

Ralámuli Kinship Terminology: A Diachronic Perspective on Diversity in the Sierra Tarahumara of Northwestern Mexico

WILLIAM L. MERRILL

Smithsonian Institution

DON BURGESS

Creel, Chihuahua, Mexico

Abstract. The kinship terminological systems documented for modern Ralámuli (Tarahumara), a Southern Uto-Aztecan language, exhibit considerable dialectal and subdialectal diversity in both the terms they include and the linguistic forms of these terms—a diversity best understood in relation to the Proto-Tarahumaran kinship system. We reconstruct this antecedent system and discuss the principal changes that occurred in it between the seventeenth and late nineteenth centuries, when the Proto-Tarahumaran speech community appears to have still been intact. Many of the lexical, phonological, morphological, semantic, and structural differences that distinguish the modern systems from one another, like the emergence of the modern Ralámuli dialects, can be linked to the disruption of interaction patterns during the late nineteenth and twentieth centuries that resulted in the breakup of the Proto-Tarahumaran speech community.

1. Introduction. The purpose of this article is to present the results of a historical linguistic analysis of the kinship terms that have been recorded in different dialects of the modern Ralámuli language. Today, Ralámuli people use the term “Ralámuli” (also spelled “Rarámuri”) to designate themselves and their language, but “Tarahumara” and variants of this word are the only names recorded prior to the nineteenth century for both the language and its native speakers (Merrill 2001:77–80).¹ In the linguistic literature, the language tends to be called “Tarahumara” rather than “Ralámuli.”

The Ralámuli/Tarahumara language is a member of the southern branch of the Uto-Aztecan language family, which is conservatively divided into seven subfamilies as follows († indicates languages that are no longer spoken): (1) Tarawarihian (Tarahumara, Warihio), (2) Opatan (†Teguima, †Eudeve), (3) Cahitan (Mayo, †Tehueco, Yaqui), (4) Tepiman (Upper Piman, Lower Piman, Northern Tepehuan, Southern Tepehuan), (5) Tubaran (†Tubar), (6) Coracholan (Cora, Huichol), and (7) Aztecan (†Pochutec, Nahuatl, Pipil) (Miller 1983:120–22; Campbell 1997:133–38; Caballero 2011a:485–88; Hill 2011:243–62; Moctezuma Zamarrón 2012:43–46; Merrill 2013). Kroeber (1934:10–15) noted similarities among the Tarawarihian, Opatan, and Cahitan languages and characterized them as a “group,” for which Whorf (1936:197) coined the name

“Taracahitan.” However, as Hill (2011:247, 261–62, 269) points out, shared phonological innovations that would establish these languages as a genetic unit have yet to be identified, in contrast to the Tepiman, Coracholan, and Aztecan subfamilies, the genetic unity of each of which is well-established. The relationship of the poorly documented Tubar language to the other Southern Uto-Aztecan languages is unclear (Hill 2011:247–50; Stubbs 2000).



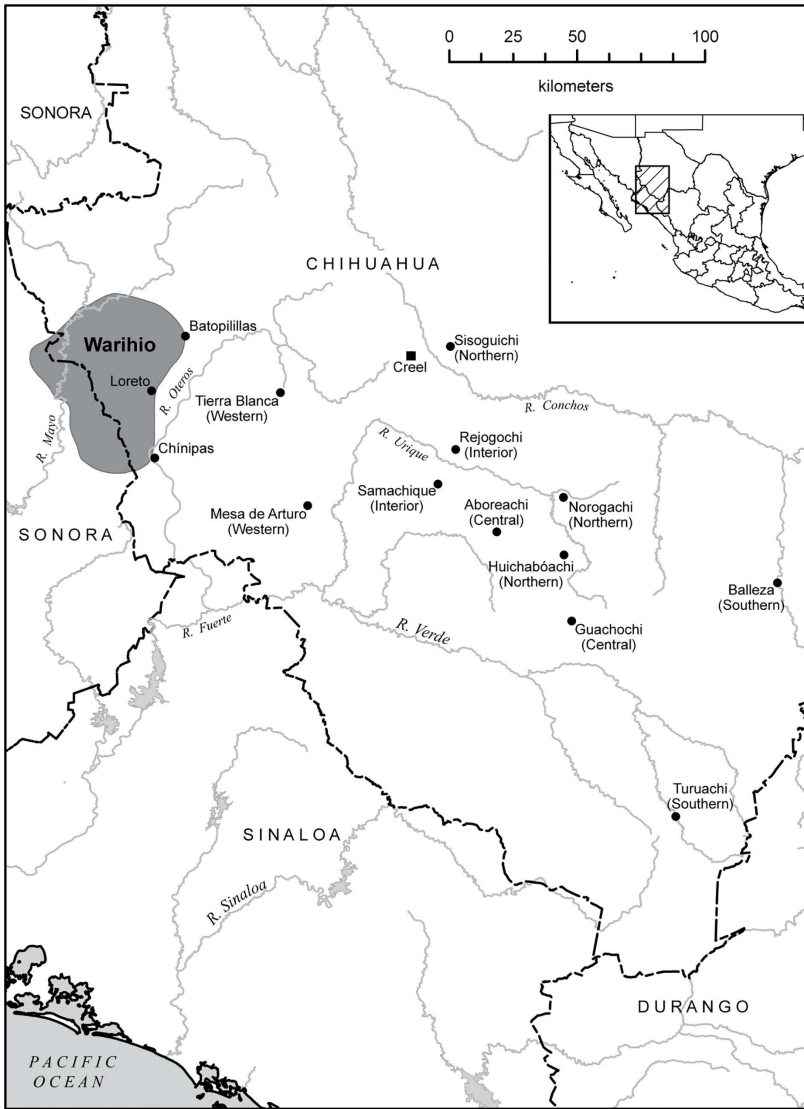
Map 1. Tarahumara territory in the early seventeenth century.

At the time of initial European contact in the late sixteenth and early seventeenth centuries, Tarahumara speakers lived in small settlements dispersed

across approximately 45,000 square kilometers in southwestern and central Chihuahua (see map 1) (Pennington 1963:1–13; Hard et al. 2015:252–53, 257–58). Despite the extent and rugged terrain of this territory, Tarahumara-speaking communities appear to have formed a social network through which linguistic innovations diffused, constituting a nonlocalized speech community that we identify as the Proto-Tarahumaran speech community. The fact that modern Ralámuli dialects share lexical and phonological innovations that were first documented in the nineteenth century suggests that the Proto-Tarahumaran speech community remained intact until that time (see sections 3.1, 3.2, and 4.3), but we do not assume the total absence of linguistic diversity within it. Some regional linguistic variation in seventeenth- and eighteenth-century Tarahumara was mentioned in passing by the Jesuit missionaries Thomás de Guadalaxara, who arrived in the Tarahumara missions in 1675, and Matthäus Steffel, who served in these missions between 1761 and 1767 (González Rodríguez 1995:12; Merrill 2007:413–16) (see section 6). Nonetheless, the paucity of data available on Tarahumara language and society prior to the twentieth century precludes an evaluation of the nature, degree, and distribution of this variation, as well as a detailed analysis of the patterns of social and linguistic interaction across the Tarahumara region as a whole.

Ralámuli is spoken today by around 100,000 people, most of whom live in the mountains and canyons of southwestern Chihuahua, Mexico (Embriz Osorio and Zamora Alarcón 2012:24, 110) (see map 2). No systematic analysis of Ralámuli dialectal diversity has been completed, and no consensus exists on the number and precise distribution of the dialects.² Here we adopt the classification developed in the 1990s by a research team affiliated with the Chihuahua state government (Valiñas Coalla 2001:115–18, 2002:259–61). Five dialect areas are identified: North, South, Central, West, and “*Cumbre*,” which we rename “Interior.”³

The first and to date only detailed analysis of Ralámuli kinship terminology was undertaken in 1940 by Herbert Passin while a graduate student in anthropology at the University of Chicago. Passin based his study, published in 1943, on research conducted primarily in and around the mixed Ralámuli-Mestizo town of Guachochi, located in the uplands of the Sierra Tarahumara of southwestern Chihuahua, Mexico (see map 2). He reported (1943:361) that the terminological systems that he recorded evidenced no structural differences and only slight regional variations in the stems of the terms themselves, but he clearly was baffled by the diverse linguistic forms that he documented. To illustrate the diversity, he noted the following array of terms associated with the parent’s brother–sibling’s child relationship: *kumúčuri*, *kurí*, *kuríči*, *kuríčiwa*, *kuríčuwa*, *kurímari*, *raté*, *ratéčuri*, *ratéčuwa*, *ratémari*, *raterá*, *ričí*, *ričúwi*, and *ričúwa*. He suggested that a systemic linguistic analysis of the terms “might help to clarify matters somewhat,” but he acknowledged that his understanding of the Ralámuli language was insufficient for the task (1943:373, 378).



Map 2. The modern Ralámuli communities included in this study and the modern Warihio territory.

Research on Ralámuli kinship terminology conducted in subsequent decades reveals an even greater variety of linguistic forms than Passin encountered, as well as considerable variation in the terms included in the kinship lexica of the modern Ralámuli dialects and the referents associated with them. We have concluded that the most effective way to account for this diversity is to examine the modern kinship terminological systems against the backdrop of the antecedent system out of which they emerged.

We use as the point of departure of our analysis the kinship terminological system that we have reconstructed for the ancestral language that gave rise to modern Ralámuli. We designate this ancestral language as Proto-Tarahumara instead of Proto-Ralámuli because “Ralámuli” or “Rarámuri” is first documented, as “rarámari,” in the 1826 study of the language prepared by the Franciscan missionary Miguel Tellechea (Merrill 2001:77).

In section 2, we present our reconstruction of the Proto-Tarahumaran kinship terminological system. In section 3, we review the lexical and phonological innovations that occurred in this system while the Proto-Tarahumaran speech community was intact. In section 4, we provide an overview of our reconstruction of the late Proto-Tarahumaran system, proposing in section 4.3 that the approach to creating possessive constructions, including those involving kinship terms, that characterized early Proto-Tarahumara was modified before the dialectal diversification got underway or had progressed very far. In sections 4.4 and 4.5, we review seven inflectional and derivational suffixes that can be reconstructed for Proto-Tarahumara, which generated alternative forms of kinship terms that have become lexicalized in the modern dialects.

In section 5, we turn our focus to the modern Ralámuli kinship terminological systems, analyzing the principal areas of variation among the systems documented for ten different communities. We consider phonological, morphological, morphophonological, and semantic differences in the kinship terms themselves, and lexical and structural differences among the attested systems. We conclude the essay by listing basic features of the Proto-Tarahumaran system that are retained in the modern systems and the principal differences among them, identifying some social and cultural factors that likely contributed to this long-term stability and other factors that may have been responsible for the diversification of the modern dialects and the kinship terminological systems associated with them.

On a more technical note, the abbreviations for the different languages and dialects considered in this study are listed in appendix 1, along with the sources of data for each. In appendix 2, we comment on the sources of our corpus of modern Ralámuli kinship terminologies, and in appendix 3, we present the cognate sets upon which our reconstructions of Proto-Tarahumaran etyma are based. Our linguistic and graphic conventions are explained at the beginning of the notes section.

