00:31.2}

Appendix A: Verbal suffixes

<i>-bá</i>	Inchoative (INCH)	§A.1.1
<i>-na</i>	Transitive (TR)	§A.1.2
<i>-tʃā</i>	Pluractional transitive (TR.PL)	§A.1.3
<i>-bû</i>	Transitive (TR)	§A.1.4
<i>-ni</i>	Applicative (APPL)	§A.2.1.1
<i>-si</i>	Applicative (APPL)	§A.2.1.2
<i>-wi</i>	Applicative (APPL)	§A.2.1.3
<i>-ti</i>	Causative CAUS	§A.2.2
<i>-ki</i>	Applicative (APPL)	§A.2.3
<i>-nále</i>	Desiderative (DESID)	§A.3.1
<i>-simi</i>	Associated Motion (MOT)	§A.3.2
<i>-tʃane</i>	Auditory Evidential (EV)	§A.3.3
<i>-ru</i>	Past Passive (PST.PASS)	§A.4.1.1
<i>-pa</i>	Future Passive (FUT.PASS)	§A.4.1.2
<i>-rîwa, -wá</i>	Medio-Passive (MPASS)	§A.4.1.3
<i>-sûwa</i>	Conditional Passive (COND.PASS)	§A.4.1.4
<i>-'mêa, -ma</i>	Future Singular (FUT.SG)	§A.4.2.1
<i>-pô</i>	Future Plural (FUT.PL)	§A.4.2.2
<i>-mê</i>	Motion Imperative (MOT.IMP)	§A.4.3
<i>-sâ</i>	Conditional (COND)	§A.4.4
<i>-mê</i>	Irrealis singular (IRR.SG)	§A.4.5.1
<i>-pi</i>	Irrealis plural (IRR.PL)	§A.4.5.2
<i>-ra</i>	Potential (POT)	§A.4.6
<i>-kâ</i>	Imperative singular (IMP.SG)	§A.4.7.1
<i>-sâ</i>	Imperative singular (IMP.SG)	§A.4.7.2
<i>-sì</i>	Imperative plural (IMP.PL)	§A.4.7.3
<i>-la</i>	Reportative different subject (REP.DS)	§A.4.8.1
<i>-lo</i>	Reportative same subject (REP.SS)	§A.4.8.2
<i>-li</i>	Past (PST)	§A.4.9
<i>-ki</i>	Past perfective egophoric (PST.EGO)	§A.4.10
<i>-e</i>	Imperfective (IMPF)	§A.4.11
<i>-a</i>	Progressive (PROG)	§A.4.12

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<i>-nula</i>	Indirect causative	§A.4.13
<i>-t̪i</i>	Temporal (TEMP)	§A.5.1
<i>-o</i>	Epistemic (EP)	§A.5.2
<i>-ká</i>	Gerund (GER)	§A.5.3
<i>-ra</i>	Purposive (PUR)	§A.5.4
<i>-ame</i>	Participial (PTCP)	§A.5.5

A.1 The Derived Stem: inchoative and transitivity markers

The first identifiable layer in the suffixation domain of morphologically complex verbs is the Derived Stem. This verbal domain includes semantically restricted, unproductive derivational suffixes (an inchoative suffix and three transitive suffixes). These suffixes are restricted to attach to a semantically defined class of verbs, change-of-state verbs.

A.1.1 Inchoative *-bá*

The inchoative suffix is productively used with positional or stative predicates to indicate a dynamic change-of-state; a state is turned into a process, meaning ‘to become X’. This stress-shifting suffix is exemplified in (1b, d).

- (1) a. *'wé a^hkâame 'hú*
 'wé a^hkâ-ame *'hú*
 INT be.sweet-PTCP COP.PRS
 ‘It is very sweet.’
 ‘Está muy dulce.’
- b. *'má a^hka'bátʃanali*
 'má a^hka- 'bá-tʃa-na-li
 already be.sweet-INCH-TR.PLC-TR-PST
 ‘S/he has already sweetened it.’
 ‘Ya lo endulzó.’ < BFL 05 2:56/el >
- c. *'wé ra'tâame 'hú*
 'wé ra'tâ-ame *'hú*
 INT be.hot-PTCP COP.PRS
 ‘It is very hot.’
 ‘Está muy caliente.’

- d. *rata'bámam pa*
rata-'bá-ma=mi *pa*
 be.hot-INCH-FUT.SG=DEM CL
 '(so) it will become hot'
 '(para que) se caliente' {LEL tx68:0:46.2}

A.1.2 Transitive *-nâ*

The transitive *-nâ* suffix is a stress-shifting suffix that attaches to change-of-state predicates, increasing the valency of the verb stem. Stems derived with this transitive suffix are “alternating stems”, where surface tonal patterns are conditioned by the stress properties of inflection markers: a HL tone if the inflection morpheme is stress-shifting and a L tone if the inflection morpheme is stress-neutral (see §11.3.7.3 for more details).

The following examples show transitive derivations with suffix *-nâ*: the intransitive (inchoative) forms is not suffixed (e.g., (2a)), and the corresponding transitive counterpart is marked with the transitive *-nâ* suffix (e.g., (2b)).

- (2) a. *'má tʃí'wáli si'pútʃa*
'má *tʃí'wá-li* *si'pútʃa*
 already tear-PST skirt
 'The skirt already tore.'
 'Ya se rompió la falda.' < SFH 07 1:17-21/el >
 b. *'á ri'wè! tʃí'wa'nâra!*
'á *ri'wè* *tʃí'wa-**nâ-ra*
 AFF leave.IMP.SG tear-TR-POT
 'Leave it, you are going to tear it!'
 '¡Déjalo! ¡Lo vas a trozar!' < SFH 07 1:17-21/el >

A.1.3 Pluractional transitive *-tʃa*

The pluractional transitive *-tʃa* suffix is a stress-neutral transitive suffix that can attach to the same change-of-state predicates that may be marked with the transitive *-nâ* suffix described in Appendix A.1.2. The suffix, historically reconstructed to Proto-Uto-Aztecán (Heath 1978), may encode (i) an event that is performed repeatedly (the succession or discernible, discrete events) or (ii) that more than one entity is affected by an event. Of limited productivity in Choguita Rarámuri,

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this stress-shifting suffix is found with a pluractional sense. Compare the transitive form with suffix *-na* in (3b) and the pluractional transitive form with suffix *-tʃá* in (3c) of the same base predicate *kuʔrí* 'to turn'.

- (3) a. *ni'hê kuʔríma*
ni'hê *kuʔrí-ma*
1SG.NOM turn-FUT.SG
'I will turn (on my own axis).'
'Voy a dar vuelta (en mi propio eje).' < SFH 05 1:140/el >
- b. *ni'hê kuʔru-nâ-ma*
ni'hê *kuʔru-nâ-ma*
1SG.NOM turn-TR-FUT.SG
'I will turn it (on its own axis).'
'Le voy a dar vuelta (en su propio eje).' < BFL 05 1:187/el >
- c. *'máni kuʔritʃíma*
'má=ni *kuʔrí-tʃá-ma*
already=1SG.NOM turn-TR.PL-FUT.SG
'I will now turn it several times (on its own axis).'
'Ya le voy a dar muchas vueltas (en su propio eje).' < BFL 05 1:187/el >

Non-pluractional uses of transitive *-tʃá* can also be found. An example of this is provided in (4b):

- (4) a. *rata'bámam pa*
rata-'bá-ma=mi *pa*
be.hot-INCH-FUT.SG=DEM CL
'(so) it will become hot'
'(para que) se caliente' {LEL tx68:0:46.2}
- b. *ni'hê rata'bátʃama koʔámí*
ni'hê *rata-'bá-tʃá-ma* *koʔ-ámí*
1SG.NOM heat-INCH-TR.PL-FUT.SG eat-PTCP
'I'm going to heat up the food.'
'Voy a calentar la comida.' < LEL 06 4:151/el >

A.1.4 Transitive *-bû*

There is a third transitivizing suffix, *-bû*, which is also unproductive and lexically restricted. This stress-shifting suffix is exemplified in (5b):¹

- (5) a. *to'wí 'má 'móli*
to'wí 'má 'mó-li
 boy already go.up-PST
 'The boy already went up.'
 'Ya se subió el niño.' < BFL 06 4:189/el >
- b. *'máni mo'bûuro*
'má=ni mo-'bû-ru
 already=1SG.NOM go.up-TR-PST.PASS
 'I was already taken up.'
 'Ya me subieron.' < BFL 06 4:189/el >

A.2 The Syntactic Stem: causative and applicative markers

After the derived stem domain, the next verbal zone in the Choguita Rarámuri verbal complex is the “syntactic stem” which includes suffixes in suffix positions S3 to S5 that encode valence-increasing operations, namely applicative and causative operations.

A.2.1 Applicatives

A.2.1.1 Applicative *-ni*

The Applicative *-ni* suffix increases the valency of the verb, adding a benefactive argument ('to do X for Y'). This suffix is unproductive and lexically conditioned by the roots to which it attaches. The contrast between a basic, two-place base predicate and its applicative derivation is exemplified in (6b).

- (6) a. *'nè 'má ?wîma su'nù*
'nè 'má ?wî-ma su'nù
 1SG.NOM now harvest-FUT.SG corn
 'I'll harvest corn now.'
 'Ya voy a pizcar maíz.' < LEL 06 4:151/el >

¹Lengthening of the transitive suffix vowel in example (5b) is triggered by the past passive suffix. This effect is discussed below (§9.4.3.3).

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- b. *'ʔwînimon o'lá 'nè 'jéra su'nù*
'ʔwî-ni-ma=ni o'lá 'nè 'jé-ra su'nù
harvest-APPL-FUT.SG=1SG.NOM CER 1SG.NOM mom-POSS corn
'I will harvest the corn for my mom.'
'Le voy a pizcar el maiz a mi mamá.' < BFL 06 5:146/el >

A.2.1.2 Applicative *-si*

The suffix *-si* is another unproductive, lexically conditioned stress-neutral applicative marker that increases the valency of the verb by adding a benefactive argument. This applicativesuffix is exemplified in (7b):

- (7) a. *'páka*
'pá-ka
throw-IMP.SG
'Throw it!'
'¡Tira!' < BFL 06 5:147/el >
- b. *ta'mí ku 'pásiri pe'lôta*
ta'mí ku 'pá-si-ri pe'lôta
1SG.ACC REV thow-APPL-IMP.SG ball
'Throw the ball back at me!'
'¡Tírame la pelota de vuelta!' < BFL 06 5:147/el >

A.2.1.3 Applicative *-wi*

A third Applicative suffix in position S3 is *-wi*, another stress-neutral, unproductive suffix that adds a benefactive argument to a transitive predicate. This suffix is exemplified in (8b):

- (8) a. *waʔlù 'nà a'tfâ bi'lé aʔpéríti a'nè*
waʔlù 'nà a'tf-â bi'lé aʔpérí=ti a'n-è
big DEM sit-TR one lump=1PL.NOM say-APPL
'They put (lit. sit) a lot of what we call an *apéri* (a lump).'
'Ponen mucho de lo que le decimos una *apéri* (una "moruca", una bola con todo).' {LEL tx19:3:00.1}
- b. *'mín na'pit̪í a'tfíwmo 'lá to'wí*
'mí=ni na'pit̪í a'tf̪íwi-wi-ma o'lá to'wí
2SG.ACC=1SG.NOM fire sit.APPL-APPL-FUT.SG CER boy
'I will sit down your boy next to the fire.'
'Te voy a sentar al niño cerca de la lumbre.' < BFL 06 6:146/el >

A.2.2 Causative *-ti*

The Causative *-ti* suffix is a stress neutral suffix that introduces an agent (causer) argument to the argument structure of a predicate. Causativization applies to both intransitive and transitive verbs. In the causative construction exemplified in (9b), the object corresponds to the subject argument of its basic, non-causative counterpart. The introduced agent argument causes the undergoer to perform the activity described by the verbal root.

- (9) a. *'nèmi ri'ménira*
'nè=mi *ri'mé-ni-ra*
 1SG.NOM=2SG.ACC make.tortillas-APPL-POT
 'I can make you tortillas.'
 'Yo te hago tortillas.' < BFL 08 1:161/el >
- b. *'mín 'nè ono'lá ri'méentima*
'mí=ni *'nè* *ono-lá*
 2SG.ACC=1SG.NOM 1SG.NOM father-POSS
ri'mé-ni-ti-ma
 make.tortillas-APPL-CAUS-FUT.SG
 'I will make you make tortillas for my dad.'
 'Te voy a hacer que le hagas tortillas a mi papá.' < BFL 08 1:161/el >

The Causative suffix has two lexically determined allomorphs, *-ti* and *-ri*. The allomorphy is also partially phonologically determined, since there is a phonological process that devoices voiced/lenis consonants after another consonant (a derived environment stemming from stress-conditioned syncope) (cf. §3.4.4). Examples of the distribution of allomorph *-ti* are provided in (10).

- (10) a. *'làantiki*
'làn-a-ti-ki
 bleed-CAUS-PST.EGO
 'I made them bleed.'
 'Lo hice sangrar.' < SFH 05 1:102/el >
- *làan-ri-ki*
- b. *siki'réptiki*
siki'rép-ti-ki
 cut-CAUS-PST.EGO
 'I made them cut.'

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‘Lo hice cortar.’ < BFL 05 1:113/el >

**siki'rēp-ri-ki*

c. *oʔpéstia*

oʔpés-ti-a

vomit-CAUS-PROG

‘S/he is making them vomit.’

‘Los está haciendo vomitar.’ < BFL 05 1:136/el >

**oʔpés-ri-a*

The Causative *-ti* suffix is highly productive, displaying no restrictions as to the bases to which it can attach.

A.2.3 Applicative *-ki*

The Applicative suffix *-ki* (S5) is another productive, stress-neutral suffix. This suffix introduces an additional argument to one-place or two-place predicates. The argument introduced is a benefactive or malefactive argument,² i.e., the object can be favorably or adversely affected. This suffix is exemplified in (11).

- (11) a. *'má=n rata'bát̪íki koʔwáami*
'má=ni rata-'bá-t̪a-ki koʔwá-ame
already=1SG.NOM be.hot-INCH-TR.PL-PST.EGO eat-PTCP
‘I already heated up the food.’
‘Ya calenté la comida.’ < BFL 08 1:20/el >
- b. *'nèmi baʔwí rata'bát̪íkira?*
'nè=mi baʔwí rata-'bá-t̪a-ki-ra
1SG.NOM=2SG.ACC water be.hot-INCH-TR-APPL-POT
‘Shall I heat the water for you?’
‘¿Te caliento el agua?’ < BFL 08 1:21/el >

In (11b), the Applicative introduces a benefactive argument as an unmarked object (*'mí* ‘2SG.ACC’) to a basic transitive predicate (an argument which would be expressed through a postpositional phrase in a non-applicative construction).