2. The Proto-Tarahumaran kinship terminological system. We base our reconstruction of the Proto-Tarahumaran (PT) kinship lexicon on both unpublished and published sources. We rely primarily on unpublished data that we collected during research in the Ralámuli communities of Rejogochi (Merrill, 1977–1984) and Tierra Blanca (Burgess, 1991–1998) and a 1995 compilation, also unpublished, of the kinship terms attested in the five Ralámuli dialect areas (Burgess 1995; see appendix 2). We also draw upon published accounts of

the kinship terminologies documented in the Ralámuli communities of Aboreachi (Kennedy 1970b, 1978), Guachochi (Passin 1943), Norogachi (Martínez, Martínez, and Naranjo 2012), and Samachique (Bennett and Zingg 1935; Hilton 1993), supplemented by data extracted from the Ralámuli grammars and dictionaries of Gassó (1903), Ferrero (1920, 1924), and Brambila (1953, 1976, 1983).⁴

Kinship-related data in pre-twentieth century studies of the Tarahumara language, produced by the Jesuit missionaries Thomás de Guadalajara (1683) and Matthäus Steffel (1799, 1809) and the Franciscan missionary Miguel Tellechea (1826), indicate that the Proto-Tarahumaran kinship terminological system underwent some changes between the late seventeenth and early twentieth centuries. To facilitate identifying and analyzing these changes, we have reconstructed the terminological system for both early Proto-Tarahumara and late Proto-Tarahumara, based on cognates attested in these three studies and in modern Ralámuli and Warihio, the Uto-Aztecan language most closely related to Ralámuli (Miller 1996:21; Hill 2011:251-59; cf. Lionnet 1977). Our principal sources of data on the Warihio kinship lexicon are an unpublished study prepared by Wick Miller in 1988 and his grammar and dictionary of the Sierra dialect of the language published in 1996. These data are complemented by information on Warihio kinship terminology presented by Kroeber (1934:20, 25), Johnson and Johnson (1947:30-31), Miller (1993:141-58), Medina Murillo (2012), and Félix Armendáriz (2005:424-88).

Warihio is spoken today in western Chihuahua and southeastern Sonora by around two thousand people (Miller 1996:21; Embriz Osorio and Zamora Alarcón 2012:22; cf. Barreras Aguilar 2001) (see map 2).⁵ Because Ralámuli and Warihio derive from the same ancestral language, which we call Proto-Tarawarihio (PTW), the kinship lexicon reconstructed for early Proto-Tarahumara corresponds to what would be reconstructed for late Proto-Tarawarihio. The timing of breakup of the Proto-Tarawarihian speech community cannot be dated precisely, but the split of Proto-Tarahumara and Proto-Warihio must have occurred prior to the expansion of the Spanish colonial frontier into the region in the late sixteenth and early seventeenth centuries. Chroniclers of the period consistently identified Tarahumara and Warihio as different, albeit quite similar, languages (Ortiz Zapata 1678:260v-62; Sauer 1934:32-36; Pennington 1963:8-9).

The kinship terminological system that we reconstruct for Proto-Tarahumara is presented in two tables. The reconstructed terms, or etyma, for consanguineal relatives appear in table 1 (see section 2.1) and those for affines in table 3 (see section 2.2). Stress is shown only on the etyma for which inherent stress can be reconstructed (see section 5.3). In both tables, we include the early and late Proto-Tarahumara reconstructions. The modern Ralámuli and Warihio cognates are compiled in appendix 3. Glosses that contain the symbols ♀ or ♂ indicate terms used exclusively for the relatives of, respectively, a female or

male ego. For example, **mali* ‘father (♀)’ is the Proto-Tarahumaran etymon reconstructed for the term for ‘father’ used by a female speaker for her own father and also by third parties when referring to the father of a female.

2.1. Proto-Tarahumaran consanguineal etyma. We reconstruct thirty-seven Proto-Tarahumaran etyma for consanguineal relatives; these are presented in table 1. This count includes twelve etyma for siblings’ children and children’s children that are derived from the etyma denoting parents’ siblings and parents’ parents by the addition of the suffix **-ma*; see etyma 14–37 in the table.

Table 1. Proto-Tarahumaran Consanguineal Etyma

REFERENT	EARLY PT	LATE PT
1. ‘relative, companion’	* <i>tehimá</i>	* <i>rehimá</i>
2. ‘elder sister’	* <i>ko?či</i>	* <i>ko?či</i>
3. ‘younger sister’	* <i>pini</i>	* <i>bini</i>
4. ‘elder brother’	* <i>pa?či</i>	* <i>ba?či</i>
5. ‘younger brother’	* <i>poni</i>	* <i>boni</i>
6. ‘mother’	* <i>ye?yé</i>	* <i>e?yé</i>
7. ‘child (♀)’	* <i>aki</i>	* <i>ki</i>
8. ‘father (♀)’	* <i>mali</i>	* <i>mali</i>
9. ‘daughter (♂)’	* <i>malá</i>	* <i>malá</i>
10. ‘father (♂)’	* <i>no?no</i>	* <i>o?no</i>
11. ‘son (♂)’	* <i>ino</i>	* <i>ino</i>
12. ‘offspring’	* <i>taná</i>	* <i>raná</i>
13. ‘children’	* <i>kúči</i>	* <i>kúči</i>
14. ‘mother’s elder sister’	* <i>nesa</i>	* <i>nesa</i>
15. ‘younger sister’s child (♀)’	* <i>nesá-ma</i>	* <i>nesá-ma</i>
16. ‘mother’s younger sister’	* <i>ye?či</i>	* <i>e?či</i>
17. ‘elder sister’s child (♀)’	* <i>ye?či-ma</i>	* <i>e?či-ma</i>
18. ‘mother’s elder brother’	* <i>kukulí</i>	* <i>ukulí</i>
19. ‘younger sister’s child (♂)’	* <i>kukulí-ma</i>	* <i>ukulí-ma</i>
20. ‘mother’s younger brother’	* <i>ta?tai</i>	* <i>ra?te</i>
21. ‘elder sister’s child (♂)’	* <i>ta?taí-ma</i>	* <i>ra?té-ma</i>
22. ‘father’s elder sister’	* <i>solo</i>	* <i>solo</i>
23. ‘younger brother’s child (♀)’	* <i>soló-ma</i>	* <i>soló-ma</i>
24. ‘father’s younger sister’	* <i>papoi</i>	* <i>bapoi</i>
25. ‘elder brother’s child (♀)’	* <i>papó-ma</i>	* <i>bapó-ma</i>
26. ‘father’s elder brother’	* <i>kumu</i>	* <i>kumu</i>
27. ‘younger brother’s child (♂)’	* <i>kumú-ma</i>	* <i>kumú-ma</i>
28. ‘father’s younger brother’	* <i>teči</i>	* <i>riči</i>
29. ‘elder brother’s child (♂)’	* <i>teči-ma</i>	* <i>riči-ma</i>
30. ‘mother’s mother’	* <i>su?sú</i>	* <i>u?sú</i>
31. ‘daughter’s child (♀)’	* <i>su?sú-ma</i>	* <i>u?sú-ma</i>
32. ‘mother’s father’	* <i>papá</i>	* <i>apá</i>
33. ‘daughter’s child (♂)’	* <i>papá-ma</i>	* <i>apá-ma</i>
34. ‘father’s mother’	* <i>ka?ká</i>	* <i>a?ká</i>
35. ‘son’s child (♀)’	* <i>ka?ká-ma</i>	* <i>a?ká-ma</i>
36. ‘father’s father’	* <i>wočí</i>	* <i>očí</i>
37. ‘son’s child (♂)’	* <i>wočí-ma</i>	* <i>očí-ma</i>

Reconstructing these twelve derived etyma represents the only significant difference between our model of the Proto-Tarahumaran consanguineal kinship lexicon and the lexicon attested in modern Sierra Warihio. In modern Warihio, the same terms that designate grandparents and parents' siblings are used for grandchildren and siblings' children, and the suffix *-ma* is not attested on any of them (Miller 1988). This suffix also is rare in modern Ralámuli terms for siblings' children and children's children, attested only in the Central and Interior dialects. For the Central dialect, Passin documented three terms in which the *-ma* suffix appears: *pabámali*, glossed as 'grandchild', and *ratémali* and *kulímali*, which he noted "were used to designate various nepotic-avuncular relations, without any apparent regularity" (1943:373, 376). For the Interior dialect, the suffix is attested in Rejogochi Ralámuli in five of the six terms for siblings' children and in one of the four terms for grandchildren (see table 2).

We reconstruct these derived etyma for Proto-Tarahumara because the modern Ralámuli kinship terms in which the *-ma* suffix appears have cognates in other Uto-Aztecan languages, including Tohono O'odham, Névome, and Northern Tepehuan—Southern Uto-Aztecan languages of the Tepiman subfamily—and Luiseño and Cupeño—Northern Uto-Aztecan languages of the Takic subfamily (Hill and Zepeda 1998:15; Pennington 1979:84, 109; Rinaldini 1994:45–46 [section 2]; Gifford 1922:59–61; Hill 2005:195).⁶ What we regard as the original system is best documented in late seventeenth-century Teguima (Lombardo 2009:291–93), which, along with Eudeve, may be the Southern Uto-Aztecan language most closely related to Ralámuli and Warihio.

Table 2. The Suffix *-ma* in Rejogochi Ralámuli and Teguima

REFERENT	REJOGOCHI, 1984	TEGUIMA, 1702
'elder brother's child (♀)'	<i>bapó-ma-le</i>	<i>vao-ma-ri</i>
'younger brother's child (♀)'	<i>soló-ma-le</i>	<i>soro-ma-ri</i>
'elder sister's child (♂)'	<i>raté-ma-le</i>	<i>tai-ma-ri</i>
'younger sister's child (♂)'	<i>ukulí-ma-le</i>	<i>kuci-ma-ri</i>
'elder brother's child (♂)'	<i>ričí-ma-le</i>	<i>tewici-ma-ri</i>
'son's child (♂)'	<i>očí-ma-le</i>	<i>posi-ma-ri</i>

In table 2, we present the terms in which the *-ma* suffix is attested in Rejogochi Ralámuli and the Teguima cognates for these terms. The final *-ri* in the Teguima terms is the nonpossessed noun suffix, which is dropped in possessive constructions, for example, *no vao-ma* 'my elder brother's child (♀)'. In the Ralámuli terms, the final *-le* is the reflex of Proto-Tarahumara **-li*, also the nonpossessed noun suffix, but this suffix has become lexicalized in Rejogochi Ralámuli and is used in possessive constructions formed with both genitive and nominative case pronouns, for example, *kéne bapó-ma-le* (genitive) and *nehé bapó-ma-le* (nominative) 'my elder sibling's child (♀)' (see sections 4.3 and 4.4).

In Teguima, *-ma* is attested in all terms for grandchildren and siblings' children.⁷ Rejogochi Ralámuli has lost the reflexes of Proto-Tarahumaran **ye?čí-ma* 'elder sister's child' and Proto-Tarahumaran **nesá-ma* 'younger sister's child (♀)'. The referent of *bapó-ma-le*, originally 'elder brother's child (♀)' only, has been broadened to 'elder sibling's child (♀)', paralleled by the broadening of *soló-ma-le* from 'younger brother's child (♀)' to 'younger sibling's child (♀)' (see section 5.1).

2.2. Proto-Tarahumaran affinal etyma. Our reconstructions of early and late Proto-Tarahumaran affinal etyma are presented in table 3. The modern Sierra Warihio cognates are identical to the early Proto-Tarahumaran etyma except for a difference in stress placement in Warihio *mo?óli* 'son's wife' and vowel harmonization in Warihio *če?é* 'elder sister's husband' and **čenéli* 'younger brother's wife', the reflexes of Proto-Tarawarihio **čílé* and **činéli*.