²The cognates of Choguita Rarámuri Applicative suffixes in the closely related Mountain Guar-ijío (Miller 1996) introduce other semantic roles in addition to benefactive/malefactive (e.g., instrumental). There is however no evidence that the suffix *-ki* or any of the other Applicatives in Choguita Rarámuri introduce semantic roles other than the benefactive/malefactive.

The distribution of this suffix does not exhibit restrictions on its distribution, unlike the Applicative suffixes in suffix position S3 (described in Appendix A.2.1s above).

A.3 The Aspectual Stem: desiderative, associated motion and evidential markers

Another layer of the verbal stem is the Aspectual Stem, composed of suffixes in positions S6 to S9, marking desiderative, associated motion, and auditory evidential. The prosodic and morphosyntactic properties of these suffixes are discussed in §11.5.3 and §15.6.4, respectively. As discussed in §15.6.4, these suffixes may be analyzed as involving V-V incorporation.

A.3.1 Desiderative *-nále*

The disyllabic Desiderative suffix *-nále* is a stress-shifting suffix of agent-oriented modality. Derived from the verb *na'kí* 'want', it has the meaning 'X wants to/feels like doing X', where the 'wanter' and the subject of the desideratum predication are coreferent (when these two arguments are not coreferent, a periphrastic construction must be used). Examples from context are shown in (12).

- (12) a. *'nè bi'lá ni'júrka se'bánili ba*
 'nè bi'lá ni'júrī-ka se'bá-nale ba
 INT indeed fight-GER reach-DESID CL
 'He really wanted to reach it (against all odds).'
 'Lo quería alcanzar realmente (a fuerzas).' {BFL tx191:1:31.6}
- b. *aʔli 'nà moʔo'tfíki tʃú'kúrili tʃápi'nála*
 aʔli 'nà moʔo'tfíki tʃú'kúrī-li tʃápi-'nále-a
 and DEM headboard go.around-PST grab-DESID-PROG
 'And then he was going around near the headboard wanting to get him.'
 'Y entonces andaba por la cabecera queriéndolo agarrar.' {LEL
 tx5:1:11.3}

As discussed and exemplified in §11.5.3, the desiderative and other affixes belonging to the aspectual stem undergo truncation when attaching CV suffixes encoding TAM categories. In the case of the desiderative suffix, it's truncated form is *-na*.

A.3.2 Associated motion *-simi*

The Associated Motion suffix *-simi* is a stress-neutral suffix derived from the free-standing motion verb *simi* 'go (sg.)' (in its truncated form, this suffix surfaces as *-si*). Verbs marked with this suffix encode an event that is carried out while in motion (e.g., 'X goes along doing V'). This is exemplified in (13).

- (13) a. *'wé ko'ʔásimi*
'wé ko'ʔá-simi
 INT eat-MOT
 'They're going along eating a lot.'
 'Van comiendo mucho.' < SFH 08 1:71/el >
- b. *to'wí 'wé 'nârisimi buʔu'tʃími*
to'wí 'wé 'nâri-simi buʔu'tʃími
 boy INT ask-MOT road
 'The boy is going along the road asking a lot.'
 'El niño va preguntando muchas cosas por el camino.' < SFH 08 1:148/el >

A.3.3 Auditory evidential *-tfane*

The auditory evidential *-tfane* suffix is a productive epistemic modality marker that indicates that the evidence of the proposition encoded by the predicate has an auditory (i.e. non-visual) source ('it sounds like X is taking place'). This stress-neutral suffix is exemplified in (14).

- (14) a. *'tʃéti to'rí 'má to'rétʃane*
'tʃéti to'rí 'má to'ré-tʃane
 DEF.BAD chicken already cackle-EV
 'It sounds like the chicken are already cackling'
 'Ya se oyen cacarear las gallinas' < SFH 08 1:160/el >
- b. *tʃo'nítʃane ma'tʃí*
tʃo'ní-tʃane ma'tʃí
 fight-EV outside
 'It sounds/it seems like fighting is happening outside.'
 'Se oye/parece que pelean afuera.' < BFL 08 1:17/el >

In these constructions, the source for the evidence is the noise generated by the event itself that the predicate describes (e.g., 'cackling' or 'fighting' in (14a) and

(14b), respectively). The evidence can also come indirectly from another event, as in example (15), where the speaker infers that dancing will take place because of other non-visual cues (i.e., sound of the rattles used in the dance, people talking about starting to dance, etc.).

- (15) *'nápi 'lé 'má awi'métʃani*
*'nápi a'lé 'má awi-'mê-*tʃ*ani*
 SUB DUB already dance-FUT.SG-EV
 'It sounds like they are about to dance.'
 'Se oye como que van a bailar.' < SFH 07 1:140/el >

As the desiderative and associated motion suffixes, the auditory evidential suffix undergoes truncation when attaching outer CV suffixes encoding TAM distinctions. The truncated form of the auditory evidential suffix is *tʃa*.

A.4 The Finite Verb: voice, tense, aspect and mood markers

The final layer of morphology in inflected verbs in Choguita Rarámuri involves suffixes in positions S9–S11, the Finite Verb level suffixes. The inflectional categories encoded by these suffixes involve mood distinctions (including imperative and reportative), voice, tense, and aspect, with number and person marginally conflated with tense/aspect in portmanteaux suffixes. This final layer of morphology is required in all inflected verbs.

A.4.1 Passive

A.4.1.1 Past passive *-ru*

This suffix is a productive marker that encodes the object argument of the active transitive base has been promoted to subjecthood, while also encoding past tense. The subject of the active construction is not overtly expressed in the corresponding passive construction. As discussed in §9.4.3.3, the past passive suffix triggers lengthening of a preceding stressed syllable. Example (16b) illustrates the past passive sense and concomitant lengthening in the stressed vowel of the base.

- (16) a. *tòsnaleni*
tò-si-nale=ni
 take-MOT-DESID=1SG.NOM
 'I want to go along taking them.'
 'Quiero írmelas llevando.' < BFL 06 5:149/el >

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- b. *'tòoru graba'dôra*
'tò-ru graba'dôra
take-PST.PASS recorder
'The recorder was taken.'
'Se llevaron la grabadora.' < SFH 08 1:45/el >

A.4.1.2 Future passive *-pa*

This is a productive, stress-shifting suffix that concomitantly marks a passive derivation and future tense. The following example illustrates the contrast between a basic active construction (17a) and a future passive construction (17b).

- (17) a. *'pírim o'lá tñi'hánili na'mûti*
'píri=mi o'lá tñi'há-na-li na'mûti
why=2SG.NOM make scatter-TR-PST things
'Why did you scatter everything?'
'¿Por qué desparramaste las cosas?' < SFH 07 1:17-21/el >
- b. *na'pátñi tñiha'nába 'lé*
na'pátñá tñiha'-ná-ba a'lé
shirts scatter-TR-FUT.PASS DUB
'The shirts will be scattered.'
'Van a desparramar las blusas.' < SFH 07 1:17-21/el >

The onset of this suffix undergoes lenition (for more details on this process, see §3.5.1 above).

A.4.1.3 Medio-passive *-rîwa*, *-wá*

This suffix is used in constructions where the actor participant is backgrounded or left unspecified, and the undergoer participant is emphasized. The medio-passive suffix has two allomorphs, *-riwa* and *-wá*. Both allomorphs are stress-shifting. Examples (18) illustrate the medio-passive morphological construction:

- (18) a. *a'náwka bi'lá rupu'náruwa ba*
a'náwi-ka bi'lá rupu-'ná-riwa ba
measure-GER really tear-TR-MPASS CL
'While measuring it, it is tore.'
'Midiendo se troza.' {BFL tx1:1:21.4}

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- b. *'nápi 'lé ri'mén̄uwa 'tʃém̄ fedē'ríko re'mé*
'nápi a'lé ri'mé-ni-wa *'tʃém̄ fedē'ríko re'mé*
like DUB tortillas-APPL-MPASS Mr. Federico tortillas
'It seems like tortillas are being made for Mr. Federico.'
'Como que le hacen tortillas a Don Federico.' < SFH 07 2:69-72/el >

A.4.1.4 Conditional passive *-sûwa*

The conditional passive suffix *-sûwa* is a stress-shifting suffix that is productively used in complex clauses cumulatively expressing a conditional relationship and passive voice. The predicate marked with the conditional passive is the predicate of the protasis clause (describing the condition), not the apodosis (describing the potential result). An active-conditional construction is contrasted with a passive conditional construction in (19).

- (19) a. *'nè 'ámi 'sûntikisa 'ró*
'nè *'á=mi* *'sû-n-ti-ki-sa* *'ró*
 1SG.NOM AFF=2SG.ACC sew-APPL-CAUS-APPL-COND Q
 'What if I made you sew her a skirt?'
 '¿Qué tal si te hago coserle una falda? < BFL 08 1:28/el >

b. *'kátſi aʔ'lá 'sûbo 'lé riʔ'réki ba'tfá 'sûsuwa ko ba*
'kátſi *aʔ'lá* *'sû-bo* *a'lé* *riʔ'ré-ki* *ba'tfá*
 because.NEG well sew-FUT.PL DUB down-SUPE first
'sû-suwa=ko *ba*
 sew-COND.PASS=EMPH CL
 'Because we won't sew it well if it is sewed on the bottom first.'
 'Porque no vamos a coserle bien si se cose abajo primero.' {BFL
 tx_falda:1:49.2}

A.4.2 Future

A.4.2.1 Future singular - '*m  a, -ma*

There are two future tense suffixes in Choguita Rarámuri: *-m  a* ~ *-ma*, for future, singular subject, and *-p  * for future, plural subject. Historically, these suffixes developed from Proto-Sonoran **mi(l)a* ‘go, run, SG’, and **po* ‘go, run, PL’ (Miller 1996: 133). The future singular suffix has an unstressed allomorph (*-ma*) and a stressed allomorph (*-m  a*). Both the unstressed and stressed allomorphs of the future singular suffix are exemplified in (20).

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- (20) a. *hê 'ná=ni si'pútſa sipu'-tá-mo 'lá*
hê 'ná=ni si'pútſa sipu'-tá-ma o'lá
it PROX=1SG.NOM skirt skirt-VBLZ-FUT.SG CER
'I will wear this skirt.'
'Me voy a poner esta falda.' < BFL 07 Sept 6/el >
- b. *má muku'méa rajénali*
má muku-'méa rajénali
already die-FUT.SG sun
'There will be an eclipse.' (lit. 'The sun will die.')
'Va a haber un eclipse.' (lit. 'se va a morir el sol.') < SFH 05 2:63/el >

As described in §10.8.4, Choguita Rarámuri has epistemic modality markers that indicate the degree of certainty speakers have towards the actuality of an event. These modal particles are frequently found in future tense constructions, as exemplified in (20a). This example also illustrates the phonological effect that these particles have on the inflected verb's final vowel, namely vowel deletion. Forms lacking such particles have a neutral interpretation with respect to the speaker's commitment to the expectation that the event encoded by the predicate will take place or not in the future.

A.4.2.2 Future plural *-pô*

The future plural suffix *-pô* is a stress-shifting suffix used when the subject is either first or second person plural. Clauses with a third person plural subject may optionally be marked with the future plural suffix or the future singular suffix. The future plural suffix is exemplified in (21).

- (21) a. *ke na'kíu-po ru'wá ta'mí 'wísia ru'wá 'ét̪i ar'iwála*
ke na'kíwi-po ru'-wá ta'mí 'wí-si-a ru'-wá 'ét̪i
NEG allow-FUT.PL say-MPASS 1PL.ACC take-MOT-PROG say-MPASS DEM
ar'iwá-la
soul-POSS
'It's said that we can't let (the *korimáka*) get to us, because they say it goes along taking our souls.'
'Dicen que no hay que dejarnos de él (del *korimáka*) porque dicen que nos roba el alma.' {LEL tx5:5:00.6}

- b. *ru'bô*
ru-'bô
 say-FUT.PL
 'They will say something.'
 'Van a decir.' < SFH 04 1:27/el >

When used with the first person plural, the construction has a hortative reading ('let us do X'). The hortative use of the future plural suffix is illustrated in (22).

- (22) a. *'máti ila'rúpo*
'má=tí *ila-'rú-po*
 now=1PL.NOM cactus-gather-FUT.PL
 'Let's gather cactus now!'
 '¡Vamos juntando nopales!' < SFH 08 1:52/el >
- b. *'máti po'títipia i'nârtipo?*
'má=tí *po'tí-ti-si-a* *i'nâ-ri-ti-po*
 already=1PL.NOM jump-CAUS-MOT-PROG go.SG-CAUS-CAUS-FUT.PL
 'Shall we go along making them jump?'
 '¿Vamos haciéndolo que brinque?' < BFL 07 2:32/el >

A.4.3 Motion imperative *-mê*

The Motion Imperative suffix *-mê* is a stress shifting suffix. It is a productive suffix that often occurs in conjunction with the imperative suffix *-sa* (in position S8). Motion Imperative constructions with the suffix *-mê* have the meaning 'go and do X!', used for a single addressee. When unstressed, the suffix vowel reduces to *i* or undergoes complete deletion, following the general unstressed vowel reduction and deletion processes operating in the language (§5.2). This suffix is exemplified in (23).

- (23) a. *'àamsa*
'à-me-sa
 give-MOT.IMP-IMP.SG
 'Go give it to her!'
 '¡Ve y dáselo!' < SHF 04 1:112/el >

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- b. *i'simi*
i'sî-mi
urinate-MOT.IMP
'Go and urinate!'
'¡Ve a orinar!' < BFL 08 1:13/el >
- c. *júrka osi'mêra 'lé*
júri-ka *osi-'mê-ra* *a'lé*
take-IMP.SG write-MOT.IMP-POT DUB
'Go take him to see if he writes.'
'Ve y llévalo a ver si escribe.' < BFL 08 1:94/el >

When there are multiple addressees, the motion imperative construction involves the stress-shifting suffix *-pi* (with stress-shifting allomorph *-bô*), followed by the imperative plural suffix *-si*. This is exemplified in (24).

- (24) a. *osi'bôsi*
osi-'bô-si
write-MOT.IMP.PL-IMP.PL
'You all go and write'
'¡Vayan a escribir!' < BFL 05 2:94/el >
- b. *ta'mí ku 'àkipisi*
ta'mí *ku* *'à-ki-po-si*
1SG.ACC REV look.for-APPL-MOT.IMP.PL-IMP.PL
'You all go and look for it for me!'
'¡Vayan a buscármelo!' < BFL 08 1:164/el >

A.4.4 Conditional *-sâ*

This is a productive, stress-shifting suffix used in constructions that express a conditional relationship in the active voice (contrast with the conditional passive suffix described in Appendix A.4.1.4 above). The verbal predicate marked with the conditional suffix is the predicate of the protasis clause. Steele (1975) reconstructs the cognate form of this suffix for Proto-Uto-Aztecán as meaning “must/speaker wish” (1975: 216). This stress-shifting suffix is exemplified in (25).

- (25) a. *'wé wa'rínami 'nísako, 'á maha'wá*
'wé wa'rín-ame 'ní-sa=ko *'á maha'wá*
INT light-PTCP COP-COND=EMPH AFF be.affraid
'If she (the other runner) is really fast, she gets afraid'

‘Si es muy ligera (la otra corredora), sí le tiene miedo’ {LEL
tx19:0:45.1}

- b. *ri'hé uku'sâ ro, tʃú tʃé=timi ri'kám méra?*
ri'hé uku'-sâ ro, tʃú tʃé=timi ri'ká=mi mé-ra?
 hail rain-COND Q how how=1PL.NOM like=DEM scare.away-POT
 ‘And when it would hail? How did you guys scare it away?’
 ‘¿Y cuando llovía granizo? ¿Cómo lo espantaban?’ < SFH 07 in
 243/in >

A.4.5 Irrealis

A.4.5.1 Irrealis singular *-mē*

The irrealis singular suffix is used in constructions where the speaker has no certainty that a particular event will take place in the future, or if a particular event holds true in a hypothetical or contingent world. This stress-shifting suffix is highly productive (I have not documented any restrictions on its occurrence), and is used when the subject argument is singular. Examples of its use are presented in (26).

- (26) a. *ko?nálimi*
ko?-nále-me
 eat-DESID-IRR.SG
 ‘She might want to eat.’
 ‘A lo mejor va a querer comer.’ < SFH 08 1:122/el >
- b. *basa'róm̩i 'lé 'má ba?a'l̩o*
basa'rówa-me a'lé 'má ba?a'l̩i-o
 stroll.around-IRR.SG DUB perhaps tomorrow-EP
 ‘Perhaps she will take a stroll tomorrow.’
 ‘A lo mejor va a pasear mañana.’ < BFL 07 1:150/el >
- c. *suku'mē 'lé 'máo*
suku'-mē a'lé 'máo
 scratch-IRR.SG DUB perhaps
 ‘Maybe he’ll scratch himself.’
 ‘A lo mejor se va a rascar.’ < SFH 08 1:45/el >

A.4.5.2 Irrealis plural *-pi*

Irrealis constructions with a plural subject argument are marked with the suffix *-pi*. This suffix is stress-neutral and, like the irrealis singular suffix described above, is highly productive. This suffix has two allomorphs, with a voiced and a voiceless stop onset (*-pi* and *-bi*). Examples are shown in (27).

- (27) a. *'má 'tôbi 'lé ma*
'má *'tô-bi* *a'lé* *ma*
already bury-IRR.PL DUB perhaps
'Maybe they will bury it already.'
'A la mejor ya lo van a enterrar.' < SFH 08 1:3/el >
- b. *koʔ'nálpi 'léti 'máo*
koʔ-'nále-pi *a'lé=tí* *'máo*
eat-DESID-IRR.PL DUB=1PL.NOM perhaps
'Perhaps we might want to eat.'
'A lo mejor vamos a querer comer.' < BFL 06 5:140/el >

A.4.6 Potential *-râ*

This suffix is used in constructions expressing the possibility of occurrence of an event, ability or wishes (with an optative reading). This is a stress-shifting suffix and is exemplified in (28).

- (28) a. *'étʃí 'a 'máalta 'lé*
'étʃí *'a* *'máli-ta* *a'lé*
DIST AFF swim-POT DUB
'Let that one swim!'
'¡Déjenlo nadar!' < BFL 05 1:154/el >
- b. *nuru'râ bi'lá ba'tʃá aʔ'lá 'nátika 'énira*
nuru-'rîwa *bi'lá* *ba'tʃá* *aʔ'lá* *'nátí-ka* *'éni-ra*
oblige-MPASS really first well think-GER go.around-POT
'They are sent first to go around carefully (lit. thinking well).'
'Primero los mandan a que se cuiden bien.' {BFL tx48:0:32.1}
- c. *witʃí'râ*
witʃí-'râ
fall-POT
'You might fall!'
'¡Te caes!' (lit. 'the puedes caer')

A.4.7 Imperative

A.4.7.1 Imperative singular *-kâ*

Imperatives may be marked through the bare stem, but there are also affixal exponents of imperative mood. One of such markers is suffix *-kâ*, a productive, stress-shifting suffix. This suffix is exemplified in (29).

- (29) a. *'kítí na'láká!*
 'kítí na'lá-ka
 NEG cry-IMP.SG
 'Don't cry!'
 '¡No llores!' < BFL 05 2:89/el >
- b. *'wé simi'kâ!*
 'wé simi-'kâ
 int go.SG-IMP.SG
 'Go!'
 '¡Ve!'

A.4.7.2 Imperative singular *-sâ*

Another imperative suffix used in constructions where the addressee is singular is *-sâ*. This stress-shifting suffix is exemplified in (30).

- (30) a. *ko?'sâ!*
 ko?'-sâ
 eat-IMP.SG
 'Eat!'
 '¡Come!'
- b. *'mà-sa*
 'mà-sa
 run-IMP.SG
 'Run!'
 '¡Corre!' < BFL 04/11/06/el >

A.4.7.3 Imperative plural *-sì*

Imperative constructions where there are multiple addressees are distinguished from imperatives with a single addressee with a productive, stress-shifting suffix, *-sì*. Examples of this suffix are provided in (31).

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- (31) a. *ko-’sì re’mêke!*
ko-’sì *re’mêke*
eat-IMP.PL tortillas
‘You all eat tortillas!’
‘¡Coman tortillas!’
- b. *ta’mí ku ri’wíisi*
ta’mí *ku* *ri’wí-i-si*
1SG.ACC REV find-APPL-IMP.PL
‘You all find it for me!’
‘¡Vayan a encontrármelo!’ < BFL 08 1:16/el >

A.4.8 Reportative

The reportative suffix is an evidential suffix that indicates that the speaker’s source of information is hearsay. This productive marker, also used in direct quotation constructions, is a stress-neutral suffix which is added to the dependent verb of the complex sentence. This switch-reference system is restricted, as it is not generalized to all constructions involving dependent clauses in Choguita Rarámuri.

A.4.8.1 Reportative different subject *-la*

When the notional subjects are not coreferential, the dependent verb suffixes the different referent reportative *-la* suffix (32).

- (32) a. *á bi'lá o'kám tʃá'nía ne ka 'hémi isi'mâtala ru'á tʃá'bè*
á bi'lá o'ká=mi tʃá'ní-a ne ka 'hémi isi'mâta-la
AFF really many=DEM sound-PROG INT ka here pass.PL-REP
ru'-wá tʃá'bè
say-MPASS before
‘Many people_i say that they_j used to pass through here long time ago.’
‘Muchas personas_i dicen que por aquí pasaban_j mucho antes.’ {LEL tx223:4:17.6}
- b. *tʃí'nà ba 'étʃí bi'lá 'tòola ru'á ali'wâla ba*
'étʃí 'nà ba 'étʃí bi'lá 'tò-la ru'-wá ali'wâ-la ba
DEM DEM CL DEM really take.PST.PASS-REP say-MPASS soul-POSS CL
‘They_i say that that one_j got his soul stolen there’
‘Cuentan_i que a ese_j ahí le llevó el alma’ < BFL rihói mukúri 6/tx >

- c. *'nápu ri'ká 'látimi 'wé u'kúla ru'á 'níam t̪á'bèe=ko ba ní
 'nápi ri'ká o'lá=timi 'wé u'kú-la ru-'wá 'ní-ame
 SUB like CER=2PL.NOM INT rain-REP say-MPASS COP-PTCP
 t̪á'bèe=ko ba ní
 before=EMPH CL INT*
 'So you all say that it used to rain a lot ling time ago.'
 'Pues así como dicen ustedes que llovía mucho antes.' {SFH
 in243:0:21.0}

A.4.8.2 Reportative same subject *-lo*

When the notional subjects are correferential, the dependent verb is marked with the same referent reportative *-lo* suffix (33).

- (33) a. *'á bi'láko a'ní 'mâgre ne'hê ama't̪íkolo ru'á
 'á bi'lá=ko a'ní 'mâgre ne'hê ama't̪í-ko-lo ru-'wá
 AFF really=EMPH say.PRS nuns 1SG.NOM pray-APPL-REP say-MPASS
 'The nuns_i say that they_i prayed for me.'
 'Las monjas_i dicen que (ellas_i) me rezaron.'*
 b. *ma'nuêliko 'wé bi'lá ri'kúlo 'rú
 ma'nuêli=ko 'wé bi'lá ri'kú-lo 'rú
 Manuel=EMPH INT really get.drunk.SG-REP.PRS say.PRS
 'Manuel_i says he_i got drunk.'
 'Manuel_i dice que (él_i) se emborrachó.'*

A.4.9 Past *-li*

Past tense is marked by the suffix *-li*, a stress-neutral suffix. The past perfective both situates the event in a point prior to the time of the speech act and indicates that the event has been completed. Examples of this construction are given in (34).

- (34) a. *a?liko 'má bi'lá si'nêami wi^hkâ 'síli t̪o'ná 'ét̪í 'ná 'ét̪í ri'hòi bi'têrit̪í
 a?li=ko 'má bi'lá si'nê-ame wi^hkâ 'sí-li t̪o'ná 'ét̪í
 and=EMPH already really every-PTCP many arrive-PST there DEM
 'ná 'ét̪í ri'hòi bi'têrit̪í
 PROX DEM man house*
 'And then everybody arrived there, to that man's house.'
 'Y ya llegaron todos ahí a la casa de ese señor.' {LEL tx32:11:43.4}

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- b. *hê a'nè a'níisia na'wàli 'étfi na'mú ni'rá su'wá ba 'á ru'wèli*
'hê a'n-è a'ní-si-a na'wà-li 'étfi na'mú ni'rá
 it say-APPL say-MOT-PROG arrive-PST DEM thing relative
su'wá ba 'á ru'w-è-li
 everybody CL AFF say-APPL-PST
 'He arrived saying that, that relative, he told everybody.'
 'Llegó diciendo un familiar, les dijo a todos.' {LEL tx5:4:07.0}

A.4.10 Past egophoric *-ki*

Verbs marked with the past egophoric *-ki* suffix encode an event carried out in the past by a first-person subject in statements and by a second-person subjects in questions, have optional nominative-marked pronominal marking. This stress-neutral suffix is exemplified in (35).

- (35) a. *pen so'máki bi*
pe=ni so'má-ki=bi
 just=1SG.NOM wash.head-PST.EGO=just
 'I just washed my head.'
 'Nomás me lavé la cabeza.' {JLG co1235:6:45.8}
- b. *mí bi'tféní ka'lí pi'tfínula nu'lèki 'ró*
'mí bi'tféní ka'lí pi'tfínula nu'l-è-ki
 2SG.ACC turn=1SG.NOM house sweep-ORDER order-APPL-PST.EGO
'rú
 say.PRS
 'I told you to sweep the house!'
 '¡Te dije que barrieras la casa!' < BFL 06 4:145/el >

For some speakers, this suffix is used in the past tense when the object argument is first person. This is shown in (36).

- (36) a. *'étfi ta'mí 'úrki ri'réti*
'étfi ta'mí 'úrki re'ré-ti
 DEM 1SG.ACC take-PST.EGO down-ALL
 'He took me down (the river).'
 'Él me llevó para abajo.' < FLP 06 in61/in >

- b. “*pé ke ta'mí 'àki*” *'hê ani'ká*
 'pé ke ta'mí 'à-ki 'hê ani-'ká
 just NEG 1SG.ACC give-PST.EGO like.that say-GER
 “They didn't give me” that's how you tell them.
 “A mi no me dieron” así se dice.’ {JLG co1237:5:45.5}

As shown in (37a–b), the past egophoric suffix is also used with verbs encoding past tense and a second person subject in interrogative constructions. In contrast, interrogative clauses in the past tense with third person argument subjects are marked with the past tense *-li* suffix, as in (37c).

- (37) a. *ka'bó 'mí ra?láki sa'pâto?*
 'ka'bó 'mí *ra?l-á-ki* *sa'pâto*
 when 2SG.NOM buy-TR-PST.EGO shoes
 'When did you buy the shoes?'
 ‘¿Cuándo compraste los zapatos? < SFH 05 1:74/el >
- b. “*kúmi 'páki?*” *'hê a'nè*
 'kúmi=mi 'pá-ki 'hê a'n-è
 where=2SG.NOM throw-PST.EGO like.that say-APPL
 “Where did you throw it?” tell them like that.”
 ‘“¿Dónde lo tiraste?” así di.’ {JLG co1235:10:31.7}
- c. *kúmi a'sáli?*
 'kúmi a'sá-li
 where sit.SG-PST
 'Where was he?'
 ‘¿Dónde estaba?’ < MDH co1137:0:22.6 >

A.4.11 Imperfective *-e*

In contrast to the past tense suffix, the imperfective emphasizes the internal duration of the event depicted by the predicate. The Choguita Rarámuri imperfective encodes an incomplete or habitual event that takes place over a period of time. The imperfective is marked with the stress-neutral suffix *-e*, a marker which does not display any allomorphy or occurrence restrictions. Due to the general process of post-tonic vowel reduction that operates in the language (see §5.2), this suffix is realized with the high, front vowel *-i* for most speakers. Examples are provided in (38).

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- (38) a. *napa'lì ke 'tʃō ni'rúi ko sekun'dâria ba*
 '*nápi aʔlì ke 'tʃō ni'rú-i=ko sekun'dâria ba*'
 SUB then NEG yet exist-IMPF=EMPH secondary CL
 'When it didn't use to be any secondary school yet'
 'Cuando todavía no había secundaria' {SFH tx12:1:22.2}
- b. *a'wísinili*
 a'wí-si-nale-i
 dance-MOT-DESID-IMPF
 'She wanted to go along dancing'
 'Quería irse bailando' < SFH 07 2:72-73/el >
- c. *húmtʃani*
 húmi-tʃane-i
 take.off.PL-EV-IMPF
 'It sounded like they were taking off'
 'Se oía como que se arrancaban' < SFH 07 1:7/el >

A.4.12 Progressive *-a*

The progressive is encoded by the stress-neutral suffix *-a*, and it indicates that the event described by the predicate is an ongoing process which is independent of time reference. Uses of this marker are exemplified in (39).