Table 3. Proto-Tarahumaran Affinal Etyma

REFERENT	EARLY PT	LATE PT
'husband'	<i>*kuná</i>	<i>*kuná</i>
'wife'	<i>*upí</i>	<i>*upí</i>
'spouse's mother'	<i>*wasí</i>	<i>*wasí</i>
'spouse's father'	<i>*si?a</i>	<i>*si?a</i>
'daughter's husband'	<i>*mo?né</i>	<i>*mo?né</i>
'son's wife'	<i>*mo?olí</i>	<i>*mo?olí</i>
'elder sister's husband'	<i>*čílé</i>	<i>*čílé</i>
'elder brother's wife'	<i>*tepó</i>	<i>*repó</i>
'younger sister's husband'	<i>*awáka</i>	<i>*wáka</i>
'younger brother's wife'	<i>*činéli</i>	<i>*činéli</i>

None of the etyma in table 3 is identified as the label for any category of spouse's siblings because modern Ralámuli dialects display considerable variation in the terms used for these categories of affines (see section 5.2). In fact, only one word, *mučimali*, is attested in most Ralámuli dialects, as well as Warihio, as the label for one or another category of spouse's siblings (see appendix 3, set 19). As we discuss in section 3.1, these attestations might support the reconstruction of Proto-Tarawarihio **mučimali*, but various considerations lead us to interpret this word as a loan, likely of Teguima origin, that diffused widely after the breakup of the Proto-Tarawarihio speech community.

3. Proto-Tarahumaran innovations. Several changes in the Proto-Tarahumara kinship terminological system appear to have occurred between the mid-seventeenth and late nineteenth centuries. As discussed in sections 3.1 and 3.2, both lexical and phonological innovations can be identified. One phonological innovation, the shift of initial **p-* to **b-*, took place before 1683, and a second, the loss of initial vowels, appears to have been in progress by 1767. The timing of

three other phonological innovations and seven lexical innovations can be tentatively assigned to the 1768–1900 period. None is documented in the studies of the Tarahumara language produced by Matthäus Steffel, whose residence in the Tarahumara missions ended in 1767, but all are attested in Gassó's grammar of Tarahumara published in 1903, with one exception. Gassó does not include a term for 'child's spouse's parent', which we reconstruct as Proto-Tarahumaran **nawilá* based on cognates in two modern Ralámuli dialects (see appendix 3, set 22).

3.1. Proto-Tarahumaran lexical innovations. The four etyma presented in (1) can be reconstructed for Proto-Tarahumara but not for Proto-Tarawarihio because reflexes of them are not attested in modern Warihio.

- (1) **nawilá* 'child's spouse's parent'
**salí* 'spouse's grandparent, grandchild's spouse'
**umúli* 'great-grandparent, great-grandchild'
**wayé* ~ **wái* 'younger sister (σ)'

We have identified no cognates in other Uto-Aztecan languages for the reflexes of **nawilá* 'co-parent-in-law' or **salí* 'spouse's grandparent, grandchild's spouse', leading us to conclude that they are Proto-Tarahumaran innovations. However, reflexes of these etyma are attested in only a few modern Ralámuli dialects, and some variation in their referents is documented (see appendix 3, sets 22, 31).⁸

In (2), we present the cognates for the Ralámuli reflexes of **umúli* 'great-grandparent, great-grandchild', which come from two Cahitan languages, seventeenth-century Tehueco and early twentieth-century Yaqui.

- (2) PT **umúli* 'great-grandparent, great-grandchild'
 TC *n-amuli* 'great-great-grandparent'
 YQ(K) *hamulik* 'great-grandparent'

No term for 'great-grandchild' is reported in these Cahitan sources, and no words similar to those seen in (2) are found in more recent sources on the Cahitan languages.

We reconstruct **wayé* ~ **wái* 'younger sister (σ)' because both forms appear in the earliest attestation (Gassó 1903:18), as well as in modern Ralámuli dialects (see appendix 3, set 44). We have no explanation for why these alternate forms should exist, but **wayé* corresponds to the possessive form 'have a younger sister', created by replacing the final vowel in **wa(y)í* with the suffix **-e* (see section 4.5).

Cognates of reflexes of this etymon, seen in (3), are attested in the three documented Cahitan languages and two Central Numic languages, which indicate that Proto-Uto-Aztecan ***wái* or ***wa?i* should be reconstructed.⁹

- (3) *wayé ~ *waí ‘younger sister (♂)’
 TC wai ‘younger sibling’
 MY g^waáyi ‘younger sister’
 YQ wái ‘younger sibling’
 YQ-A wái ‘younger sibling (♀)’
 TSH wa?ippi ‘woman, female’
 WSH-G wa?ippi ‘woman’

The existence of the cognates in (2) and (3) precludes identifying *umúli and *wayé ~ *waí as Proto-Tarahumaran innovations. Perhaps they formed part of the Proto-Tarawarihian kinship lexicon and the Warihio reflexes were lost. For ‘younger sister’, the only attested Warihio term is *pini*, the reflex of Proto-Tarawarihio **pini*, which is used by both female and male speakers. For ‘great-grandparent, great-grandchild’, it is unclear if a Warihio term exists. In his vocabulary of Sierra Warihio, Miller (1996:371) identified *pabalóci*, the diminutive of *papá* ‘mother’s father’, as the label for ‘great-grandfather’, but in the grammatical section of his study, he glossed *pabalóci* as ‘mother’s father, daughter’s child (♂)’ (1996:270). He also reported (1996:371) that *papá* ‘mother’s father’ possibly is used in Sierra Warihio to denote ‘great-grandfather’ and ‘great-grandchild’.

An alternative explanation for the existence of modern Ralámuli reflexes of *umúli and *wayé ~ *waí is that they are loanwords from Cahitan. If so, they must have entered the Ralámuli lexicon prior to the twentieth century because both words are documented in 1903 (Gassó 1903:18–19). The loans perhaps occurred during the colonial period, when numbers of Cahitan speakers migrated from Sinaloa and Sonora to work in Spanish mining and other economic enterprises within or near the Tarahumara territory (Spicer 1962:305; González Rodríguez 1984:215; Deeds 1989:436; Martin 1996:2, 42; Hu-DeHart 2004:204 n. 4, 213, 217). Such a Cahitan source might account for the use of *wayé* ~ *waí* in modern Ralámuli by male speakers and with respect to male egos because the majority of the Cahitan migrants would presumably have been men.

Another etymon, **nahiréma* ‘consanguineal relatives’, likely was created while the late Proto-Tarahumara speech community was intact or soon after dialectal diversification got underway. This term perhaps had an original sense of ‘those who walk together’. The initial syllable **na-* can be identified as the reciprocal prefix. The stem probably is *-hiré-*, which may be related to the verb *hiré* ‘to walk’ (Brambila 1976:219), and the *-ma* element may be the suffix attested in Guadalajara (1683:16v) as deriving collective nouns from terms for specific categories of humans: *mumú-ma* ‘women and children’ (from *mumugí* ‘women’) and *upí-ma* ‘wife with all her family and belongings’ (from *upí* ‘wife’).¹⁰

Reflexes of **nahiréma* are attested in all modern Ralámuli dialects except Southern Ralámuli, in which reflexes of **re?téma-*, the plural form of **rehimá* ‘consanguineal relative’, is used instead. In most dialects, reflexes of **nahiréma*

have become the plural suppletives of reflexes of **rehimá* ‘consanguineal relative’ and in some, reflexes of the reduplicated **re?tehíma-* have been assigned new referents or have disappeared entirely (see appendix 3, set 39).

In Rejogochi, parent-child terminology can be used to designate parent’s siblings and siblings’ children, parallel with the terms that specifically label these relationships. The use of both sets of designations for these categories of relatives also is documented for Aboreachi (Kennedy 1970b:178–80), Guachochi (Passin 1943:378–79), and Norogachi (Martínez, Martínez, and Naranjo 2012: 51–52, 95–96) (see section 5.1). This practice, and the principle underlying it, are captured by reflexes of the etymon **e?wéna-wa* attested in some modern Ralámuli dialects (see appendix 3, set 7). In Rejogochi Ralámuli, *wé?nale*, the reflex of **e?wéna-wa*, labels all lineal and consanguineal relatives and affines in the parents’ generation; similar generic referents are found in other dialects.

The term **e?wéna-wa* can be analyzed as combining the stem **wéna* and *-wa*, a suffix encountered in a number of kinship terms (see sections 4.5 and 5.4). Reduplication of the initial syllable created the plural form, followed by the loss of the initial consonant: **wéna-wa* > **we?wéna-wa* > **e?wéna-wa*. This word may have formed part of the Proto-Tarahumaran kinship lexicon, but it could have entered as a loan. Reflexes of the stem **wéna-* alone are not attested in any modern Ralámuli dialects, but in neighboring Tubar the verb *wená-* has ‘to be born’ as one of its referents, and in Tohono O’odham *wiinag* has the generic referent ‘siblings and cousins’ (Lionnet 1978:68; Saxton, Saxton, and Enos 1983: 63).

The Tubar verb *wená-* reflects an antecedent **pína-* while the Tohono O’odham collective noun *wiinag* reflects **pinaw*. If reflexes of Proto-Tarahumaran **wéna-wa* are cognate with these words, an initial *p-* would be expected, so the initial **w-* suggests a loan. There are, however, examples of Proto-Tarahumaran initial **w-* being the reflex of **p-*, for example, late Proto-Tarahumaran **wipa* ‘tobacco’, the reflex of Proto-Uto-Aztecan **pipa* ‘tobacco’ (Merrill 2007:418–19, 428; Stubbs 2011:373, set 2348). In addition, **woci*, the early Proto-Tarahumaran etymon that we reconstruct for ‘father’s father’, perhaps reflects an antecedent **poci*, a reconstruction supported by the Tepiman, Teguíma, and Eudeve cognates shown in (4).¹¹

- (4) PTW **woci* ‘father’s father’
 TO *wosk* ~ *woji*
 NV *boska* ~ *bosidi* ‘grandfather’
 PYP *voska*
 NT *vošúka*
 NT(R) *bošika*
 TE *posi*
 ED *póc-*

The sibling-in-law term *mučímali* is attested in all modern Ralámuli dialects except the Southern dialect, the affinal terminology of which is poorly

documented. The word appears in Sierra Warihio as *mučimáli* ‘spouse’s younger sibling’ (Miller 1996:360) and in River Warihio as *mučimáira*, which Félix Armendáriz (2005:445) glosses with the generic ‘sister-in-law, brother-in-law’.

Based on these cognates, Proto-Taraharihio **mučimali* could be reconstructed, but we have concluded that the word entered the Proto-Tarahumara kinship lexicon as a loanword. It most likely is of Teguima origin because a Teguima etymology exists for it. Lombardo (2009:293) documented the term as *muci-mari* ‘wife’s siblings’, which is derived from its reciprocal *muci* ‘sister’s husband’ by the use of the suffix combination *-ma-ri* (see section 2.1). There are no Ralámuli cognates for Teguima *muci* ‘sister’s husband’, but Ralámuli *mučí* ‘vagina’ is a phonological match. Unfortunately, no word for ‘vagina’ is attested in Teguima or in Eudeve, the other Opatan language.¹²

We interpret late Proto-Tarahumaran **mučimali* as a relatively recent introduction based on three considerations. First, there are no phonological or morphological variations in its attestations in modern Ralámuli, a level of correspondence not found in any other polysyllabic kinship term and particularly unusual for the Western dialect, which has lost most final suffixes in its kinship terms (see appendix 3, set 19, and sections 5.4 and 5.6). Second, for most dialects, it is the only word in which the suffix combination *-ma-li* is attested. Third, data from the Mesa de Arturo subdialect of Western Ralámuli suggest that Proto-Tarahumaran **ci?éli* had the self-reciprocal referent ‘elder sister’s husband, wife’s younger sibling’. In other Ralámuli communities, *mučimali* has replaced reflexes of **ci?éli* as the term for ‘wife’s younger sibling’, and **ci?éli* is the only sibling’s spouse term that is not used to label a category of spouse’s sibling in these communities (see section 5.2).

We suspect that **mučimali* was loaned from Teguima to Warihio speakers and from them to Ralámuli speakers. It is, however, impossible to determine if or when such a loan might have occurred. Except for reflexes of **kuná* ‘husband’ and **upí* ‘wife’ (Steffel 1809:313, 320, 350, 356, 368), no affinal terms are documented in the earlier sources. The modern reflex of **mučimali* was first attested in 1903 (Gassó 1903:19).