- (39) a. *'nári witʃónula 'má nulu'ría wi'tʃōa*
 '*nári witʃō-nula 'má nulu'-ría wi'tʃō-a*'
 then wash-ORDER also oblige-MPASS wash-PROG
 'And then they are also sent to wash clothes.'
 'Y también las mandan a lavar ropa.' {BFL tx48:1:55.4}
- b. *'wé bi'láti 'wé ka'nírami 'hú tamu'héko 'nà umu'kî ro'wétia, i'wé*
 ro'wétia, kúutʃi kûruwi 'má rara'híptia
 'wé bi'lá=tí 'wé ka'nír-ame 'hú tamu'hé=ko 'nà
 INT really=1PL.NOM INT happy-PTCP COP.PRS 1PL.NOM=EMPH DEM
 umu'kî ro'wé-ti-a,
 run.womens.race-CAUS-PROG girls
 i'wé ro'wé-ti-a, kúutʃi kûruwi
 run.womens.race-CAUS-PROG small children also
 'má rara'híp-ti-a
 race.for.menCAUS-PROG

‘We like it a lot indeed, to make women, girls and also young children run a race.’

‘Nos gusta mucho hacer correr a las mujeres, a las niñas y a los niños chiquitos.’ {LEL tx19:00:23.6}, {LEL tx19:0:26.5}

A.4.13 Indirect causative *nula*

In indirect causative constructions, a causer exerts indirect manipulation on a causee which retains certain degree of autonomy. Indirect causative constructions in Choguita Rarámuri involve a periphrastic construction in which a main jussive predicate takes the caused event as a complement. The lower predicate is marked with the suffix *-nula*. This stress-neutral suffix is derived from the independent verb *nula* ‘to order, to command’. The main predicate can be inflected with any tense or aspect, but the lower predicate marked with *-nula* is closed to further suffixation. For more details about the indirect causative construction, see Appendix A.4.13. Examples of the indirect causative are provided in (40).

- (40) a. *aʔlì t̪i̪hōnsako 'má 'pé o't̪ērisako nuru'ría baʔ'wí 'túnula*
aʔlì t̪i̪hōnsa=ko 'má 'pé o't̪ēri-sa=ko nuru'-ría
 and then=EMPH already little grow-COND=EMPH oblige-MPASS
baʔ'wí 'tú-nula
 water bring-ORDER
 ‘And then when they grow a little they are ordered to bring water.’
 ‘Y entonces ya cuando crecen más los mandan a traer agua.’ {BFL tx48:00:41.4}, {BFL tx48:00:45.7 0:03.9}
 b. *'mán 'húaki raʔlinula 'tiēndat̪i*
'má=ni 'húa-ki raʔlì-nula 'tiēndat̪i
 already=1SG.NOM send-PST.EGO buy-ORDER store
 ‘I already sent him to the store to buy’
 ‘Ya lo mandé comprar a la tienda.’ < BFL 06 2:48/el >

A.5 The Subordinate Verb: deverbal morphology

A.5.1 Temporal *-t̪i̪*

The temporal *-t̪i̪* suffix is a stress-neutral morpheme added to predicates of adverbial clauses which encode a temporal relation between two events (translated

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into English as ‘when’ clauses). The base for affixation of this suffix is a verb inflected for progressive aspect. The following examples (in (41)) illustrate the use of this suffix.

- (41) a. *'nápu ri'ká o'máwiri 'nám omo'wáruatſi*
'nápi ri'ká o'máwa-ri *'ná=mi*
SUB like make.party-NMLZ then=DEM
omo'wá-riwa-a-tſi
make.party-MPASS-PROG-TEMP
‘when parties are made’
‘cuando hacen fiesta’ {SFH tx12:5:40.5}
- b. *'nè 'krilitſi si'méa 'má su'wíbatſi 'hê ná ta'rári*
'nè *'krilitſi si'-méa* *'má* *su'wíb-a-tſi* *'hê ná*
1SG.NOM Creel go.SG-FUT.SG already finish-PROG-TEMP it this
ta'rári
week
‘I’m going to Creel when this week is finished.’
‘Voy a ir a Creel cuando acabe esta semana.’

A.5.2 Epistemic *-o*

The epistemic modality suffix marks lower predicates of complement clauses of main predicates that express a psychological or mental state, like ‘think’, ‘dream’, ‘sing’ or ‘say’. The use of this suffix is exemplified in the examples in (42).

- (42) a. *ri'mùini 'náptim no'káo*
ri'mù-i=ni *'nápi* *=timi* *no'ká-o*
dream-IMPF=1SG.NOM SUB=2PL.ACC move-EP
‘I used to dream that you all were moving.’
‘Yo soñaba que ustedes se movían.’
- b. *aʔlì 'nà kofitšká bu'ʔilo ma'jeli*
aʔlì 'nà *kotſi-'*ká *bu'ʔi-li-o* *ma'jé-li*
and then sleep-GER lay.down.SG-PST-EP think-PST
‘And then he thought he was asleep (laid down sleeping).’
‘Nomás que pensó que estaba dormido’ {LEL tx5:0:35.0}

For some speakers, the epistemic suffix *-o* is also attested in V-V incorporation constructions, as shown in (43).

- (43) a. *oʔpéstʃanalo*
oʔpés-tʃa-nale-o
 vomit-EV-DESID-EP
 'It sounds like they want to vomit.'
 'Se oye como que quieren vomitar.' < BFL 07 rec300/el >
- b. *paraértʃanalo*
paraér-tʃa-nale-o
 dance.paraeri-EV-DESID-EP
 'It sounds like they want to dance paraéri.'
 'Se oye como que quieren bailar paraéri.' < BFL 07 1:182/el >

A.5.3 Gerund *-ká*

The gerund suffix *-ká* occurs in subordinate clauses and marks a non-finite verbal construction denoting an ongoing event which occurs simultaneous to another event. This stress- neutral suffix is exemplified in (44):

- (44) a. *púlako bi'lá niwa'rîa 'nàri biʔrînka ba'tʃá ba bi'lé 'tá ku'sítí ba*
'púla=ko bi'lá niwa'rîwa 'nàri biʔrî-na-ka ba'tʃá ba bi'lé
 belt=EMPH really make-MPASS then roll.up-TR-GER first CL one
'tá ku'sí-tí ba
 DET stick-INSTR CL
 'The belt is made by rolling it up first with a stick.'
 'La faja se hace enrollándolo primero con un palo.' {BFL tx1:0:24.9}
- b. *aʔli 'nà kotʃí'ká bu'ʔílo ma'jeli*
aʔli 'nà kotʃí-ká bu'ʔí-l-o ma'jé-li
 and then sleep-GER lay.down.SG-PST-EP think-PST
 'And then he thought he was asleep (laid down sleeping).'
 'Nomás que pensó que estaba dormido.' {LEL tx5:0:35.0}

As discussed in §15.2.1, verbal predicates in apodosis clauses of conditional constructions are often marked with the gerundive *-ká* suffix. Very frequently, verbs marked with the *-ká* suffix appear in verb chaining structures conveying a temporal relation of chronological overlap or chronological sequence (with some extended semantic meanings in some cases). For more details about this, see §15.5.

A.5.4 Purposive *-ra*

The purposive suffix *-ra* is a stress-neutral suffix which derives a noun from a finite verb inflected for progressive aspect. The purposive indicates that the derived noun is an instrument or means involved in carrying out the event described by the predicate. This suffix is not limited to a few lexical items, and may be productively added to any finite verb inflected for progressive aspect. The forms in (45) exemplify this nominalization process.

- (45) a. *pòara*
pò-a-ra
cover-PRS-PURP
'lid' (lit. 'for covering')
'tapadera' (lit. 'para tapar') < SFH 07 in242/in >
b. *o'siara*
o'sì-a-ra
write-PROG-PURP
'pen' (lit. 'for writing')
'pluma' (lit. 'para escribir')

A.5.5 Participial *-ame*

One final layer of morphologically complex verbs involves one optional layer of morphology (in suffix position S12), where a finite verb may attach morphemes that encode subordination. As discussed in §8.5.1, affixation of the participial suffix *-ame* to transitive bases or intransitive bases with an unergative argument, derive nominalizations with an agentive meaning ('the one who performs V') (46a). Patientive nominalizations, on the other hand, are formed through attachment of the participial suffix *-ame* to passivized verbal bases (46b) or to intransitive verbs with a theme as subject argument (46c). Finally, theme nominalizations are derived through attachment of the participial *-ame* suffix to a medio-passive base (46d).

- (46) a. *waʔlùm 'we 'nà ra'hâame bu'sêame tsu'kú na'?*
waʔlù=mi 'we 'nà ra'hâ-ame bu's-ê-ame tsu'kú na'?
big=DEM INT then lit.up-PTCP eye--HAVE-PTCP sit.SG.PRS here
'A big one with lighten up eyes is (lit. sits) here.'
'Muy grande, con unos ojotes está (se sienta) aquí.' {LEL tx5:0:59.2}

- b. 'étfi 'mi 'nà 'tòruame tñi'hônsa ko ba 'nà 'má wi^hkâ ri'hòrame ba
 'étfi 'mi 'nà 'tò-ru-ame tñi'hônsa=ko ba 'nà 'má
 DEM DIST DEM take-PST.PASS-PTCP then=EMPH CL DEM already
 wi^hkâ ri'hò-r-ame ba
 many live.people-r-PTCP CL
 'It was then taken there because there were a lot of people already.'
 'Para allá fue llevada entonces porque ya había mucha gente.'
 {SFH tx12:0:48.2}
- c. 'wé aʔ'láa 'nísá ka ba^htâri ba 'wé aʔ'lá wa'siame 'nísá ka ba
 'wé aʔ'lá 'nísá ka ba^htâri ba 'wé aʔ'lá wa'siame 'nísá
 INT well COP-COND IRR corn.beer CL INT well cook-PTCP COP-COND
 ka ba
 IRR CL
 'It would be good the corn beer if it is well cooked.'
 'Sí será bueno el tesgüino si está bien cosido.'
 {LEL tx68:2:30.0}
- d. ke bi'lé tsa'pí 'étfi li'môsna ani'rîami ko, mu'kuî ko
 ke bi'lé tsa'pí 'étfi li'môsna ani-'rî-ame=ko mu'kuî=ko
 NEG uno grab DEM charity say-MPASS-PTCP=EMPH women=EMPH
 'She doesn't take what it is called charity, the women.'
 'No agarra lo que se dice 'limosna', las señoras.' {LEL tx19:5:20.7}

References

- Aguilar, Andrés. 2020. *Phonology and phonetics of laryngeal sounds in Chicontepec Náhuatl*. University of California, San Diego. (Doctoral dissertation).
- Aguilar, Andrés, Gabriela Caballero, Lucien Carroll & Marc Garellek. 2015. *Multi-dimensionality in the tonal realization of Choguita Rarámuri (Tarahumara)*. Talk presented at the 2015 Meeting of the Society for the Study of the Indigenous Languages of the Americas.
- Aikhenvald, Alexandra Y. 2006. Serial verb constructions in typological perspective. In Aikhenvald Alexandra Y. & RMW Dixon (eds.), *Serial verb constructions: A cross-linguistic typology*, 1–68. Oxford, U.K.; New York: Oxford University Press.
- Alderete, John D. 2001. Dominance effects as transderivational anti-faithfulness. *Phonology* 18(2). 201–253.
- Alegre, Francisco Javier. 1767. *Historia de la Compañía de Jesús en Nueva España: Que estaba escribiendo el p. Francisco Javier Alegre al tiempo de su expulsión*. Vol. 2. Mexico: J. M. Lara.
- Alegre, Francisco Javier. 1956. *Historia de la Provincia de la Compañía de Jesús de Nueva España*. Vol. 9. Rome: Institutum Historium.
- Alexander, Jennifer Alexandra. 2010. *The theory of adaptive dispersion and acoustic-phonetic properties of cross-language lexical-tone systems*. Northwestern University. (Doctoral dissertation).
- Álvarez González, Albert. 2012. Relative clauses and nominalizations in Yaqui. In Bernard Comrie & Zarina Estrada-Fernández (eds.), *Relative clauses in languages of the Americas: A typological overview*, 67–95. Amsterdam: John Benjamins.
- Ameka, Felix K., Alan Dench & Nicholas Evans (eds.). 2006. *Catching language: The standing challenge of grammar writing*. Berlin: De Gruyter Mouton.
- Ameka, Felix K. & Stephen C. Levinson. 2007. Introduction: The typology and semantics of locative predicates: Posturals, positionals, and other beasts. *Linguistics* 45(5/6). 847–871.
- Anderson, Gregory D. S. 2006. *Auxiliary verb constructions*. Oxford: Oxford University Press.

References

- Andrews, Avery D. 2007. Relative clauses. In Timothy Shopen (ed.), *Language typology and syntactic description*, vol. 2, 206–236. Cambridge: Cambridge University Press.
- Anttila, Arto. 2002. Morphologically conditioned phonological alternations. *Natural Language & Linguistic Theory* 20(1). 1–42.
- Arellanes Arellanes, Francisco. 2009. *El sistema fonológico y las propiedades fonéticas del Zapoteco de San Pablo Güilá: Descripción y análisis formal*. El Colegio de México. (Doctoral dissertation).
- Aronoff, Mark. 1994. *Morphology by Itself: Stems and Inflectional Classes*. Cambridge: MIT Press.
- Babel, Molly, Andrew Garrett, Michael J. Houser & Maziar Toosarvandani. 2013. Descent and diffusion in language diversification: A study of Western Numic dialectology. *International Journal of American Linguistics* 79(4). 445–489.
- Baker, Mark C. 1988. *Incorporation: A theory of grammatical function changing*. Chicago: Chicago University Press.
- Baker, Mark C. 1996. *The Polysynthesis Parameter*. Oxford: Oxford University Press.
- Baker, Mark C. 1997. Thematic roles and syntactic structure. In Liliane M. V. Haegeman (ed.), *Elements of grammar: Handbook in generative syntax*, 73–137. Dordrecht; Boston: Kluwer Academic Publishers.
- Banerji, Robindra. 2014. *Huichol (Wixárika) word accent: Typology, interactions, and implications*. Unpublished manuscript.
- Barnes, Jonathan. 2002. *Positional neutralization: A phonologization approach to typological patterns*. Ph.D. dissertation, University of California, Berkeley. (Doctoral dissertation).
- Barnes, Jonathan. 2004. *Vowel reduction in Russian: The categorical and the gradient*. Boston, MA. Handout from LSA.
- Barnes, Jonathan & Darya Kavitskaya. 2000. Compensatory lengthening without moras: A study in phonologization. In *Annual meeting of the Berkeley Linguistics Society*, vol. 26, 17–25.
- Barreras, Isabel. 1988. Posesión en Guarajío. In *Simposio sobre lingüística Yutoazteca*. Guadalajara: CILI Universidad de Guadalajara.
- Bascom, Burt. 1959. Tonomechanics of Northern Tepehuan. *Phonetica* 4(2-3). 71–88.
- Batista, Dolores. 1994. *Ra'ósari, amanece*. Chihuahua: Universidad Autónoma de Chihuahua.
- Beckman, Mary E. 1986. *Stress and non-stress accent*. Berlin: Walter de Gruyter.
- Beckman, Mary E. & Janet B. Pierrehumbert. 1986. Intonational structure in Japanese and English. *Phonology* 3. 255–309.