3.2. Proto-Tarahumaran phonological innovations. Proto-Tarahumaran kinship terms underwent several phonological modifications during the period when the Proto-Tarahumaran speech community was still intact. The cognates of kinship terms attested in modern Ralámuli dialects document five shared sound changes: the shift of initial **p-* to **b-*; the shift of initial **t-* to **r-*; the loss of initial consonants in terms with reduplicated initial syllables; the loss of initial vowels in some words; and the loss of initial **w-* and **y-* in some words.

The eighteen Proto-Tarahumaran kinship etyma in which these changes occurred are presented in table 4. The terms in the 1767 column are attested in Steffel (1799, 1809), while those in the 1826 and 1903 columns are attested in Tellechea (1826) and Gassó (1903). The etyma that we reconstruct for early

Proto-Tarahumara appear in the second column. The etyma in the sixth column are those that we reconstruct for late Proto-Tarahumara on the basis of the modern Ralámuli cognates.

Steffel's data indicate that, of the five phonological changes that occurred in Proto-Tarahumara, only the shift of initial **p-* to **b-* had taken place before his departure from the Tarahumara region in 1767. This sound change may have occurred relatively soon after the split of Proto-Tarahumara and Proto-Warihio because Guadalajara (1683:27v) recorded *bini-* 'younger sister' in the seventeenth century. The loss of initial vowels in some kinship terms may also have been underway in Steffel's day. He documented the reflex of **aki* 'child (♀)' as *agí-la* 'daughter', with the initial vowel, but the reflex of **ino* 'son (♂)' as *no-lá*, without the initial **i-* (Steffel 1809:341, 362).¹³

Table 4. Phonological Innovations in Proto-Tarahumaran Kinship Terminology

REFERENT	EARLY PT	1767	1826	1903	Late PT
Shift of <i>*p-</i> > <i>*b-</i>					
'elder brother'	<i>*paʔči</i>	<i>bačí</i>	—	<i>bačí</i>	<i>*baʔči</i>
'father's younger sister'	<i>*papoi</i>	—	—	—	<i>*bapoi</i>
'younger sister'	<i>*pini</i>	<i>biní</i>	—	—	<i>*bini</i>
'younger brother'	<i>*poni</i>	<i>boní</i>	—	<i>boní</i>	<i>*boni</i>
Shift of <i>*t-</i> > <i>*r-</i>					
'mother's younger brother'	<i>*taʔtai</i>	<i>taté</i>	—	<i>raté</i>	<i>*raʔte</i>
'father's younger brother'	<i>*teči</i>	—	—	—	<i>*riči</i>
'relative'	<i>*tehimá</i>	<i>tehimá</i>	<i>rehimá</i>	—	<i>*rehimá</i>
'elder brother's wife'	<i>*tepó</i>	—	—	<i>repó</i>	<i>*repó</i>
Loss of initial consonants in reduplicated syllables					
'father's mother'	<i>*kaʔká</i>	<i>kacó</i>	—	<i>akáčuli</i>	<i>*aʔká</i>
'mother's elder brother'	<i>*kukulí</i>	—	—	—	<i>*ukulí</i>
'father (♂)'	<i>*noʔno</i>	<i>nonó</i>	<i>nonó</i>	<i>onó</i>	<i>*oʔno</i>
'mother's father'	<i>*papá</i>	—	—	<i>apalóči</i>	<i>*apá</i>
'mother's mother'	<i>*suʔsú</i>	<i>sui-lá</i>	—	<i>uśú</i>	<i>*uʔsú</i>
'mother'	<i>*yeʔyé</i>	<i>yeyé</i>	<i>yeyé</i>	<i>yeyé ~ eyé</i>	<i>*eʔyé</i>
Loss of initial vowel					
'child (♀)'	<i>*aki</i>	<i>agí-la</i>	<i>ki-</i>	<i>kí</i>	<i>*ki</i>
'younger sister's husband'	<i>*awáka</i>	—	—	<i>wága-</i>	<i>*wáka</i>
Loss of initial <i>*w-</i> and <i>*y</i>					
'father's father'	<i>*wočí</i>	—	—	<i>očikari</i>	<i>*očí</i>
'mother's younger sister'	<i>*yeʔči</i>	—	—	—	<i>*eʔči</i>

Dating the shift of initial **t-* to **r-* to the period between 1767 and 1826 is supported by the reflexes of **tehimá* recorded as *tehimá* by Steffel (1809:309, 319, 348, 366) and *rehimá* by Tellechea (1826:62, 147-48). Note that the vowel sequence **-ai* in early Proto-Tarahumaran **taʔtai* 'mother's younger brother' had already shifted to *-e* by Steffel's day and thus the initial **t-* shifted to **r-*,

resulting in **ra?te*, rather than being lost as occurred in the other terms with reduplicated initial syllables.

The loss of the initial consonants in words with reduplicated syllables appears to have occurred sometime between 1826 and 1903, although the alternate forms *yeyé* ~ *eyé* ‘mother’, attested by Gassó (1903:17), indicate that this change was still underway in the early twentieth century.¹⁴ The loss of initial **w-* and **y-* in reflexes of **wočí* ‘father’s father’ and **ye?čì* ‘mother’s younger sister’ presumably occurred during the same period.

4. The late Proto-Tarahumaran kinship terminological system. In this section, we offer an overview of the kinship terminological system that we reconstruct for late Proto-Tarahumara. Based on modern Ralámuli data, we are able to reconstruct some features of this system that cannot be reconstructed for early Proto-Tarahumara, in part because very little information exists regarding how kinship terms are actually used by Warihio speakers, in part because the Ralámuli and Warihio systems have diverged in some aspects. In sections 4.1 and 4.2, we review the consanguineal and affinal etyma, and in section 4.3, we propose that a new approach to constructing possessives evolved during the transition from Proto-Tarahumara to the modern dialects. In sections 4.4 and 4.5, we discuss seven suffixes that can be reconstructed for late Proto-Tarahumara that were used to inflect kinship terms for different grammatical states and to modify their meaning.

4.1. Late Proto-Tarahumaran consanguineal kinship terminology.

According to our reconstruction, the late Proto-Tarahumara kinship lexicon comprised a total of fifty-one etyma, including the twelve etyma for grandchildren and siblings’ children derived from terms for grandparents and parents’ siblings. The consanguineal terminological system, presented in figure 1, was balanced bilaterally, with separate terms for the paternal and maternal lines in the first and second ascendant and descendant generations (“G” in the first column of the figure is the abbreviation for “generation”). A distinction between lineal and collateral relatives existed only in the terminology for relatives in the first ascendant and descendant generations.

Sex of the target relative and birth order are the primary features distinguishing among the five terms for siblings and the eight terms for parents’ siblings. Different terms for female and male egos are reconstructed for ‘younger sister’, ‘father’, ‘daughter’, and ‘son’. Terms for nieces, nephews, and grandchildren also are different for female and male egos because they are derived from the sex-linked labels for parent’s siblings.

In all documented modern Ralámuli kinship systems, consanguineal kinship terms are applied to a number of collateral kintypes. In ego’s generation, sibling terms label all cousins, a shared basic principle that operates transgenerationally. The children, grandchildren, and great-grandchildren of anyone designated

as a sibling by ego's parents, grandparents, and great-grandparents, respectively, are designated as siblings by ego. The distinction between elder and younger siblings duplicates that of the preceding generation; for example, the daughter of a person labeled as 'elder sister' by either of ego's parents is called 'elder sister' by ego.¹⁵

G ⁺³	PPP <i>*umúli</i>					
G ⁺²		FM <i>*aʔká</i>	FF <i>*očí</i>	MM <i>*uʔsú</i>	MF <i>*apá</i>	
G ⁺¹	FeZ <i>*solo</i>	FeB <i>*kumu</i>	F <i>*mali</i> (♀) <i>*oʔno</i> (♂)	M <i>*eʔyé</i>	MeZ <i>*nesa</i>	MeB <i>*ukulí</i>
	FyZ <i>*bapoi</i>	FyB <i>*riči</i>			MyZ <i>*eʔči</i>	MyB <i>*raʔte</i>
G ⁰	eB <i>*baʔči</i>		EGO		eZ <i>*koʔči</i>	
	yB <i>*boni</i>				yZ <i>*bini</i> (♀) <i>*wayé ~ *wai</i> (♂)	
G ⁻¹	yBS, yBD <i>*soló-ma</i> (♀) <i>*kumú-ma</i> (♂)		D, S <i>*ki</i> (♀) <i>*raná</i> <i>*kúci</i>		yZD, yZS <i>*nesá-ma</i> (♀) <i>*ukulí-ma</i> (♂)	
	eBD, eBS <i>*bapó-ma</i> (♀) <i>*ričí-ma</i> (♂)		D <i>*malá</i> (♂) S <i>*ino</i> (♂)		eZD, eZS <i>*eʔčí-ma</i> (♀) <i>*raʔté-ma</i> (♂)	
G ⁻²	SD, SS <i>*aʔká-ma</i> (♀) <i>*očí-ma</i> (♂)			DD, DS <i>*uʔsú-ma</i> (♀) <i>*apá-ma</i> (♂)		
G ⁻³	<i>*umúli</i> CCC					

Figure 1. Late Proto-Tarahumaran consanguineal kinship terminology.

By the same logic, all collateral relatives for whom ego's parents and grandparents use sibling terms are labeled by ego with the appropriate parent's sibling or grandparent terms. In a parallel system, parents' siblings are also labeled with parent terms, and they in turn use the terms for children for their siblings' children. However, they use the generic **kúci-* 'children' more frequently than the reflexes of **raná* 'child, children', **aki* 'child (♀)', **malá* 'daughter (σ)', and **ino* 'son (σ)', which tend to be used by parents only.

To indicate geneological distance, the chain of intervening relatives can be specified. For example, it can be explained that a person whom I call *nehé yéla* 'my mother' is 'my mother's mother's elder brother's daughter' ("*nehé yéla yéla bačilá malála*") or 'my maternal grandmother's elder brother's daughter' ("*nehé su?ulá bačilá malála*"). The kinship terms can also be modified by quantifiers like *pé* 'a little', which in the kinship context conveys the sense of 'less than full', as in *pe yéla* 'less than full mother'.

In modern Ralámuli, the spouses of people labeled as parents' siblings are themselves labeled with parents' sibling terms. We suspect that the Proto-Tarahumaran system followed this approach and also preserved the distinction between maternal and paternal lines in the terms used for parents' siblings' spouses. Our reconstruction of the late Proto-Tarahumaran terms used for these in-marrying affines is presented in table 5, but as we discuss in section 5.1, significant deviations from this pattern are encountered in the modern Ralámuli kinship systems.

Table 5. Late Proto-Tarahumaran Terms for Parents' Siblings' Spouses

ETYMON	PARENT'S SIBLING	IN-MARRYING AFFINE	MARRIED TO	ETYMON
<i>*ukulí</i>	MeB	MeZH	MeZ	<i>*nesa</i>
<i>*ra?te</i>	MyB	MyZH	MyZ	<i>*e?či</i>
<i>*nesa</i>	MeZ	MeBW	MeB	<i>*ukulí</i>
<i>*e?či</i>	MyZ	MyBW	MyB	<i>*ra?te</i>
<i>*kumu</i>	FeB	FeZH	FeZ	<i>*solo</i>
<i>*riči</i>	FyB	FyZH	FyZ	<i>*bapoi</i>
<i>*solo</i>	FeZ	FeBW	FeB	<i>*kumu</i>
<i>*bapoi</i>	FyZ	FyBW	FyB	<i>*riči</i>

4.2. Late Proto-Tarahumaran affinal etyma. We reconstruct twelve etyma with affinal referents for late Proto-Tarahumara. Eleven of these etyma are presented in figure 2. The twelfth is **nawilá* 'child's spouse's parent'.

In keeping with the use in modern Ralámuli of parent-child terminology for parents' siblings and siblings' children, in our model the spouses of one's siblings' children are called 'daughter's husband' and 'son's wife', and one's spouse's parents' siblings (and their spouses) are called 'spouse's mother' and 'spouse's father'. Similarly, all relatives labeled with grandparent terms by one's spouse are called 'spouse's grandparent', and the spouses of all relatives

labeled with grandchild terms are called ‘grandchild’s spouse’. A single, self-reciprocal term, **salí*, is used for both categories.¹⁶

No generic term for ‘in-law’ can be reconstructed, nor a label for spouses of great-grandchildren, although the latter may have been included within the category of **umúli*. In his discussion of the semantic scope of the reflexes of **umúli*, Passin notes, “The term is very widely extended throughout the direct and collateral lines, even pushing over into the affinals” (1943:380), but he provides no details. In Rejogochi Ralámuli, *umúli* definitely labels the spouses of great-grandchildren, but we lack information on whether the same usage applies in any other modern Rarámuli dialects.

G ⁺²	<i>*salí</i> ‘spouse’s grandparent’		
G ⁺¹	<i>*wasí</i> ‘spouse’s mother’ ‘spouse’s parents’ sister’ ‘spouse’s parents’ brother’s wife’		<i>*siʔa</i> ‘spouse’s father’ ‘spouse’s parents’ brother’ ‘spouse’s parents’ sister’s husband’
G ⁰	<i>*repó</i> ‘elder brother’s wife’ <i>*upí</i> ‘wife’ <i>*čínéli</i> ‘younger brother’s wife’	EGO	<i>*čiʔé</i> ‘elder sister’s husband’ <i>*kuná</i> ‘husband’ <i>*wáka</i> ‘younger sister’s husband’
G ⁻¹	<i>*moʔolí</i> ‘son’s wife’ ‘sibling’s son’s wife’ ‘spouse’s sibling’s son’s wife’		<i>*moʔné</i> ‘daughter’s husband’ ‘sibling’s daughter’s husband’ ‘spouse’s sibling’s daughter’s husband’
G ⁻²	<i>*salí</i> ‘grandchild’s spouse’		

Figure 2. Late Proto-Tarahumaran affinal kinship terminology.

4.3. Possessive constructions in late Proto-Tarahumara. In modern Ralámuli, possessive constructions involving kinship terms are formed by suffixing the possessed marker *-la* to the stem of the kinship term, which is preceded by a nominative case pronoun or noun that denotes the possessor, for example, *nehé ono-lá* ‘my father’ and *Pedro ono-lá* ‘Pedro’s father’. Although quite limited, data encountered in the works of Guadalaxara (1683) and Steffel (1799, 1809) indicate that the use of nominative case pronouns in such constructions was an innovation that emerged in Proto-Tarahumara sometime between 1683 and 1767.

Guadalaxara (1683:4) reported that the possessed marker *-la* was used in possessive constructions only with third person possessors, but this rule apparently did not apply to possessive constructions involving kinship terms. The single example in Guadalaxara's grammar of such constructions with a third person pronoun possessor is *pú inó* 'his son', in which the *-la* marker is not attested (Guadalaxara 1683:29).¹⁷ This example suggests that kinship terms in seventeenth-century Tarahumara belonged to the class of nouns that were inalienably possessed, as they do today, and that they were not marked for possession.

The syntax of possessive constructions in Tarahumara clearly underwent some reworking between the second half of the seventeenth century and the mid-eighteenth century, as revealed by a comparison of Guadalaxara's data with those contained in Steffel's (1799) grammar of Tarahumara. Steffel's work is a reorganization and Latin translation of Guadalaxara's grammar, the contents of which Steffel changed in a number of places to reflect the knowledge of the language that he had acquired between 1761 and 1767.

Steffel (1799:14) stated explicitly that possessive constructions involving first, second, and third person singular possessors were created by suffixing *-la* to the possessed noun. He modified Guadalaxara's example of 'his son' accordingly, from *pú inó* to *pú no-lá*, and all of his other examples of kinship terms in such constructions, presented in (5), are marked with *-la* (Steffel 1809: 333; Steffel 1799:86).

- (5) *mú biní-la* 'thy sister'
mú bačí-la 'thy brother'
pú kukúčiwa-la 'her children'
pú kuná-la 'her husband'
puhé agí-la 'her daughter'
puhé upí-la 'his wife'
Pedro nonó-la 'Pedro's father'
Pedro yeyé-la 'Pedro's mother'

The third person singular pronoun *puhé* in two examples in (5) is in the nominative case, and *mú* and *pú* presumably are as well, but by the seventeenth century, the nominative and genitive forms of singular pronouns were homophonous (Guadalaxara 1683:3–4). Steffel's works include only one example of a possessive construction in which the possessor pronoun definitely is in the genitive case: *emú nonó* 'your (pl.) father' (Steffel 1799:94). The fact that the kinship term is unmarked in this construction suggests that the possessed marker *-la* was used only when the possessor was denoted by a noun or a nominative case pronoun, the pattern encountered in modern Ralámuli.

The phonological convergence of the nominative and genitive cases may have contributed to the expanded use of the possessed marker *-la* documented by Steffel. This convergence may also have motivated a modification of the genitive forms of the personal pronouns that involved prefixing a stressed *ké-* to

the antecedent genitive forms. The genitive case forms reported by Guadalajara (1683:3-4) and the modern forms reported by Brambila (1976) are presented in table 6.

Because nothing resembling the modern genitive forms of these pronouns is attested in the works of Guadalajara or Steffel, these forms presumably emerged after 1767. The third person genitive form *képu* is first documented in 1826, in the translations of doctrinal materials prepared by Miguel Tellechea, a Franciscan missionary who served between 1814 and 1830 in the missions of Cerocahui, Guazapares, and Chínipas, all in the Western dialect area.¹⁸

Table 6. Genitive Case Pronouns in Seventeenth-Century Tarahumara and Modern Ralámuli

	1683	MODERN
first person, singular	<i>né</i>	<i>kéne</i>
second person, singular	<i>mú</i>	<i>kému</i>
third person, singular	<i>pú</i>	<i>képu</i>
first person, plural	<i>tamú</i>	<i>kétamu</i>
second person, plural	<i>emú</i>	<i>kétumu</i>
third person, plural	<i>pupú ~ pú</i>	<i>képu</i>

Tellechea (1826:149-55) included *kípu* as the third person singular and plural possessor of four different kin terms, as seen in (6).¹⁹

- (6) *kípu reteíma* 'his relatives'
kípu reteíma 'their relatives'²⁰
kípu kúčiwa 'her children'
kípu upí 'his wife'
kípu kuná-la 'her husband'

The possessed marker *-la* on *kuná-la* in the last attestation in (6) probably is a mistake. As seen in (7), this marker does not appear in any of the other attestations of kinship terms with genitive case pronoun possessors that Tellechea recorded.

- (7) *ne rehimá* 'my brothers'
né inó 'my son'
né malá 'my daughter (σ)'
né upí 'my wife'
mú yeyé 'thy mother'
mú nonó 'thy father (σ)'
mú upí 'thy wife'
mú kuná 'thy husband'
tamú yeyé 'our mother'
tamú nonó 'our father'

Like Steffel, Tellechea (1826:77, 143–51) consistently used the possessed marker *-la* in constructions in which the possessors were denoted by nouns, as shown in (8).

- (8) *Pabro malá-la* ‘Pablo’s daughter’
Antonio no-lá ‘Antonio’s son’
Riósi no-lá ‘God’s son’
Candelaria ki-lá ‘Candelaria’s son’
María Ignacia ki-lá ‘María Ignacia’s daughter’
rehóye nono-lá ‘(this) man’s father’
tewé yeyé-la ‘(that) girl’s mother’

The examples in (9), attested in Tellechea (1826:147–48, 152), suggest that more than one Ralámuli dialect is represented in his translations.

- (9) *né no-lá* ‘my son’
mú kuná-la ‘thy husband’
mú mali-lá ‘thy father (♀)’

As seen in (7), Tellechea also included the constructions *né inó* ‘my son’ and *mú kuná* ‘thy husband’ in his work. In modern Ralámuli, *inó* is the form for ‘son’ attested in the Western dialect while *no-* is used elsewhere (see appendix 3, set 8). Assuming that dialectal differences are reflected in these examples, then the pronouns in (9) can be interpreted as being in the nominative rather than genitive case.

The complete set of modified genitive pronouns emerged sometime between 1826 and 1903. It is first attested in the grammar of Tarahumara written by Leonardo Gassó (1903:46–49), a Jesuit missionary based at the time in Siso-guichi, where the Northern dialect of modern Ralámuli is spoken. Gassó’s 1903 forms are presented in table 7, along with those attested by Ferrero (1924:72–73) and Brambila (1976).²¹

Table 7. Genitive Case Pronouns in Modern Ralámuli, 1903–76

	1903	1924	1976
first person, singular	<i>kéne</i>	<i>kéne</i>	<i>kéne</i>
second person, singular	<i>kému</i>	<i>kému</i>	<i>kému</i>
third person, singular	<i>képu</i>	<i>képu</i>	<i>képu</i>
first person, plural	<i>kérami</i>	<i>kérami ~ kétami</i>	<i>kétamu</i>
second person, plural	<i>kéeme</i>	<i>kéeme</i>	<i>kétumu</i>
third person, plural	<i>keabóopo</i>	<i>keabóopo</i>	<i>képu</i>

The principal change that occurred over the seven decades represented in table 7 is the replacement of the second and third person plural forms. Why *képu* would have replaced *keabóopo* is puzzling because it resulted in the loss of the singular and plural distinction for the third person. The alternate forms for the

first person plural form presumably reflect dialectal variation, which today is much more extensive, attested as *kétamu* ~ *kétami* ~ *kérami* ~ *kéta* ~ *kéti*.

The creation of these new genitive case pronoun forms appears to have taken place after the patterns of interaction that characterized the Proto-Tarahumara speech community had been disrupted. The *ke-* forms are attested in all modern Ralámuli dialects except the Western dialect, which has lost the genitive case entirely (Burgess 1984:100). In possessive constructions with pronoun possessors, nominative case pronouns are used, with the possessed marker *-la* suffixed to the kinship term (see section 5.3). If, as appears likely, Tellechea's knowledge of Tarahumara was acquired from speakers of this dialect, the loss of the genitive in Western Ralámuli would have occurred after 1826.

4.4. Alternative states of late Proto-Tarahumara kinship etyma. In sections 4.1 and 4.2, we presented the kinship etyma that we reconstruct for late Proto-Tarahumara. Data from both modern and historical sources indicate that these terms were inflected according to the contexts in which they were used. As shown in table 8, seven grammatical contexts associated with four different forms of each kinship term can be identified.

Table 8. Alternative Kinship Etyma Forms in Late Proto-Tarahumara

MARKER	STATE	EXAMPLE
*-∅	vocative (address)	* <i>e?yé</i> 'mother'
*-∅	possessed, genitive case possessor (reference)	* <i>kéni e?yé</i> 'my mother'
*-li	nonpossessed, nonspecific	* <i>e?yé-li</i> 'a mother'
*-la	nonpossessed, specific	* <i>e?yé-la</i> 'the mother'
*-la	possessed, noun possessor (reference)	* <i>María e?yé-la</i> 'María's mother'
*-la	possessed, nominative case possessor (reference)	* <i>nehé e?yé-la</i> 'my mother'
*-rúame	stative	* <i>e?yerúame</i> '(is) mother'

In our reconstruction of late Proto-Tarahumara, kinship terms are unmarked when used as terms of address (vocative state) or in relational constructions when the possessor is denoted by a pronoun in the genitive case. The nonpossessed, indefinite state is marked by the suffix **-li*, while the nonpossessed, definite state is marked by the suffix **-la*. The same **-la* suffix marks the kinship terms as possessed when the possessor is denoted by a noun or nominative case pronoun. The stative form is created by adding **-ruame* to the stem.