- Bennett, Ryan T. 2012. *Foot-conditioned phonotactics and prosodic constituency*. UC Santa Cruz. (Doctoral dissertation).
- Bennett, Ryan T. 2013. The uniqueness of metrical structure: Rhythmic phonotactics in Huariapano. *Phonology* 30(3). 355–398.
- Bennett, Wendell Clark & Robert Mowry Zingg. 1935. *The Tarahumara, an Indian tribe of northern Mexico*. Chicago: University of Chicago Press.
- Berez-Kroeker, Andrea L., Lauren Gawne, Susan Smythe Kung, Barbara F. Kelly, Tyler Heston, Gary Holton, Peter Pulsifer, David I. Beaver, Shobhana Chelliah, Stanley Dubinsky, et al. 2018. Reproducible research in linguistics: A position statement on data citation and attribution in our field. *Linguistics* 56(1). 1–18.
- Bickel, Balthasar & Johanna Nichols. 2007. Inflectional morphology. In Timothy Shopen (ed.), *Language typology and syntactic description*, vol. 3, 169–240. Cambridge: Cambridge University Press.
- Bickmore, Lee. 2007. *Cilungu phonology*. Stanford: CSLI.
- Blevins, James P. 2003. Stems and paradigms. *Language* 79(4). 737–767.
- Blevins, Juliette & Sheldon P. Harrison. 1999. Trimoraic feet in Gilbertese. *Oceanic Linguistics* 38(2). 203–230.
- Booij, Geert. 1977. *Dutch morphology: A study of word formation in generative grammar*. Lisse: Peter de Ridder Press.
- Booij, Geert. 1999. *The Phonology of Dutch*. Oxford: Oxford University Press.
- Booij, Geert. 2002. Prosodic restrictions on affixation in Dutch. *Yearbook of Morphology* (2001). 183–201.
- Bowern, Claire. 2004. *Bardi verb morphology in historical perspective*. Harvard University. (Doctoral dissertation).
- Brambila, David. 1953. *Gramática rarámuri*. Ciudad de México: Editorial Buena Prensa.
- Brambila, David. 1976. *Diccionario rarámuri-castellano (tarahumar)*. Ciudad de México: Obra Nacional de la buena Prensa.
- Brambila, David. 1983. *Diccionario castellano-raramuri (Tarahumar)*. Ciudad de México: Obra Nacional de la Buena Prensa.
- Brugman, Claudia. 2001. Light verbs and polysemy. *Language Sciences* 23(4-5). 551–578.
- Bugaeva, Anna, Johanna Nichols & Balthasar Bickel. 2021. Appositive possession in Ainu and around the Pacific. *Linguistic Typology* 26. 1. DOI: 10.1515/lingtyp-2021-2079.
- Burgess, Don H. 1970. Tarahumara phonology (Rocoroibo dialect). In Jr. Ralph W. Ewton & Jacob Ornstein (eds.), *Studies in language and linguistics*, 45–65. El Paso: Texas Western Press.

References

- Burgess, Don H. 1984. *Western Tarahumara* (Studies in Uto-Aztecan Grammar 4). Dallas: The Summer Institute of Linguistics & The University of Texas at Arlington.
- Burgess, Don H. & Reynaldo Merino Mares. 2001. *Cómo aprender ralámuli de la tarahumara baja*. Ciudad de México: Comisión Nacional Para el Desarrollo de Los Pueblos Indígenas.
- Butt, Miriam. 1995. *The structure of complex predicates in Urdu*. Stanford: CSLI.
- Butt, Miriam & Wilhelm Geuder. 2001. On the (semi) lexical status of light verbs. In Norbert Corver & Henk van Riemsdijk (eds.), *Semi-lexical categories: The function of content words and the content of function words*, 323–370. Berlin: De Gruyter Mouton.
- Bybee, Joan L. 1985. *Morphology: A study of the relation between meaning and form*. Amsterdam: John Benjamins Publishing.
- Bybee, Joan L. & Östen Dahl. 1989. The creation of tense and aspect systems in the languages of the world. *Studies in Language* 13(1). 51–103.
- Bye, Robert Arthur. 1976. *Ethnoecology of the Tarahumara of Chihuahua, Mexico*. Harvard University. (Doctoral dissertation).
- Bye, Robert Arthur, Don H. Burgess & Albino Mares Trias. 1975. Ethnobotany of the Western Tarahumara of Chihuahua, Mexico: I. Notes on the genus Agave. *Botanical Museum Leaflets, Harvard University* 24(5). 85–112.
- Caballero, Gabriela. 2006. “Templatic backcopying” in Guarajio abbreviated reduplication. *Morphology* 16(2). 273–289.
- Caballero, Gabriela. 2008. *Choguita Rarámuri (Tarahumara) phonology and morphology*. Berkeley: University of California.
- Caballero, Gabriela. 2009. *Rarámuri description and documentation*. London: ELAR. <http://hdl.handle.net/2196/b40f0f7b-2a59-4d82-b970-e0d5850a19fb>.
- Caballero, Gabriela. 2010. Scope, phonology and morphology in an agglutinating language: Choguita Rarámuri (Tarahumara) variable suffix ordering. *Morphology* 20(1). 165–204.
- Caballero, Gabriela. 2011a. Behind the Mexican mountains: Recent developments and new directions in research on Uto-Aztecan languages. *Language and Linguistics Compass* 5(7). 485–504.
- Caballero, Gabriela. 2011b. Morphologically conditioned stress assignment in Choguita Rarámuri. *Linguistics* 49(4). 749–790.
- Caballero, Gabriela. 2011c. Multiple exponence and the phonology-morphology interface. In *Proceedings of the North East linguistics society*, vol. 39, 177–190.
- Caballero, Gabriela. 2017. Choguita Rarámuri (Tarahumara) language description and documentation: A guide to the deposited collection and associated materials. *Language Documentation and Conservation* 11. 224–255.

- Caballero, Gabriela. 2022. *Audio files accompanying the linguistic examples in "A grammar of Choguita Rarámuri"*. DOI: 10.5281/zenodo.7268366. <https://doi.org/10.5281/zenodo.7268366>.
- Caballero, Gabriela & Lucien Carroll. 2013. Procesos de adaptación prosódica en préstamos del español al rarámuri (tarahumara) de Choguita y al tu'un savi (mixteco) de Ixpantepec Nieves. In *Proceedings of the Conference on Indigenous Languages of Latin America VI*. University of Texas, Austin.
- Caballero, Gabriela & Lucien Carroll. 2015. Tone and stress in Choguita Rarámuri (Tarahumara) word prosody. *International Journal of American Linguistics* 81(4). 457–493.
- Caballero, Gabriela, Lucien Carroll & Marc Garellek. 2014. Tone-intonation interactions in Choguita Rarámuri (Tarahumara). In *Workshop on the Sound Systems of Mexico and Central America*, Yale University.
- Caballero, Gabriela, Lucien Carroll & Kevin Mach. 2019. Accessing, managing, and mobilizing an ELAN-based language documentation corpus: The kwaras and namuti tools. *Language Documentation and Conservation* 13. 63–82.
- Caballero, Gabriela, Yuan Chai & Marc Garellek. 2022. Stress, tone and intonation in Choguita Rarámuri. In Haruo Kubuzono, Junko Ito & Armin Mester (eds.), *Prosody and prosodic interfaces*, 227–248. Oxford: Oxford University Press.
- Caballero, Gabriela & Austin German. 2021. Grammatical tone patterns in Choguita Rarámuri (Tarahumara). *International Journal of American Linguistics* 87(2). 149–178.
- Caballero, Gabriela & Matthew K. Gordon. 2020. North America. In Carlos Gussenhoven & Aoju Chen (eds.), *The Oxford handbook of prosody*, 396–407. Oxford: Oxford University Press.
- Caballero, Gabriela & Vsevolod Kapatsinski. 2015. Perceptual functionality of morphological redundancy in Choguita Rarámuri (Tarahumara). *Language, Cognition and Neuroscience* 30(9). 1134–1143.
- Caballero, Gabriela & Vsevolod Kapatsinski. 2021. How agglutinative? Searching for cues to meaning in Choguita Rarámuri (Tarahumara) using an amorphous model. In Andrea D. Sims, Adam Ussishkin, Jeff Parker & Samantha Wray (eds.), *Morphological diversity and linguistic cognition*, 121–159. Cambridge: Cambridge University Press.
- Campbell, Lyle. 2000. *American Indian languages: The historical linguistics of Native America*. Oxford: Oxford University Press.
- Campbell, Lyle & Ronald W. Langacker. 1978. Proto-Aztecán vowels: Part I. *International Journal of American Linguistics* 44(2). 85–102.

References

- Caponigro, Ivano. 2021. Introducing headless relative clauses and the findings from Mesoamerican languages. In Ivano Caponigro, Harold Torrence & Roberto Zavala Maldonado (eds.), *Headless relative clauses in Mesoamerican languages*, 1–57. Oxford: Oxford University Press.
- Casaus, Michael. 2008. *Quantitative ethnobotany and acculturation among the Rámuri of Choguita, Chihuahua*. Ms, Cornell University.
- Chaparro Gardea, Rosa Isela, Sebastián Fuentes Holguín, Bertha Fuentes Loya, Guillermina Fuentes Moreno, Giltro Fuentes Palma, Luz Elena León Ramírez, Gabriela Caballero & Lucien Carroll. 2019. *Materials of the Choguita Rarámuri Language Project, 2019-01*. Berkeley: University of California. DOI: 10.7297/X2HH6H70.
- Charney, Jean Ormsbee. 1993. *A grammar of Comanche*. Lincoln: University of Nebraska Press.
- Chávez-Peón, Mario E. 2007. Loanword phonology in San Lucas Quiaviní Zapotec (SLQZ). *Proceedings of the NWLC* 22. 1–9.
- Clayton, Ian D. 2010. *On the natural history of preaspirated stops*. The University of North Carolina at Chapel Hill. (Doctoral dissertation).
- Cohen, Antonie, Rene Collier & J. t'Hart. 1982. Declination: Construct or intrinsic feature of speech pitch? *Phonetica* 39(4-5). 254–273.
- Comrie, Bernard. 1982. Grammatical relations in Huichol. In Paul J. Hopper & Sandra A. Thompson (eds.), *Studies in transitivity* (Syntax and Semantics 15), 95–115. Leiden: Brill.
- Comrie, Bernard, Martin Haspelmath & Balthasar Bickel. 2008. The leipzig glossing Rules: Conventions for interlinear morpheme-by-morpheme glosses. *Department of Linguistics of the Max Planck Institute for Evolutionary Anthropology & the Department of Linguistics of the University of Leipzig*. Retrieved January 28. 2010.
- Crapo, Richley H. 1970. The origins of directional adverbs in Uto-Aztecán languages. *International Journal of American Linguistics* 36(3). 181–189.
- Cristofaro, Sonia. 2005. *Subordination*. Oxford: Oxford University Press.
- Cristofaro, Sonia. 2006. The organization of reference grammars: A typologist user's point of view. In Felix K. Ameka, Alan Dench & Nicholas Evans (eds.), *Catching language: The standing challenge of grammar writing*, 137–170. Berlin: De Gruyter Mouton.
- Dakin, Karen. 1991. Nahuatl direct and mediated possession: A historical explanation for irregularities. *International Journal of American Linguistics* 57(3). 298–329.
- Davidson, Lisa & Daniel Erker. 2014. Hiatus resolution in American English: The case against glide insertion. *Language* 90(2). 482–514.

- Dayley, Jon Philip. 1989. *Tümpisa (Panamint) Shoshone grammar*. Berkeley: University of California Press.
- De Chene, Brent & Stephen R. Anderson. 1979. Compensatory lengthening. *Language* 55(3). 505–535.
- Dedrick, John M. & Eugene H. Casad. 1999. *Sonoran Yaqui language structures*. Tucson: University of Arizona Press.
- Demers, Richard, Fernando Escalante & Eloise Jelinek. 1999. Prominence in Yaqui words. *International Journal of American Linguistics* 65(1). 40–55.
- Di Napoli, Jessica. 2015. Glottalization at phrase boundaries in Tuscan and Roman Italian. In Joaquín Romero & María Riera (eds.), *The phonetics-phonology interface: Representations and methodologies*, 125–147. Amsterdam: John Benjamins.
- DiCanio, Christian T. 2012. The phonetics of fortis and lenis consonants in Itunyoso Trique. *International Journal of American Linguistics* 78(2). 239–272.
- Dixon, RMW. 1977. Some phonological rules in Yidin^y. *Linguistic Inquiry* 8(1). 1–34.
- Downing, Laura J. 2001. Ungeneralizable minimality in Ndebele. *Studies in African Linguistics* 30(1). 1.
- Downing, Laura J. 2007. Focus prosody divorced from stress and intonation in Chichewa, Chitumbuka and Durban Zulu. In *ICPhs 2007 Satellite Meeting, International Phonology: Understudied or fieldwork languages*, Saarbrücken.
- Downing, Laura J. 2008. *Focus and prominence in Chichewa, Chitumbuka and Durban Zulu*. Frankfurt a. M.: Universitätsbibliothek Johann Christian Senckenberg.
- Downing, Laura J. 2010. Accent in African languages. In Harry van der Hulst, Rob Goedemans & Ellen van Zanten (eds.), *A survey of word accentual patterns in the languages of the world*, 381–427. Berlin: de Gruyter.
- Dresher, B. Elan & Aditi Lahiri. 1991. The Germanic foot: Metrical coherence in Old English. *Linguistic Inquiry* 22(2). 251–286.
- Dryer, Matthew S. 1986. Primary objects, secondary objects, and antidative. *Language* 62(4). 808–845. DOI: 10.2307/415173.
- Dryer, Matthew S. 2007a. Clause types. In Timothy Shopen (ed.), *Language typology and syntactic description*, 2nd edn., vol. 1, 224–275. Cambridge: Cambridge University Press.
- Dryer, Matthew S. 2007b. Noun phrase structure. In Timothy Shopen (ed.), *Language typology and syntactic description*, 2nd edn., vol. 2, 151–205. Cambridge: Cambridge University Press.
- Elenbaas, Nine & René Kager. 1999. Ternary rhythm and the lapse constraint. *Phonology* 16(3). 273–329.

References

- Embriz Osorio, Arnulfo & Oscar Zamora Alarcón. 2012. *Lenguas indígenas nacionales en riesgo de desaparición*. Mexico City, Instituto Nacional de Lenguas Indígenas.
- Enfield, N. J. 2003. Demonstratives in space and interaction: Data from Lao speakers and implications for semantic analysis. *Language* 79(1). 82–117.
- Escalante, Fernando. 1990. Setting the record straight on Yaqui passives. *International Journal of American Linguistics* 56(2). 289–292.
- Estrada-Fernández, Zarina & Ana E. Tona. 2013. Complementos verbales y cláusulas adverbiales en tarahumara de Pahuírac hic, Chihuahua. *Amerindia* (37). 87–110.
- Evans, Nicholas & Alan Dench. 2006. Introduction: Catching language. In Felix K. Ameka, Alan Dench & Nicholas Evans (eds.), *Catching language: The standing challenge of grammar writing*, 1–40. Berlin: De Gruyter Mouton.
- Everett, Daniel L. 1988. On metrical constituent structure in Pirahã phonology. *Natural Language & Linguistic Theory* 6(2). 207–246.
- Felix Armendáriz, Rolando G. 2000. *Las relaciones gramaticales en yaqui: Un análisis en el marco de la gramática del rol y referencia*. Universidad de Sonora. (MA thesis).
- Felix Armendáriz, Rolando G. 2006. *A grammar of River Warihío*. Rice University. (Doctoral dissertation).
- Fitzgerald, Colleen M. 2012. Prosodic inconsistency in Tohono O'odham. *International Journal of American Linguistics* 78(4). 435–463.
- Foley, William A. & Mike Olson. 1985. Clausehood and verb serialization. In Johanna Nichols & Anthony C. Woodbury (eds.), *Grammar inside and outside the clause*, 17–60. Cambridge: Cambridge University Press.
- Fowler, Catherine S. 1983. Some lexical clues to Uto-Aztecán prehistory. *International Journal of American Linguistics* 49(3). 224–257.
- Gaby, Alice Rose. 2006. *A Grammar of Kuuk Thaayorre*. The University of Melbourne. (Doctoral dissertation).
- García Salido, Gabriela. 2007a. La voz media en tepehuano del sur de Santa María de Ocotán. In Zarina Estrada Fernández, Albert Alvarez González, Lilián Guerrero Valenzuela & María Belén Carpio (eds.), *Mecanismos de voz, cambio de valencia y formación de palabra*, 153–176. México: Plaza y Valdés.
- García Salido, Gabriela. 2007b. Serial verb constructions in Southeastern Tepehuano: A Uto-Aztecán language. In *Proceeding of the III Conference of Indigenous Languages of Latin America (CILLA)*. 1–14.
- García Salido, Gabriela. 2014. *Clause linkage in Southeastern Tepehuano: A Uto-Aztecán language of Northern Mexico*. (Doctoral dissertation).

- Garellek, Marc, Andrés Aguilar, Gabriela Caballero & Lucien Carroll. 2015. Lexical and post-lexical tone in Choguita Rarámuri. In *Proceedings of the 18th International Congress of Phonetic Sciences, Glasgow, Scotland*.
- Gil Burgoín, Carlos Ivanhoe & Araceli Carrillo Carrillo. 2019. Marcación prosódica de los enunciados interrogativos absolutos en tepehuano del norte. In Zarina Estrada Fernández, M. Tubino Blanco & A Alvarez González (eds.), *Escenario actual de la investigación sobre lenguas yutoaztecas: Homenaje a Jane H. Hill*, 105–136. Hermosillo: Universidad de Sonora.
- Godjevac, Svetlana. 2006. Transcribing Serbo-Croatian. In Sun-Ah Jun (ed.), *Prosodic typology: The phonology of intonation and phrasing*, 146–171. Oxford: Oxford University Press.
- González Rodríguez, Luis. 1982. *Tarahumara: La sierra y el hombre*. Chihuahua: Fondo de Cultura Económica.
- González Rodríguez, Luis et al. 1991. Testimonios sobre la destrucción de las misiones tarahumaras y pimas en 1960. *Estudios de Historia Novohispana* 10(010). DOI: 10.1515/lingvan-2017-0006.
- Gordon, Matthew K. 2005. An autosegmental/metrical model of Chickasaw intonation. In Sun-Ah Jun (ed.), *Prosodic transcription and typology: A unified approach*, 301–330. Oxford: Oxford University Press.
- Gordon, Matthew K. & Harry van der Hulst. 2020. Word stress systems. In Carlos Gussenhoven & Aoju Chen (eds.), *The Oxford handbook of prosody*, 66–77. Oxford: Oxford University Press.
- Gouskova, Maria. 2003. *Deriving economy: Syncope in optimality theory*. University of Massachusetts Amherst. (Doctoral dissertation).
- Graf, Dafna & Adam Ussishkin. 2003. Emergent iambs: Stress in modern Hebrew. *Lingua* 113(3). 239–270.
- Gralow, Frances L. 1985. Coreguaje: Tone, stress and intonation. In Ruth M. Brend (ed.), *From phonology to discourse: Studies in six Colombian languages* (Language Data, Amerindian Series 9), 3–11. Dallas: Summer Institute of Linguistics.
- Green, Thomas & Michael Kenstowicz. 1995. *The lapse constraint*. Rutgers Optimality Archive. <http://roa.rutgers.edu/files/101-0000/101-0000-GREEN-0-0.PDF>.
- Grimes, Joseph E. 1959. Huichol tone and intonation. *International Journal of American Linguistics* 25(4). 221–232.
- Guerrero Valenzuela, Lilián. 2006. *The structure and function on Yaqui complementation*. Munich: Lincom Europa.

References

- Guerrero Valenzuela, Lilián. 2012. On relative clauses and related constructions in Yaqui. In Bernard Comrie & Zarina Estrada-Fernández (eds.), *Relative clauses in languages of the Americas: A typological overview*, 97–126. Amsterdam: John Benjamins.
- Guerrero Valenzuela, Lilián & Gabriela García Salido. 2019. El fenómeno de suplección en lenguas yutoaztecas sureñas. *Lingüística Mexicana. Nueva Época*. 53–68.
- Guerrero Valenzuela, Lilián & Robert D. Van Valin Jr. 2004. Yaqui and the analysis of primary object languages. *International Journal of American Linguistics* 70(3). 290–319.
- Guillaume, Antoine. 2016. Associated motion in South America: Typological and areal perspectives. *Linguistic Typology* 20(1). 81–177.
- Guion, Susan G., Jonathan D. Amith, Christopher S. Doty & Irina A. Shport. 2010. Word-level prosody in Balsas Nahuatl: The origin, development, and acoustic correlates of tone in a stress accent language. *Journal of Phonetics* 38(2). 137–166.
- Gurevich, Naomi. 2013. *Lenition and contrast: The functional consequences of certain phonetically conditioned sound changes*. London: Routledge.
- Hagberg, Larry. 1989. *Floating accent in Mayo*. Tucson: Department of Linguistics, University of Arizona.
- Hagberg, Lawrence Raymond. 1993. *An autosegmental theory of stress*. The University of Arizona. (Doctoral dissertation).
- Hale, Ken. 1983. Papago (k) c. *International Journal of American Linguistics* 49(3). 299–327.
- Hale, Ken. 1992. Subject obviation, switch reference, and control. In R. K. Larson, S. Iatridou, U. Lahiri & J. Higginbotham (eds.), *Control and grammar* (Studies in Linguistics and Philosophy 48), 51–77. Dordrecht: Springer. DOI: 10.1007/978-94-015-7959-9_2.
- Hanks, William F., NJ Enfield, John B. Haviland, Sachiko Ide, Mari Kumashiro, Alan Rumsey & Michael Silverstein. 2005. Explorations in the deictic field. *Current Anthropology* 46(2). 191–220.
- Haspelmath, Martin. 2007. Coordination. In Timothy Shopen (ed.), *Language typology and syntactic description*, vol. 2, 1–51. Cambridge: Cambridge University Press.
- Haspelmath, Martin & the Leipzig Equative Constructions Team. 2017. Equative constructions in world-wide perspective. In Yvonne Treis & Martine Vanhove (eds.), *Similative and equative constructions: A cross-linguistic perspective*, 9–32. Amsterdam: John Benjamins.

- Haugen, Jason D. 2008a. Denominal verbs in Uto-Aztecán. *International Journal of American Linguistics* 74(4). 439–470.
- Haugen, Jason D. 2008b. *Morphology at the interfaces: Reduplication and noun incorporation in Uto-Aztecán*. Amsterdam: John Benjamins.
- Haugen, Jason D. 2014. Laryngeals in Guarajío (Uto-Aztecán): synchrony. In Ryan Bennett (ed.), *Proceedings of the Workshop on the Sound Systems of Mexico and Central America*. New Haven, CT: Department of Linguistics, Yale University.
- Haugen, Jason D. 2017. Derived verbs of possession in Uto-Aztecán: Reconstructions and paths of change. *Anthropological Linguistics* 59(2). 163–204.
- Haugen, Jason D. & Michael Everdell. 2015. ‘To kill’ and ‘to die’ (and other suppletive verbs) in Uto-Aztecán. *Language Dynamics and Change* 5(2). 227–281.
- Hayes, Bruce. 1989. The prosodic hierarchy in meter. In Paul Kiparsky & Gilbert Youmans (eds.), *Phonetics and phonology, volume 1: Rhythm and meter*, 201–260. Cambridge: Academic Press.
- Hayes, Bruce. 1995. *Metrical stress theory: Principles and case studies*. Chicago: University of Chicago Press.
- Heath, Jeffrey. 1977. Uto-Aztecán morphophonemics. *International Journal of American Linguistics* 43(1). 27–36.
- Heath, Jeffrey. 1978. Uto-Aztecán *na-class verbs. *International Journal of American Linguistics* 44(3). 211–222.
- Hill, Jane H. 2001. Proto-Uto-Aztecán: A community of cultivators in Central Mexico? *American Anthropologist* 103(4). 913–934.
- Hill, Jane H. 2005. *A grammar of Cupeño*. Berkeley: University of California Press.
- Hill, Jane H. 2010. Dating Proto-Uto-Aztecán: New evidence from linguistic paleontology and lexicostatistics. In *Annual meeting of the Friends of Uto-Aztecán Conference, Guadalajara, Mexico*.
- Hill, Jane H. 2011. Subgrouping in Uto-Aztecán. *Language Dynamics and Change* 1(2). 241–278.
- Hill, Jane H. & Kenneth C. Hill. 1968. Stress in the Cupan (Uto-Aztecán) languages. *International Journal of American Linguistics* 34(4). 233–241.
- Hill, Jane H. & Kenneth C. Hill. 2000. Marked and unmarked plural nouns in Uto-Aztecán. In Eugene H. Casad & Thomas L. Willet (eds.), *Uto-Aztecán: Structural, temporal and geographic perspectives: Papers in honor of Wick R. Miller by the friends of Uto-Aztecán*, 241–276. Hermosillo: Universidad de Sonora.
- Hilton, K Simón. 1993. *Diccionario tarahumara de Samachique, Chihuahua, México* (Serie de vocabularios y diccionarios indígenas “Mariano Silva y Aceves” 101). Oaxaca: Instituto Lingüístico de Verano.

References

- Himmelmann, Nikolaus P. 1996. Demonstratives in narrative discourse: A taxonomy of universal uses. In Barbara Fox (ed.), *Studies in anaphora*, 205–254. Amsterdam: John Benjamins.
- Hualde, José Ignacio. 2012. Stress and rhythm. In José Ignacio Hualde, Antxon Olarrea & Erin O'Rourke (eds.), *The handbook of Hispanic linguistics*, 153–171. Oxford: Blackwell Publishing.
- Hualde, José Ignacio. 1998. A gap filled: Postpostinitial accent in Azkoitia Basque. *Linguistics* 36(1). 99–118.
- Hualde, José Ignacio. 2018. Aspiration in Basque. *Papers in Historical Phonology* 3. 1–27.
- Hyman, Larry M. 1977. On the nature of linguistic stress. In Larry M. Hyman (ed.), *Studies in stress and accent*, 37–82. Los Angeles: University of Southern California.
- Hyman, Larry M. 1978. Tone and/or accent. In Donna J. Napoli (ed.), *Elements of tone, stress and intonation*, 1–20. Washington: Georgetown University Press.
- Hyman, Larry M. 1987. Prosodic domains in Kukuya. *Natural Language & Linguistic Theory* 5(3). 311–333.
- Hyman, Larry M. 1993. Structure preservation and postlexical tonology in Dagbani. In Sharon Hargus & Ellen M. Kaisse (eds.), *Phonetics and phonology, volume 4: Studies in Lexical Phonology*, 235–254. Cambridge: Academic Press.
- Hyman, Larry M. 1998. Positional prominence and the ‘prosodic trough’ in Yaka. *Phonology* 15(1). 41–75.
- Hyman, Larry M. 2001. Tone systems. In Martin Haspelmath, Ekkehard König, Wulf Oesterreicher & Wolfgang Raible (eds.), *Language typology and language universals: an international handbook*, vol. 2, 1367–1380. Berlin & New York: De Gruyter Mouton.
- Hyman, Larry M. 2003. *A theory of phonological weight* (Publications in Language Sciences 19). Berlin: De Gruyter. DOI: [10.1515/9783110854794](https://doi.org/10.1515/9783110854794).
- Hyman, Larry M. 2006. Word-prosodic typology. *Phonology* 23(2). 225–257.
- Hyman, Larry M. 2008. Directional asymmetries in the morphology and phonology of words, with special reference to Bantu. *Linguistics* 46(2). 309–350.
- Hyman, Larry M. 2009. How (not) to do phonological typology: The case of pitch-accent. *Language Sciences* 31(2-3). 213–238.
- Hyman, Larry M. 2016. Morphological tonal assignments in conflict: Who wins. In Enrique L. Palancar & Jean Léonard (eds.), *Tone and inflection: New facts and perspectives*, 15–39. Berlin: de Gruyter.
- Hyman, Larry M. & Kemmnye C. Monaka. 2011. Tonal and non-tonal intonation in Shekgalagari. In Sónia Frota, Gorka Elordieta & Pilar Prieto (eds.), *Prosodic categories: Production, perception and comprehension* (Studies in Natural Lan-