This trisyllabic suffix combines **-rú-* 'be' and the participial **-ame*, which in some modern dialects occurs as *-game*, a combination of the stative marker *-ga-* and the participial *-ame* (Burgess 1984:34-36). In modern Ralámuli, the stative form often is used in combination with a copula (*hú* ~ *ú* or *kame* are present tense copulas), as seen in the following example from Brambila (1976:43): *Teresa ko ba?čirúame ranála kame* 'Teresa is [my] elder's brother's child'. However, it

can be used in a wide variety of constructions, even as a more respectful term of address, as attested in the following sentence from Tierra Blanca: *Go?yá asá mué-ri-go wai-rú-game* (eat sit you-APPLICATIVE-IMPERATIVE younger.sister-be-PARTICIPLE) or, in freer translation, ‘Have a seat and eat, younger sister’. In the seventeenth century, Guadalaxara (1683:27v) reported the use of the stative form in a possessive construction with a noun possessor: *Pedro norugamek* ‘Pedro’s son’.

The dual function of the *-la* suffix as a specifier and possessed marker was noted by Guadalaxara (1683:23v) and is reported for modern Ralámuli and Sierra Warihio (Brambila 1953:20–22; Burgess 1984:60–61, 91; Miller 1996: 250–59). The *-li* suffix also serves in both Ralámuli and Warihio as a nominalizer (deverbalizer) and is encountered as the final syllable of a wide variety of nouns with no attested verb sources (Burgess 1984:48–49, 61; Miller 1996: 264–66; Félix Armendáriz 2007:26–27). This pattern suggests that Proto-Tarahumara and Proto-Tarawarihio **-li* was comparable to the “absolute” non-possessed noun marker attested in a number of other Uto-Aztecan languages (Langacker 1977:77–80; Dakin 1995), and that it has become lexicalized in a number of nouns.²² Such lexicalization of **-li* likely occurred in the four Proto-Tarahumaran etyma shown in (10) and would have predated the split of Proto-Tarahumara and Proto-Warihio because all are reflexes of Proto-Tarawarihian etyma (see tables 1 and 3).

- (10) **mali* ‘father (♀)’
**ukulí* ‘mother’s elder brother’
**mo?olí* ‘son’s wife’
**činéli* ‘younger brother’s wife’

4.5. Additional forms. Four additional suffixes can be reconstructed for late Proto-Tarahumara that have contributed to a proliferation of different forms for kinship terms in the modern dialects (see section 5.6).

The first suffix is the verbalizer **-e* ‘have’, also attested in modern Sierra Warihio. In Sierra Warihio, the suffix remains separate from the stem to which it is attached, for example, *ahkí-e* ‘to have a child’ (< *ahkí* ‘child’) and *pa?wí-e* ‘to have water’ (< *pa?wí* ‘water’) (Miller 1996:92–93, 255). In Proto-Tarahumara and in most modern Ralámuli dialects, the suffix replaces the final vowel of the stem (Guadalaxara 1683:15–16; Steffel 1799:20–21; Brambila 1953:201–204; Burgess 1984:27–28).²³ Ralámuli examples are presented in (11).

- (11) *malá* ‘daughter (σ)’ → *malé* ‘have a daughter (σ)’
eyé ‘mother’ → *eyé* ‘have a mother’
kocí ‘elder sister’ → *kočé* ‘have an elder sister’
bačí ‘elder brother’ → *bačé* ‘have an elder brother’
soló ‘father’s elder sister’ → *solé* ‘have a father’s elder sister’
kumú ‘father’s elder brother’ → **kumé* ‘have a father’s elder brother’

The second suffix considered here is **-wa*, a reflex of the Proto-Uto-Aztecan possessed noun marker ***-wa* (Langacker 1977:88–89; Dakin 1991; Alvarez Gonzalez and Muchembled 2013:15–21; cf. Shaul 1990:565–67 and Dedrick and Casad 1999:166–67). In Warihio, the suffix is productive in the formation of possessives, although the Sierra and River dialects differ in the details of its use (Miller 1996:250–59; Félix Armendáriz 2007:15–20). In Tarahumara, the suffix had ceased to be productive by 1683, but it apparently was lexicalized in the possessed forms of some words. The possessive constructions of ‘maize’ presented in (12) were recorded by Guadalajara (1683:2, 4), who presented the nonpossessed form for ‘maize’ as *šunú-k*.

- (12) *ne šunúwa* ‘my maize’
Juan šunúwa-la ‘Juan’s maize’
pú šunúwa-la ‘his maize’
šunúwe-ke ‘to have maize’

The first three forms in (12) show the *-wa* suffix on the constructions with first and third person possessors, but the possessed marker *-la* is used only with third person possessors. The fourth form reveals that the *-wa* suffix had become part of the stem: the suffix *-e* ‘have’ replaces the final vowel *-a* of *-wa*, not the final *-u* of *šunú*. A lexicalized *-wa* suffix is attested in a number of the kinship terms of modern Ralámuli, especially in the Interior dialect (see (18) and (19) in section 5.4). It also has become a productive suffix again, used to derive new Ralámuli kinship terms from Spanish kinship terms (see section 5.5).

The third suffix, **-či*, reflects Proto-Uto-Aztecan ***-ci*, identified as a diminutive marker (Langacker 1977:58–59; Manaster Ramer 1992:254–56). In late Proto-Tarahumara, **-či* apparently was an affective suffix used primarily with kinship terms. It is attested in at least one modern Ralámuli dialect in the reflexes of **a?ká* ‘father’s mother’, **ukulí* ‘mother’s elder brother’, **ra?te* ‘mother’s younger brother’, **solo* ‘father’s elder sister’, and **bapoi* ‘father’s younger sister’ or the reciprocals of these reflexes (for examples, see table 10 in section 5.1 and tables 22 and 23 in section 5.6). It is not used with the reflexes of etyma that have *-či* as the final syllable of their stems (**očí* ‘father’s father’, **ye?či* ‘mother’s younger sister’, **teči* ‘father’s younger brother’), but its absence in reflexes of **u?sú* ‘mother’s mother’ and **nesa* ‘mother’s elder sister’ is unexplained.²⁴

We assume that **-ci* was a productive suffix in Proto-Tarawarihio, but one aspect of its history is particularly puzzling. Neither Guadalajara nor Steffel reports its existence, although both document and discuss a number of other suffixes. Perhaps *-či* became unproductive in early Proto-Tarahumara and then was reintroduced as a productive suffix after 1767. If so, a possible source is Nahuatl. In Classical Nahuatl, the suffix *-cin* and its allomorph *-cintli* denoted veneration or endearment (Sullivan 1998:37–40). These emotions are associated

in modern Ralámuli society especially with the relationships between grandparents and grandchildren and between parent's siblings and siblings' children.²⁵ In the terminological domain of kinship, the *-či* suffix is used exclusively with terms that label these relationships.²⁶

The borrowing of this suffix from Nahuatl is feasible because Nahuatl speakers participated in the Spanish colonization of northern New Spain from the earliest years of the colonial period (West 1949:49–52; Griffen 1969:134; Cramaussel 1998:24), and Tarahumaras undoubtedly were familiar with the language. Along with Tarahumara and Tepehuan, Nahuatl was reported in 1662 to be one of the languages spoken in all five of the Tarahumara missions that existed at that time (Alegre 1959:358). In addition, many of the Jesuit missionaries, including Guadalajara, were fluent in Nahuatl because of the Catholic Church's decision to use the language as a lingua franca in their conversion efforts among Indigenous people (Schwaller 2012). In April of 1675, a few days after arriving in the Tarahumara missions, Guadalajara gave his first sermon to Tarahumara converts in Nahuatl "because some of them understood it," and the following month he held a conversation in Nahuatl with a Tarahumara man who lived in Sisoguichi, located at the time beyond the Spanish colonial frontier (Tardá and Guadalajara 1678:361, 382v).

The final suffix to be considered in this section is **-ru* 'deceased relative'. Miller (1996:271) characterized *-ru* in Sierra Warihio as a nonproductive suffix used only on kinship terms to refer to dead relatives, as seen in (13).

- (13) *kumú-ru* 'father's deceased elder brother'
no?ó malá-ru 'my deceased daughter (σ)'

This suffix is not attested in our primary Ralámuli data set, but it is documented by Gassó (1903:20), who reported that it was attached to kinship terms to refer to the cadavers of dead relatives. He provided the two examples in (14).

- (14) *kéne malí-ru* 'my father's cadaver (φ)'
kéne onó-ru 'my father's cadaver (σ)'

These attestations support the reconstruction of Proto-Tarawarihio **-ru*, which likely reflects Proto-Uto-Aztecan ***-tu*, as suggested by the parallel use of the suffix *-tu?a* ~ *-ʔu?a* documented for Cahuilla, a Northern Uto-Aztecan language of the Takic subfamily (Seiler and Hioki 1979:102, 154, 172, 198, 233; cf. Langacker 1977:60), as shown in (15).

- (15) *-qís-tu?a* 'deceased elder sister'
-wáxalʔ-tu?a 'deceased younger sister'
-tás-tu?a 'deceased maternal uncle'
-máti-ʔu?a 'deceased niece'
-píni-ʔu?a 'deceased younger sibling'

5. Modern Ralámuli kinship terminological systems. The kinship terminological systems of ten modern Ralámuli communities have been recorded in sufficient detail to establish that no two systems are identical (see appendix 2 for information on these communities). Diversity among the systems is encountered for almost every feature, ranging from minor phonological variations to significant structural differences. In this section, we illustrate the kinds of variations that are attested by focusing on the components of the systems where the diversification has been the most extensive. Additional documentation of this modern diversity is found in appendix 3.

5.1. Parents' siblings, parents' siblings' spouses, and siblings' children. Our reconstruction of late Proto-Tarahumaran terminology for parents' siblings is presented in table 9.

Table 9. Late Proto-Tarahumaran Terminology for Parents' Siblings

MATERNAL	PATERNAL
* <i>nesa</i> 'mother's elder sister'	* <i>solo</i> 'father's elder sister'
* <i>e?çi</i> 'mother's younger sister'	* <i>bapoi</i> 'father's younger sister'
* <i>ukulí</i> 'mother's elder brother'	* <i>kumu</i> 'father's elder brother'
* <i>ra?te</i> 'mother's younger brother'	* <i>riçi</i> 'father's younger brother'

Reflexes of all eight etyma are attested in only four communities, in three dialect areas: Central (Guachochic), Interior (Samachique), and Western (Mesa de Arturo, Tierra Blanca) (see appendix 3, sets 12, 13, 23, 28, 33, 37, 38, 46). In other communities, from the Interior (Rejogochi), Northern, and Southern dialect areas, reflexes of the etyma for mother's sisters, **nesa* 'mother's elder sister' and **e?çi* 'mother's younger sister', have been lost. Their referents have shifted to the reflexes of **solo* 'father's elder sister' and **bapoi* 'father's younger sister', creating the more generic referents of 'parent's elder sister' and 'parent's younger sister'.

The most radical change in parents' sibling terminology occurred in the Aboreachi community (Central dialect), where reflexes of only two of the eight etyma are attested, **ukulí* 'mother's elder brother' and **ra?te* 'mother's younger brother'. Kennedy (1970b:178–80) reported that these terms were used interchangeably to label 'parent's brother', losing both the maternal-paternal and elder-younger distinctions of their original referents, and he further indicated that the terms for 'father' and 'mother' were the primary terms of reference and address used for all parents's siblings, including 'parent's brother'. These changes reduced the number of Aboreachi terms of reference for the first ascendant generation from ten to four, transforming the highly descriptive Proto-Tarahumaran terminology for this generation into a more classificatory system.