- guage and Linguistic Theory 82), 267–289. Dordrecht: Springer. DOI: 10.1007/978-94-007-0137-3.
- Hyman, Larry M. & Stephen A. Wilson. 1991. Review of Harry van der Hulst & Norval Smith (eds), Autosegmental studies on pitch accent. *Language* (67). 356–363.
- INALI. 2008. *Catálogo de las Lenguas Indígenas Nacionales: Variantes Lingüísticas de México con sus autodenominaciones y referencias geoestadísticas*. México: Instituto Nacional de Lenguas Indígenas.
- Inkelas, Sharon. 1993. Nimboran position class morphology. *Natural Language & Linguistic Theory* 11(4). 559–624.
- Inkelas, Sharon. 1998. The theoretical status of morphologically conditioned phonology: A case study of dominance effects. *Yearbook of Morphology* (1997). 121–155.
- Inkelas, Sharon. 2014. *The interplay of morphology and phonology*. Oxford: Oxford University Press.
- Inkelas, Sharon, William R. Leben & Mark Cobler. 1987. The phonology of intonation in Hausa. In *Proceedings of NELS*, vol. 17, 327–341.
- Inkelas, Sharon & Draga Zec. 1988. Serbo-Croatian pitch accent: The interaction of tone, stress, and intonation. *Language* 64(2). 227–248. DOI: 10.2307/415433.
- Inkelas, Sharon & Cheryl Zoll. 2005. *Reduplication: Doubling in morphology*. Cambridge: Cambridge University Press.
- Islas Flores, Bianca Paola. 2010. *Caracterización morfosintáctica y semántica de los conceptos de propiedad en ralámuli de Choguita*. Tesis de licenciatura en lingüística, Escuela Nacional de Antropología e Historia. (Doctoral dissertation).
- Itô, Junko & Armin Mester. 1992. *Weak layering and word binarity*. Ms., University of California, Santa Cruz.
- Jacobsen, Steven E. 1967. Switch reference in Hokan-Coahuiltecan. In Dell Hymes & William Bittle (eds.), *Studies in Southwestern ethnolinguistics*, 238–263. The Hague: De Gruyter Mouton.
- Jacobsen Jr, William H. 1983. Typological and genetic notes on switch-reference systems in North American Indian languages. In John Haiman & Pamela Munro (eds.), *Switch reference and universal grammar* (Typological Studies in Language 2), 151–183. Amsterdam: John Benjamins. DOI: 10.1075/tsl.2.10jac.
- Jara, Yolanda Valdez. 2013. *Predication in rarómuri (urique tarahumara)*. University of Oregon. (Doctoral dissertation).
- Jeanne, Laverne Masayesva & Ken Hale. 2019. Argument obviation and switch-reference in Hopi°. In Mary Ritchie Key & Henry M. Hoenigswald (eds.), *General and Amerindian ethnolinguistics: In remembrance of Stanley Newman*, 201–212. Berlin, Boston: De Gruyter Mouton.

References

- Jelinek, Eloise & Fernando Escalante. 2010. “Verbless” possessive sentences in Yaqui. In William Shipley (ed.), *In honor of Mary Haas: From the Haas festival conference on Native American linguistics*, 411–430. Berlin, New York: De Gruyter Mouton.
- Jun, Sun-Ah. 2014. Prosodic typology: By prominence type, word prosody, and macro-rhythm. In Sun-Ah Jun (ed.), *Prosodic typology II: The phonology of intonation and phrasing*, 520–539. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199567300.003.0017.
- Kager, René. 1997. Rhythmic vowel deletion in Optimality Theory. In Iggy Roca (ed.), *Derivations and constraints in phonology*, 463–499. Oxford: Oxford University Press.
- Kager, René. 2012. Stress in windows: Language typology and factorial typology. *Lingua* 122(13). 1454–1493.
- Kataoka, Reiko. 2010. *Phonetic description of a three-way stop contrast in Northern Paiute* (UC Berkeley Phonology Lab Annual Reports 6).
- Kingston, John. 2005. The phonetics of Athabaskan tonogenesis. In Sharon Hargus & Keren Rice (eds.), *Athabaskan prosody*, 137–184. Amsterdam: John Benjamins.
- Kiparsky, Paul et al. 1982. From cyclic phonology to lexical phonology. *The structure of phonological representations* 1. 131–175.
- Kiparsky, Paul. 1996. Allomorphy or morphophonology? In Rajendra Singh (ed.), *Trubetzkoy's orphan: Proceedings of the Montréal roundtable on “Morphophonology: Contemporary responses” (Montréal, october 1994)*, 13–31. Amsterdam: John Benjamins.
- König, Ekkehard & Peter Siemund. 2007. Speech act distinctions in grammar. In Timothy Shopen (ed.), *Language typology and syntactic description*, vol. 1, 276–324. Cambridge: Cambridge University Press.
- Kuang, Jianjing. 2013. The tonal space of contrastive five level tones. *Phonetica* 70(1-2). 1–23.
- Kubozono, Haruo. 2006. Where does loanword prosody come from?: A case study of Japanese loanword accent. *Lingua* 116(7). 1140–1170.
- Ladd, D Robert. 1984. Declination: A review and some hypotheses. *Phonology* 1. 53–74.
- Ladd, D. Robert. 1986. Intonational phrasing: The case for recursive prosodic structure. *Phonology* 3. 311–340.
- Ladefoged, Peter & Ian Maddieson. 1996. *The sounds of the world's languages*. Oxford: Blackwell.

- Langacker, Ronald W. 1977. *Studies in Uto-Aztec Grammar. Volume 1: An Overview of Uto-Aztec Grammar*. Arlington: The Summer Institute of Linguistics & The University of Texas at Arlington.
- Lastra, Yolanda. 2001. Otomí language shift and some recent efforts to reverse it. In Joshua A Fishman (ed.), *Can threatened languages be saved?*, 142–165. Bristol, Blue Ridge Summit: De Gruyter Mouton. DOI: 10.21832/9781853597060-008.
- Lehmann, Christian. 1986. On the typology of relative clauses. *Linguistics* 24(4). 663–680.
- Levi, Jerome M. 1999. Hidden transcripts among the Rarámuri: Culture, resistance, and interethnic relations in northern Mexico. *American Ethnologist* 26(1). 90–113.
- Levinson, Stephen C. 1996. Language and space. *Annual Review of Anthropology* 25(1). 353–382.
- Levinson, Stephen C. & David P. Wilkins. 2006. *Grammars of space: Explorations in cognitive diversity*. Cambridge: Cambridge University Press.
- Lindenfeld, Jacqueline. 1973. *Yaqui syntax* (University of California Publications in Linguistics 76). Berkeley & Los Angeles: University of California Press.
- Lionnet, Andrés. 1968. Los intensivos en tarahumara. In *Anales del Instituto Nacional de Antropología e Historia*, vol. 6, 135–146.
- Lionnet, Andrés. 1978. *El idioma Tubar y los Tubares*. México: Universidad Iberoamericana.
- Lionnet, Andrés. 2001a. Sufijos verbales derivativos en verbos del tarahumara. In José Luis Moctezuma Zamarrón & Jane H. Hill (eds.), *Avances y balances de lenguas yutoaztecas: homenaje a Wick R. Miller*, 301–330. México, D.F.: Instituto Nacional de Antropología e Historia.
- Lionnet, Andrés. 1972. *Los elementos de la lengua tarahumara*. Vol. 13. Ciudad de México: Universidad Nacional Autónoma de México, Instituto de Investigaciones Históricas.
- Lionnet, Andrés. 1985. Relaciones internas de la rama sonorense. *Amerindia* 10. 25–58.
- Lionnet, Andrés. 2001b. *Los elementos del tarahumara: Y otros estudios lingüísticos*. Guachochi: Diocesanas de la Tarahumara.
- Lionnet, Andrés & Wick R. Miller. 1985. Lionnet's article on the “intensive” in Tarahumara. *International Journal of American Linguistics* 51(4). 502–504.
- Lipski, John M. 1997. Spanish word stress: The interaction of moras and minimality. In Fernando Martínez-Gil & Alfonso Morales-Front (eds.), *Issues in the phonology and morphology of the major iberian languages*, 559–593. Washington, DC: Georgetown University Press.

References

- Longacre, Robert E. 2007. Sentences as combinations of clauses. In Timothy Shopen (ed.), *Language typology and syntactic description*, vol. 2, 372–420. Cambridge: Cambridge University Press.
- González Rodríguez, Luis. 1987. *Crónicas de la Sierra Tarahumara*. Ciudad de México: Secretaría de Educación Pública.
- Maddieson, Ian. 1979. Tone spacing: Evidence from bilingual speakers. *UCLA Working Papers in Phonetics* 45. 84–88.
- Maddieson, Ian. 2005. Issues of phonological complexity: Statistical analysis of the relationship between syllable structures, segment inventories and tone contrasts. *UC Berkeley PhonLab Annual Report* 1. 259–268. DOI: <http://dx.doi.org/10.5070/P73cm3w6ck>.
- Makáwi, Martín. 2012. *Eká kusúala, canciones del viento*. Chihuahua: Instituto Chihuahuense de Cultura.
- Manaster-Ramer, Alexis. 1986. Genesis of Hopi tones. *International Journal of American Linguistics* 52(2). 154–160.
- Martínez Fabián, Constantino. 2006. *Yaqui coordination*. Tucson: The University of Arizona.
- Martínez-Paricio, Violeta. 2013. *An exploration of minimal and maximal metrical feet*. UiT Norges arktiske universitet. (Doctoral dissertation).
- Martínez-Paricio, Violeta & René Kager. 2015. The binary-to-ternary rhythmic continuum in stress typology: Layered feet and non-intervention constraints. *Phonology* 32(3). 459–504.
- Matthews, Peter H. 1972. *Inflectional morphology: A theoretical study based on aspects of Latin verb conjugation*. Cambridge: Cambridge University Press.
- McCarthy, John J. & Alan Prince. 1986. *Prosodic morphology*. Ms, University of Massachusetts and Brandeis University.
- McDonough, Joyce. 2000. On a bipartite model of the Athabaskan verb. In Theodore B. Fernald & Paul R. Platero (eds.), *The Athabaskan languages: Perspectives on a Native American language family*, 139–166. Oxford: Oxford University Press.
- McDonough, Joyce. 2001. The intonation of yes/no and focus constructions in Navajo. *The Journal of the Acoustical Society of America* 109(5). 2415–2415.
- McDonough, Joyce. 2002. The prosody of interrogative and focus constructions in Navajo. In Andrew Carnie, Heidi Harley & MaryAnn Willie (eds.), *Formal approaches to function in grammar: In honor of Eloise Jelinek*, 191–206. Amsterdam: John Benjamins. DOI: 10.1075/la.62.15mcd.
- McKenzie, Andrew. 2015. A survey of switch-reference in North America. *International Journal of American Linguistics* 81(3). 409–448.

- McMahon, Ambrose. 1967. Phonemes and phonemic units of Cora (Mexico). *International Journal of American Linguistics* 33(2). 128–134. DOI: 10.1086/464950.
- Menn, Lise & Brian MacWhinney. 1984. The repeated morph constraint: Toward an explanation. *Language* 60(3). 519–541.
- Merrill, William L. 1983. Tarahumara social organization, political organization, and religion. In *The handbook of North American Indians*, vol. 10: Southwest, 290–305. Washington DC: Smithsonian Institution.
- Merrill, William L. 1988. *Rarámuri souls: Knowledge and social process in Northern Mexico*. Washington, DC: Smithsonian Scholarly Press.
- Merrill, William L. 2001. La identidad ralámuli, una perspectiva histórica. In Eugeni Porras & Claudia Molinari (eds.), *Identidad y cultura en la sierra tarahumara*, 71–104. México: Instituto Nacional de Antropología e Historia.
- Merrill, William L. 2013. The genetic unity of Southern Uto-Aztecán. *Language Dynamics and Change* 3(1). 68–104.
- Merrill, William L. & Don H. Burgess. 2014. Ralámuli kinship terminology: A diachronic perspective on diversity in the Sierra Tarahumara of Northwestern Mexico. *Anthropological Linguistics* 56. 229–293.
- Miller, Wick R. 1967. *Uto-Aztecán cognate sets*. Berkeley: University of California Press.
- Miller, Wick R. 1984. The classification of the Uto-Aztecán languages based on lexical evidence. *International Journal of American Linguistics* 50(1). 1–24.
- Miller, Wick R. 1996. *Guarijío: Gramática, textos y vocabulario*. Ciudad de México: Universidad Nacional Autónoma de México.
- Mithun, Marianne. 2001. *The languages of Native North America*. Cambridge: Cambridge University Press.
- Morales Moreno, José Isidro. 2016. *Estructura de cláusula, tópico y foco en Rarámuri de Rochéachi*. Ciudad de México: Centro de Investigaciones y Estudios Superiores en Antropología Social.
- Morales Muñoz, Marco Vinicio. 2019. Reproducción material rarámuri: Cambios y continuidades por la migración en la ciudad de Chihuahua, México. *Revista Latinoamericana de Antropología del Trabajo* 3(6). <http://www.ceil-conicet.gov.ar/ojs/index.php/lat/article/view/540/504>.
- Mosel, Ulrike. 2006. Grammaticography: The art and craft of writing grammars. In Felix K. Ameka, Alan Dench & Nicholas Evans (eds.), *Catching language: The standing challenge of grammar writing*, 41–68. Berlin: De Gruyter Mouton.
- Munro, Pamela. 1977. Towards a reconstruction of Uto-Aztecán stress. In Larry M. Hyman (ed.), *Studies in stress and accent*, 303–326. Los Angeles: University of Southern California.

References

- Myers, Scott. 1998. Surface underspecification of tone in Chichewa. *Phonology* 15(3). 367–391.
- Neely, Kelsey C. 2019. *The linguistic expression of affective stance in Yaminawa (Pano, Peru)*. UC Berkeley. (Doctoral dissertation).
- Nespor, Marina & Irene Vogel. 1986. *Prosodic phonology* (Studies in generative grammar 28). Dordrecht: Foris.
- Neumann, Joseph. 1991. *Historia de las rebeliones en la Sierra Tarahumara (1626–1724)*. Córdoba: Editorial Camino.
- Newman, Paul. 1990. *Nominal and verbal plurality in Chadic*. Berlin: Mouton De Gruyter.
- Newman, Paul. 2012. Pluractional verbs: An overview. In Patricia Cabredo Hofherr & Brenda Laca (eds.), *Verbal plurality and distributivity*, 185–209. Mouton de Gruyter.
- Nichols, Johanna. 1986. Head-marking and dependent-marking grammar. *Language* 62. 56–119.
- Noonan, Michael. 2007. Complementation. In Timothy Shopen (ed.), *Language typology and syntactic description*, vol. 2, 52–150. Cambridge: Cambridge University Press.
- Nordell, Norman. 1984. Spanish loan words via Aztec. *SIL-Mexico Workpapers* 5. 120.
- O’Meara, Carolyn & Lilián Guerrero Valenzuela. 2015. A typological comparison of Seri with nearby Southern Uto-Aztecan languages: The use of posture verbs in locative descriptions. *Amerindia* 37(2). 285–311.
- O’Meara, Carolyn & Gabriela Pérez Báez. 2011. Spatial frames of reference in Mesoamerican languages. *Language Sciences* 33(6). 837–852.
- Ochs, Elinor & Bambi Schieffelin. 1989. Language has a heart. *Text* 9(1). 7–25.
- Odden, David Arnold. 1996. *The phonology and morphology of Kimatuumbi*. Oxford: Oxford University Press.
- Orgun, Cemil Orhan. 1996. *Sign-based morphology and phonology with special attention to optimality theory*. Berkeley: University of California.
- Paciotto, Carla. 1996. The Tarahumara of Mexico. In Gina Cantoni (ed.), *Stabilizing Indigenous languages*, 155–161. Flagstaff: Northern Arizona University.
- Paster, Mary. 2006. *Phonological conditions on affixation*. UC Berkeley. (Doctoral dissertation).
- Patiño Velázquez, EP. 2014. Intonation patterns of Morelos Nahuatl. In *Proceedings of Speech Prosody*, vol. 7.
- Pennington, Campbell W. 1963. *The Tarahumar of Mexico: Their environment and material culture*. Salt Lake City: University of Utah Press.