Table 10 presents the terms for four categories of parent's sibling attested in the nine communities for which our data are complete. All five modern dialect areas are represented. These reflexes provide a good sample of the phonological

and morphological differences that have emerged during the diversification of late Proto-Tarahumara (Ramos Chaparro, et al. 1997:2–3; Valiñas Coalla 2001: 122). The reflexes of **ukulí* ‘mother’s elder brother’ document the loss of word-initial vowels in the Central, Northern, and Southern dialects. The shift of initial **k-* to *g-* that is typical of the Western dialect is attested in *gumulá*, the Western reflex of **kumú* ‘father’s elder brother’.²⁷ The rightward shift in stress on nonidentical vowel sequences, also associated with the Western dialect, is attested in its reflex of **bapoi* ‘father’s younger sister’. This last set documents the loss in the Central and Interior dialects of the final vowel in such sequences and the widespread loss of certain antecedent word-initial consonants—in this case, probably involving first the shift of initial **b-* to *w-* and then the loss of *w-* (see appendix 3, set 28).

Table 10. Some Modern Ralámuli Terms for Parents’ Siblings

COMMUNITY	DIALECT	<i>*ukulí</i> ‘MeB’	<i>*kumu</i> ‘FeB’	<i>*bapoi</i> ‘FyZ’	<i>*riči</i> ‘FyB’
Aboreachi	Central (C-A)	<i>kulíči</i>	<i>kumúči</i>	—	—
Guachochi	Central (C-P)	<i>kulíči</i>	<i>kumúčali</i>	<i>apó</i>	<i>riči</i>
Rejogochi	Interior (I-R)	<i>ukulíči</i>	<i>kumúčale</i>	<i>bapó</i>	<i>riči</i>
Samachique	Interior (I-SH)	<i>ukulíči</i>	<i>kumúči</i>	<i>apó</i>	<i>riči</i>
Huichabóachi	Northern (N-H)	<i>kulíči</i>	<i>kumíči</i>	<i>apói</i>	<i>ričuí</i>
Norogochi	Northern (N-N)	<i>kulíči</i>	<i>kumíči</i>	<i>apó</i>	<i>ri?či</i>
Balleza	Southern (S-B)	<i>kulíči</i>	<i>kumúči</i>	<i>apói</i>	<i>ričuí</i>
Mesa de Arturo	Western (W-M)	<i>ukú</i>	<i>gumalá</i>	<i>apuí</i>	<i>ričilá</i>
Tierra Blanca	Western (W-T)	<i>ukú</i>	<i>gumalá</i>	<i>apuí</i>	<i>ričilá</i>

In Balleza (Southern dialect) and Huichabóachi (Northern dialect) Ralámuli, final vowel sequences are treated differently in their reflexes of **bapoi* ‘father’s younger sister’ and **riči* ‘father’s younger brother’: stress falls on the penultimate vowel in *apói* and on the final vowel in *ričuí*. The *-uí* sequence *ričuí* suggests the former presence of a **-w-*. The presence of a *w-* in an antecedent form might also account for the shift of **-o-* to *-u-* in the Western reflexes of **bapoi*.

The principal morphological difference among the terms in table 10 is the presence of the suffix *-či* in all reflexes of the etyma for ‘mother’s elder brother’ and ‘father’s elder brother’ except those of the Western dialect (see sections 4.5 and 5.6).²⁸ The Guachochi and Rejogochi reflexes of **kumu* retain the non-possessed marker *-li* (see section 4.4) and show modification of the unstressed vowel(s) in the reflexes of **-či-li*. Harmonization of the second vowel has occurred in the Northern and Western reflexes of this etymon.

As noted in section 2.1, the terms for siblings’ children in the Rejogochi subdialect of Interior Ralámuli are constructed by suffixing the reflex of **-mali* to the terms for parents’ siblings (see table 2). In the other dialects, the parents’ siblings and siblings’ children terms are self-reciprocal with two exceptions,

documented in 1995 (Burgess 1995:4, 10). The Northern dialect and the Samachique subdialect of Interior Ralámuli attest *solóčuwa* ‘husband’s younger brother’s child’ as the reciprocal of *soló* ‘father’s elder brother’s wife’. The Samachique subdialect also attests *ratéčuwa* ‘elder sister’s child (σ)’ as the reciprocal of *raté* ‘mother’s younger brother’.

In section 4.1, we proposed that the late Proto-Tarahumaran terminology for parents’ siblings’ spouses was the same as that for parents’ siblings, with the in-marrying affines on the maternal and paternal sides labeled with the terms for mother’s siblings and father’s siblings, respectively. That schema is not attested in any modern Ralámuli dialect, but no shared alternative schema is attested either.

The Northern and Southern (Balleza) dialects come closest to our reconstruction. They vary from the predicted only because they have lost reflexes of **nesa* ‘mother’s elder sister’ and **e?či* ‘mother’s younger sister’, which in our model label ‘mother’s elder brother’s wife’ and ‘mother’s younger brother’s wife’. They use instead reflexes of **solo* and **bapoi*, the semantic scope of which was expanded to ‘parent’s elder brother’s wife’ and ‘parent’s younger brother’s wife’.

The reflexes of **solo* and **bapoi* also replaced the reflexes of **nesa* and **e?či* in the Rejogochi subdialect of Interior Ralámuli. In our model, the husband of a woman labeled **solo* ‘father’s elder sister’ is called **kumu* ‘father’s elder brother’ and the husband of a woman labeled **bapoi* ‘father’s younger sister’ is called **riči* ‘father’s younger brother’. In the Rejogochi subdialect, this paternal-side terminology was extended to the maternal side so that the reflexes of **kumu* and **riči* came to label ‘parent’s older sister’s husband’ and ‘parent’s younger sister’s husband’, respectively. As seen in table 11, the opposite approach was taken in the Northern (Huichabóachi) and Southern (Balleza) dialects. Despite replacing the original terms for mother’s sisters with those for father’s sisters, in these dialects the spouses of mother’s sisters are labeled with the terms for mother’s brothers, the reflexes of **ukulí* and **ra?te*.

Table 11. Alternative Approaches to Labeling Parents’ Sisters’ Husbands

PT ETYMA	NORTHERN (N-H) AND SOUTHERN (S-B)	REJOGOCHI
<i>*kumu</i> ‘FeB’	‘father’s elder brother’	‘father’s elder brother’
	‘father’s elder sister’s husband’	‘father’s elder sister’s husband’
<i>*riči</i> ‘FyB’	‘father’s younger brother’	‘mother’s elder sister’s husband’
	‘father’s younger sister’s husband’	‘father’s younger brother’
		‘father’s younger sister’s husband’
<i>*ukulí</i> ‘MeB’	‘mother’s elder brother’	‘mother’s younger sister’s husband’
	‘mother’s elder sister’s husband’	‘mother’s elder brother’
<i>*ra?te</i> ‘MyB’	‘mother’s younger brother’	‘mother’s younger brother’
	‘mother’s younger sister’s husband’	

The most radical semantic shifts in the terminology for parents' siblings' spouses occurred in Western Ralámuli. Even though this dialect is the only one in our data set that maintains reflexes of all eight of the Proto-Tarahumaran etyma for parents' siblings, only four are used for parents' siblings' spouses and the distinction between maternal and paternal lines is blurred. As the Proto-Tarahumaran etyma and referents in table 12 indicate, speakers of the Western dialect consolidated the terminology for parent's sibling's spouses by expanding the semantic scope of three paternal side terms and one maternal side term.

Table 12. Western Ralámuli Terms for Parents' Sibling' Spouses

PROTO-TARAHUMARA	WESTERN RALÁMULI
* <i>kumu</i> 'father's elder sister's husband'	<i>gumalá</i> 'parent's elder sister's husband'
* <i>ričí</i> 'father's younger sister's husband'	<i>ričílá</i> 'parent's younger sister's husband'
* <i>solo</i> 'father's elder brother's wife'	<i>soló</i> 'parent's elder brother's wife'
* <i>e?či</i> 'mother's younger brother's wife'	<i>i?čilá</i> 'parent's younger brother's wife'

5.2. Siblings-in-law. The siblings-in-law component of the Ralámuli kinship terminological system has undergone substantial revision during the diversification of the modern Ralámuli dialects. Although this component is not documented for most modern Ralámuli communities, the available evidence supports the reconstruction for late Proto-Tarahumara of the four terms for siblings' spouses seen in (16).

- (16) **či?é* 'elder sister's husband'
 **repó* 'elder brother's wife'
 **wáka* 'younger sister's husband'
 **činéli* 'younger brother's wife'

As we noted in section 2.2, the terms for spouse's siblings that would have served as the reciprocals for these etyma in Proto-Tarahumara cannot be reconstructed with confidence because of the variation in the terminology for these categories of affines. Our data, from only four communities representing three dialect areas, are presented in tables 13 and 14. To facilitate comparison, instead of the terms attested in each community for spouse's siblings, we include the Proto-Tarahumara etyma of which these terms are reflexes. The attested terms are in appendix 3, sets 2, 4, 14, 19, 40, 42.

Table 13. Some Modern Ralámuli Terms for Wife's Siblings

COMMUNITY	DIALECT	WeZ	WeB	WyZ	WyB
Aboreachi	Central (C-A)	* <i>upí</i>	* <i>či?é</i> and * <i>mučímali</i>	* <i>upí</i>	* <i>či?é</i> and * <i>mučímali</i>
Guachochi	Central (C-P)	* <i>mučímali</i>	* <i>mučímali</i>	* <i>mučímali</i>	* <i>mučímali</i>
Rejogochi	Interior (I-R)	* <i>upí</i>	* <i>wáka</i>	* <i>mučímali</i>	* <i>mučímali</i> and * <i>upí</i>
Tierra Blanca	Western (W-T)	* <i>mučímali</i>	* <i>mučímali</i>	* <i>mučímali</i>	* <i>mučímali</i>

Table 14. Some Modern Ralámuli Terms for Husband's Siblings

COMMUNITY	DIALECT	HeZ	HeB	HyZ	HyB
Aboreachi	Central (C-A)	* <i>repó</i>	* <i>kuná</i>	* <i>repó</i>	* <i>kuná</i>
Guachochi	Central (C-P)	* <i>mučímali</i>	* <i>mučímali</i>	* <i>mučímali</i>	* <i>mučímali</i>
Rejogochi	Interior (I-R)	* <i>kuná</i>	* <i>kuná</i>	* <i>kuná</i>	* <i>kuná</i>
Tierra Blanca	Western (W-T)	* <i>mučímali</i>	* <i>mučímali</i>	* <i>repó</i>	* <i>repó</i>

In our data set, only the Tierra Blanca subdialect of Western Ralámuli has preserved reflexes of all four sibling's spouses etyma, but only one of these, the reflex of **repó* 'elder brother's wife', is used to label a category of spouse's siblings, in this case 'husband's younger sibling'. For all other categories of spouse's siblings, the term *mučímali* is used.

Reflexes of three of the four Proto-Tarahumara etyma for sibling's spouses are attested in the Rejogochi subdialect of Interior Ralámuli. The reflex of **činéli* 'younger brother's wife' has been replaced by the reflex of **upí* 'wife', which is used by both female and male speakers to denote this category of affine. The reflex of **upí* also is used by male speakers for their wives' sisters, while the reflex of **kuna* 'husband' is used by female speakers for their husbands' brothers. The only sibling's spouse term used in Rejogochi Ralámuli for a category of spouse's siblings is the reflex of **wáka*, which is a self-reciprocal used exclusively by males for 'younger sister's husband' and 'wife's elder brother'. The reflex of **mučímali* also is used only by males to label 'wife's younger siblings', the likely original referent of this etymon (see section 3.1).