- Pierrehumbert, Janet B. 1980. *The phonology and phonetics of English intonation*. Massachusetts Institute of Technology. (Doctoral dissertation).
- Pintado Cortina, Ana Paula. 2004. *Tarahumaras*. Ciudad de México: Comisión Nacional para el Desarrollo de los Pueblos Indígenas.
- Pintado Cortina, Ana Paula. 2012a. *Los hijos de riosi y riablo: Fiestas grandes y resistencia cultural en una comunidad tarahumara de la barranca*.
- Pintado Cortina, Ana Paula. 2012b. *Los hijos de Riosi y Riablo: Fiestas grandes y resistencia cultural en una comunidad tarahumara de la barranca*. Ciudad de México: Instituto Nacional de Antropología e Historia.
- Poser, William John. 1984. *The phonetics and phonology of tone and intonation in Japanese*. Massachusetts Institute of Technology. (Doctoral dissertation).
- Prieto, Pilar, Jan Van Santen & Julia Hirschberg. 1995. Tonal alignment patterns in Spanish. *Journal of Phonetics* 23(4). 429–451.
- Remijsen, Bert. 2001. Dialectal variation in the lexical tone system of Ma'ya. *Language and Speech* 44(4). 473–499.
- Remijsen, Bert. 2002. Lexically contrastive stress accent and lexical tone in Ma'ya. *Laboratory phonology* 7. 585–614.
- Remijsen, Bert & Otto Gwado Ayoker. 2018. *A descriptive grammar of Shilluk* (Language Documentation and Conservation Special Publication 14). Manoa: University of Hawai'i Press.
- Remijsen, Bert & Vincent J. Van Heuven. 2005. Stress, tone and discourse prominence in the Curaçao dialect of Papiamentu. *Phonology* 22(2). 205–235.
- Revithiadou, Anthi. 1998. Lexical marking and dominance in Modern Greek. In Brian D. Joseph, Geoffrey C. Horrocks & Irene Philippaki-Warburton (eds.), *Themes in greek linguistics*, 23–48. Amsterdam: John Benjamins.
- Reyes Taboada, Verónica. 2014. *Fonología del tepehuano del sureste: Estructuras segmentales y métricas*. Tesis de doctorado en Lingüística, México, Centro de Estudios Lingüísticos y Literarios-El Colegio de México. (Doctoral dissertation).
- Riad, Tomas. 2006. Scandinavian accent typology. *STUF-Sprachtypologie und Universalienforschung* 59(1/2006). 36–55.
- Rice, Curtis Calvin. 1993. *Binarity and ternarity in metrical theory: Parametric extensions*. University of Texas at Austin. (Doctoral dissertation).
- Rice, Keren. 2010. Accent in the native languages of North America. In Harry van der Hulst, Rob Goedemans & Ellen van Zanten (eds.), *A survey of word accentual patterns in the languages of the world*, 155–248. Berlin: De Gruyter.
- Rice, Keren. 2011. Principles of affix ordering: An overview. *Word Structure* 4(2). 169–200.

References

- Rice, Keren. 2014. Sounds in grammar writing. In Toshihide Nakayama & Keren Rice (eds.), *Language documentation & conservation special issue*, 69–89. Manoa: University of Hawai'i Press.
- Roettger, Timo & Matthew K. Gordon. 2017. Methodological issues in the study of word stress correlates. *Linguistics Vanguard* 1. 1–11.
- Rolle, Nicholas R. 2018. *Grammatical tone: Typology and theory*. UC Berkeley. (Doctoral dissertation).
- García Salido, Gabriela. 2021. Headless relative clauses in Southeastern Tepehuan (O'dam). In Ivano Caponigro, Harold Torrence & Roberto Zavala Maldonado (eds.), *Headless relative clauses in Mesoamerican languages*, 58–78. Oxford: Oxford University Press.
- Sapir, Edward. 1921. *Language: An Introduction to the Study of Speech*. San Diego, CA: Harcourt, Brace & Company.
- Sapir, Edward. 1930. Southern Paiute, a Shoshonean language. In *Proceedings of the American Academy of Arts and Sciences*, vol. 65, 1–296.
- Sebba, Mark. 1987. *The syntax of serial verbs: An investigation into serialisation in Sranan and other languages*. Amsterdam: John Benjamins Publishing.
- Selkirk, Elisabeth. 1980. *On prosodic structure and its relation to syntactic structure*. Bloomington: Indiana University Linguistics Club.
- Selkirk, Elisabeth. 1986. On derived domains in sentence phonology. *Phonology* 3. 371–405.
- Selkirk, Elisabeth. 1996. The prosodic structure of function words. In James L. Morgan & Katherine Demuth (eds.), *Signal to syntax: Bootstrapping from speech to grammar in early acquisition*, 187–213. New York & London: Psychology Press.
- Servín, Enrique. 2002. *Ralámuli Ra'ichábo!! Hablemos el tarahumar*. Chihuahua: Instituto Chihuahuense de Cultura.
- Shaul, David Leedom. 2000. Comparative Tepiman: Phonological change and inflectional categories. In Eugene H. Casad & Thomas L. Willet (eds.), *Uto-Aztecán: Structural, temporal and geographic perspectives: Papers in honor of Wick R. Miller*, 319–356. Hermosillo: Universidad de Sonora.
- Shaw, Jason A. & Shigeto Kawahara. 2022. *Limits on gestural reorganization following vowel deletion: The case of Tokyo Japanese*. Unpublished manuscript, Yale Universiteit and Keio University.
- Shue, Yen-Liang, Patricia Keating, Chad Vicenik & Kristine Yu. 2011. VoiceSauce: A program for voice analysis. *Energy* 1(H2). H1–A1.
- Sicoli, Mark. 1999. Loanwords and contact-induced phonological change in Lachixío Zapotec. In *Annual Meeting of the Berkeley Linguistics Society*, vol. 25, 395–406.

- Silva, David J. 2006. Acoustic evidence for the emergence of tonal contrast in contemporary Korean. *Phonology* 23(2). 287–308.
- Silver, Shirley & Wick R. Miller. 1998. *American Indian languages: Cultural and social contexts*. Tucson: University of Arizona Press.
- Simpson, Jane & Meg Withgott. 1986. Pronominal clitic clusters and templates. In Hagit Borer (ed.), *The syntax of pronominal clitics*, 149–174. New York: Academic Press.
- Smalley, William A. 1953. Phonemic rhythm in comanche. *International Journal of American Linguistics* 19(4). 297–301.
- Smith, Jennifer L. 2011. Category-specific effects. In *The Blackwell Companion to Phonology*. Wiley Online Library. DOI: 10.1002/9781444335262.wbctp0102.
- Stassen, Leon. 1984. The comparative compared. *Journal of Semantics* 3(1-2). 143–182.
- Stassen, Leon. 1985. *Comparison and Universal Grammar*. London: Blackwell.
- Stassen, Leon. 2000. AND-languages and WITH-languages. *Linguistic Typology* 4(1). 1–54.
- Stassen, Leon. 2013. Comparative constructions. In Matthew S. Dryer & Martin Haspelmath (eds.), *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. <https://wals.info/chapter/121>.
- Steele, Susan M. 1975. Past and irrealis: Just what does it all mean? *International Journal of American Linguistics* 41(3). 200–217.
- Steele, Susan M. 1976. A law of order: Word order change in Classical Aztec. *International Journal of American Linguistics* 42(1). 31–45.
- Stolz, Thomas. 2001. To be with X is to have x: Comitatives, instrumentals, locative, and predicative possession. *Linguistics* 39(2). 321–350. DOI: 10.1515/ling.2001.013.
- Stump, Gregory T. 1993. Position classes and morphological theory. *Yearbook of Morphology* (1993). 129–180.
- Stump, Gregory T. 2001. *Inflectional morphology: A theory of paradigm structure*. Cambridge: Cambridge University Press.
- Svenonius, Peter. 2008. Complex predicates and the functional sequence. *Nordlyd* 35(1). DOI: 10.7557/12.137.
- Thompson, Sandra A., Robert E. Longacre & Shin Ja J. Hwang. 1985. Adverbial clause. In Timothy Shopen (ed.), *Language typology and syntactic description*, vol. 2, 171–234. Cambridge: Cambridge University Press.
- Thornes, Tim. 2011. Dimensions of Northern Paiute multi-verb constructions. In Alexandra Aikhenvald & Pieter Muysken (eds.), *Multi-verb constructions: A view from the Americas* (Brill's Studies in the Indigenous Languages of the Americas 3), 27–61. Leiden: Brill.

References

- Timberlake, Alan. 1983. Compensatory lengthening in Slavic, 1: Conditions and dialect geography. In Vladimir Markov & Dean S. Worth (eds.), *From Los Angeles to Kiev: Papers on the Occasion of the Ninth International Congress of Slavists*, Kiev, 207–236. Bloomington, IN: Slavica.
- Toosarvandani, Maziar. 2016. The temporal interpretation of clause chaining in Northern Paiute. *Language* 92(4). 850–889.
- Toosarvandani, Maziar. to appear. Building clause chaining in Uto-Aztecán: A Northern Paiute perspective. In Alexandra Y. Aikhenvald & Hannah Sarvásy (eds.), *Clause chains*. Oxford: Oxford University Press.
- Tubino Blanco, Mercedes, Heidi Harley & Jason Haugen. 2014. Affixal light verbs and complex predicates in Hiaki. In Hideki Kishimoto & Yoko Yumuto (eds.), *Current issues in complex predicate research*, 257–290. Tokyo: Hituzi Syobo.
- Valdez-Jara, Yolanda. 2013. *Predication in Rarómuri (Urike Tarahumara)*. University of Oregon. (Doctoral dissertation).
- Valiñas, Leopoldo. 2001. Lengua, dialectos e identidad étnica en la Sierra Tarahumara. In Claudia Molinari & Eugení Porras (eds.), *Identidad y cultura en la Sierra Tarahumara*, 105–126. Chihuahua: Congreso del Gobierno del Estado de Chihuahua.
- van der Hulst, Harry. 2011. Pitch accent systems: Volume II. Suprasegmental and Prosodic Phonology. In *The Blackwell Companion to Phonology*, 1–24. Wiley Online Library. DOI: 10.1002/9781444335262.wbctp0042.
- Vázquez Soto, Verónica. 2002. Some constraints on Cora causative constructions. In Masayoshi Shibatani (ed.), *The grammar of causation and interpersonal manipulation*, 197–244. Amsterdam: John Benjamins.
- Villalpando-Quiñonez, Jesús. 2019. *Grammatical aspect in Norogachi Rarámuri (Tarahumara; Uto-Aztecán)*. University of Colorado. (Doctoral dissertation).
- Voegelin, Charles F., M. Voegelin Florence & Kenneth Hale. 1962. *Typological and comparative grammar of Uto-Aztecán: I (Phonology)*. Baltimore: Waverly Press.
- Welmers, Wm E. 1959. Tonemics, morphotonemics, and tonal morphemes. *General Linguistics* 4(1). 1.
- Whorf, Benjamin L. 1935. The comparative linguistics of Uto-Aztecán. *American Anthropologist* 37(4). 600–608.
- Whorf, Benjamin L., Lyle Campbell & Frances Karttunen. 1993. Pitch tone and the “saltillo” in modern and ancient Nahuatl. *International Journal of American Linguistics* 59(2). 165–223.
- Willard, E. Rainbow. 2004. *Dominance effects in a dialect of Mam Maya*. Unpublished Ms. University of California, Berkeley.
- Woo, Nancy. 1970. Tone in Northern Tepehuan. *International Journal of American Linguistics* 36(1). 18–30.

- Wood, Esther. 2007. *The semantic typology of pluractionality*. UC Berkeley. (Doctoral dissertation).
- Yip, Moira. 2002. *Tone*. Cambridge: Cambridge University Press.
- Zepeda, Ofelia. 1983. *A Tohono O'odham grammar*. Tucson: University of Arizona Press.
- Zigmond, Maurice L., Curtis G. Booth & Pamela Munro. 1991. *Kawaiisu: A grammar and dictionary, with texts*. Berkeley: University of California Press.
- Zoll, Cheryl. 2004. *Ternarity vs. final exclusion: A synthesis*. Ms, Massachusetts Institute of Technology.
- Zwickly, Arnold M. & Geoffrey K. Pullum. 1983. Cliticization vs. inflection: English *n't*. *Language* 59(3). 502–513.

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A grammar of Choguita Rarámuri

This book provides the first comprehensive grammatical description of Choguita Rarámuri, a Uto-Aztecan language spoken in the Sierra Tarahumara, a mountainous range in the northern Mexican state of Chihuahua belonging to the Sierra Madre Occidental. A documentary corpus developed between 2003 and 2018 with Choguita Rarámuri language experts informs the analysis and is the source of the examples presented in this grammar. The documentary corpus, which consists of over 200 hours of recordings of elicited data, narratives, conversations, interviews, and other speech genres, is available in two archival collections housed at the Endangered Languages Archive and at UC Berkeley's Survey of California and Other Indian Languages.

Choguita Rarámuri is a highly synthetic, agglutinating language with a complex morphological system. It displays many of the recurrent structural features documented across Uto-Aztecan, including a predominance of suffixation, head-marking, and patterns of noun-incorporation and compounding (Sapir 1921; Whorf 1935; Haugen 2008b). Other features of typological and theoretical interest include a complex word prosodic system, a wide range of morphologically conditioned phonological processes, and patterns of variable affix order and multiple exponence. Choguita Rarámuri is also of great comparative/historical importance: while several analytical works of Uto-Aztecan languages of Northern Mexico have been produced in the last years (Guerrero Valenzuela 2006, García Salido 2014, Reyes Taboada 2014, Morales Moreno 2016, Villalpando Quiñonez 2019, *inter alia*), many varieties still lack comprehensive linguistic description and documentation.

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