The sibling-in-law terminology documented for the Central dialect community of Aboreachi is quite distinct. Male speakers use the term for 'wife' for their brothers' wives and wives' sisters, while female speakers use the term for 'husband' for their sisters' husbands and husbands' brothers. The reflex of **repó* 'elder brother's wife', attested as the alternate forms *ripóli* and *ripómala*, is used only by female speakers for their brothers' wives, their husbands' sisters, and their husbands' brothers' wives. The reflex of **čílé* 'elder sister's husband', is used only by males to designate their sisters' husbands, their wives' brothers, and their wives' sisters' husbands. The reciprocal is *mučímali*. Kennedy (1970b: 182) noted that *číéli* and *mučímali* sometimes were self-reciprocal, but more commonly the older affine was designated by *číéli* and the younger by *mučímali*.

The Aboreachi kinship lexicon includes one affinal term, *nikwikwa*, that appears to be an innovation. It is a self-reciprocal used by male speakers for their wives' brothers' wives and by female speakers for their husbands' sisters' husbands, whom they also call 'husband' (Kennedy 1970b:182, 1978:161). This relationship is not labeled elsewhere in modern Ralámuli kinship terminologies, and cognates of *nikwikwa* are not attested in any other dialect. The term is puzzling because it defies etymological analysis, and words with a medial *-kw-* cluster or a medial labiovelar *-k^w-* are rare in modern Ralámuli.

Another apparent Aboreachi affinal innovation is *salú*, undoubtedly linked to **sali* ‘spouse’s grandparent and grandchild’s spouse’. Kennedy (1978:160–61) indicated that both male and female speakers used both *salí* and *salú* for this relationship but in different ways. Female speakers used *salí* for their husbands’ grandparents and male speakers used *salú* for their wives’ grandparents. With respect to their grandchildren’s spouses, female speakers used *salú* for their granddaughters’ husbands and *salí* for their grandsons’ wives. For male speakers, *salí* and *salú* were alternate forms for ‘grandchild’s spouse’.

Passin (1943) documented yet another variation on the Ralámuli sibling-in-law terminology, based on his research in the Central dialect community of Guachochi. He reported (1943:372, 382–83) that only two terms were used for siblings’ spouses, *če?é* (the reflex of **či?é* ‘elder sister’s husband’) for ‘elder sibling’s spouse’ and *wá* (the reflex of **wáka* ‘younger sister’s husband’) for ‘younger sibling’s spouse’. The reciprocal for both was *mučímali*, which also served as a generic label for all sibling’s spouses, spouse’s siblings, and spouse’s siblings’ spouses.

5.3. Stress placement. Both modern Ralámuli and Warihio have moveable stress, in which different morphological configurations can cause primary stress to shift among stem syllables, from the stem to a suffix, or from one suffix to another, within a fixed three-syllable (from the left) stress window. The placement of stress on any particular word depends upon whether the stem or suffixes are inherently stressed and, in the case of suffixes with inherent stress, whether the stress is strong or weak (Caballero 2011b; Miller 1996:48–51, 59; Félix Armendáriz 2007:11–13).

Excluding the stress shift on word-final nonidentical vowel sequences mentioned in section 5.1, most modern Ralámuli dialects show identical patterns of stress placement in their reflexes of Proto-Tarahumaran kinship etyma. The only significant deviation from the shared pattern is found in the Western dialect, attested in data from Tierra Blanca.

The majority of Tierra Blanca kinship terms show stress on the stem in the possessed reference forms, which differ from the address forms only in that the possessed marker *-la* is not used with the address forms. These address forms usually correspond to the forms used in other dialects with genitive case pronoun possessors. In the case of the reflex of **o?no* ‘father’, however, stress placement in the Tierra Blanca term varies in the reference form between the stem and the suffix. In addition, the possessed marker has become lexicalized as part of the stem of ten terms, and the address and reference forms of these terms differ according to two patterns.

The aberrant Tierra Blanca kinship terms are presented in tables 15 and 16. The reference forms attested for these forms in Rejogochi and Brambila (1976) are included for comparison. The reference forms of three of the terms in table 15 are attested only in the Tierra Blanca subdialect.

In the first pattern, shown in table 15, stress falls on the frozen possessed marker in both the address and reference forms, but a productive possessed marker *-la* is added to the reference form. In the second pattern, shown in table 16 along with the reflexes of **onó*, stress falls on the frozen suffix of the address form and on the antecedent stem of the reference form.

The cognates for these terms from Rejogochi and Brambila's dictionary all show stress on the possessive marker *-la*, indicating that the stems of these terms lack inherent stress. Given that stress falls on the stems of all Tierra Blanca terms except the alternate form *ono-lá*, the Western dialect appears to be at the end of a general shift, in nouns at least, from the moveable stress pattern reconstructible for Proto-Tarawarihio to one in which stress is fixed on the stem.

Table 15. Tierra Blanca Aberrant Forms, First Pattern

REFERENT	TIERRA BLANCA		REJOGOCHI	BRAMBILA
	ADDRESS	REFERENCE	REFERENCE	REFERENCE
'father's younger brother'	<i>ričilá</i>	<i>ričilá-la</i>	<i>riči-lá</i>	<i>ri?či-lá</i>
'son (σ)'	<i>inolá</i>	<i>inolá-la</i>	<i>no-lá</i>	<i>no-lá</i>
'mother's elder sister'	<i>neselá</i>	<i>neselá-la</i>	—	—
'mother' younger sister'	<i>i?čilá</i>	<i>i?čilá-la</i>	—	—
'father's elder brother'	<i>gumalá</i>	<i>gumalá-la</i>	—	—

NOTE: — = not attested.

Table 16. Tierra Blanca Aberrant Forms, Second Pattern

REFERENT	TIERRA BLANCA		REJOGOCHI	BRAMBILA
	ADDRESS	REFERENCE	REFERENCE	REFERENCE
'mother's younger brother'	<i>a?talá</i>	<i>a?téla</i>	<i>rati-lá</i>	<i>ra?te-lá</i>
'elder sister'	<i>go?čilá</i>	<i>go?čila</i>	<i>koči-lá</i>	<i>ko?či-lá</i>
'younger sister'	<i>binilá</i>	<i>biníla</i>	<i>bini-lá</i>	<i>bini-lá</i>
'elder brother'	<i>ba?čilá</i>	<i>ba?čila</i>	<i>bači-lá</i>	<i>ba?či-lá</i>
'younger brother'	<i>bonilá</i>	<i>boníla</i>	<i>boni-lá</i>	<i>boni-lá</i>
'father (σ)'	<i>o?nó</i>	<i>o?nó-la ~ ono-lá</i>	<i>ono-lá</i>	<i>ono-lá</i>

5.4. Morphophonological diversification. The modern Ralámuli dialects vary in the degree to which they have simplified their reflexes of late Proto-Tarahumaran kinship terms. The reflexes of the plural form of the early Proto-Tarahumaran etymon **tehimá* 'consanguineal relative' provide an excellent example of this diversity. The plural, created through reduplication of the initial syllable, can be reconstructed as early Proto-Tarahumaran **te?tehíma*, which shifted to late Proto-Tarahumaran **re?tehíma*. An alternate form, probably pre-dating Proto-Tarawarihio, had the suffix *-wa* attached to the stem (see section 4.5). The attested reflexes of **re?tehíma(-wa)* are shown in (17).

- (17) PT **re?téhima(-wa)*
 I-SH *ritémawa-la*
 I-SB *ritémo-la*
 N-N *retéma-la*
 W-T *e?témo-la*
 C-P *itémo-la*
 C-G *téma-la*
 N-H *teáma-la*
 S-B *teáma-la*
 S-T *teéma-la*

The cognates in (17) indicate that a variety of phonological and morphological changes have taken place for the most part independently in the different dialects. The *-wa* suffix is attested only in the Samachique (I-SH) form, but the stem-final *-o* in the Samachique (I-SB), Tierra Blanca (W-T), and Guachochi (C-P) reflexes likely indicates its earlier presence. The glottal stop is preserved only in the Tierra Blanca (W-T) cognate, which also retains the original **e* of the first syllable, but it and the Guachochi (C-P) cognate lost the initial **r-*, and the entire initial syllable was lost in the last four cognates. The two cognates from Guachochi (C-P, C-G) document continued syllable reduction and vowel harmonization between 1940 (C-P) and 1995 (C-G). The first syllable of C-P *itémo-la* has been lost in C-G *téma-la*, and the final stem vowel has assimilated to the *-a* of the suffix.

None of the cognates have a medial *-h-*. A shift in stress to the second syllable may have occurred in some dialects as the result of the reduplication, which would have left the syllable *-hi-* unstressed and subject to loss. However, the Northern (N-H) and Southern (S-B, S-T) cognates show a different stressed vowel in the same position as the original **-í-*, presumably indicating that no stress shift occurred in these dialects.

Such a degree of diversity is not found in the reflexes of all Proto-Tarahumaran kinship etyma. In fact, almost no variation occurs in the reflexes of the singular **rehimá* ‘consanguineal relative’ (see appendix 3, set 39), and very little variation is attested in most of the other, nonpolysyllabic kinship terms.

The Western and Southern dialects are the most inclined toward segment and syllable reduction. In the case of the Western dialect, this tendency may date back to the beginning of the diversification of late Proto-Tarahumara. The Western dialect is spoken in the same area as Guazapares was in the seventeenth century. Guadalajara (1683:x, xii), who identified Guazapares as a dialect of Tarahumara, noted that it differed from Tarahumara primarily by the failure of its speakers to “pronounce” certain final suffixes, raising the possibility that these suffixes had been dropped. A comparably ancient account of the Southern dialect is not available, but some of its speakers regard the shorter forms of their words as one of the main features distinguishing their dialect from others (Valiñas Coalla 2001:117).

The Interior dialect appears to be the most conservative with regard to preserving antecedent forms. Such preservation is especially evident in the number of kinship terms in which the *-wa* suffix is attested, best documented for the Samachique subdialect of Interior Ralámuli. A sample of the attestations in Hilton's (1993) vocabulary of Samachique Ralámuli is presented in (18).

- (18) *usú-wa-la* 'mother's mother'
apalóča-wa-la 'mother's father'
očíka-wa-la 'father's father'
wasamóčawa-la 'mother's elder sister'
soló-ča-wa-la 'father's elder sister'
ritémawa-la 'brothers'
?wénawa-la 'parents'
mučíma-wa-la 'spouse's younger siblings'

Additional forms are attested in the Rejogochi subdialect of Interior Ralámuli; these are seen in (19).

- (19) *kumúčuwa* 'father's elder brother, younger brother's child (σ)'
ukuríčewa 'mother's elder brother, younger sister's child (σ)'
kúčuwa 'child'

The term *kúčuwa* is the reflex of late Proto-Tarahumaran **kúči-wa*, which is the only Proto-Tarahumaran etymon for which the *-wa* suffix can be reconstructed that has reflexes in all modern dialects (see appendix 3, set 11). In the Tierra Blanca subdialect of Western Ralámuli, however, the reflex is *?kúči-la*, and no Tierra Blanca cognates of the words in (18) and (19) show the *-wa* suffix. In fact, some speakers of this subdialect consider the *-wa* suffix to be characteristic of the kinship terms from the other dialects, which they do not use except sometimes in humor.

5.5. Lexical innovations. A comparison of modern Ralámuli kinship terminological systems indicates a general trend toward lexical loss, but a few lexical innovations are attested in addition to those already mentioned in previous sections.

Among the more intriguing of these is the development in the Western dialect of a set of four terms for the opposite-sex siblings of grandparents, created by modifying the grandmother terms with the adjective *owíla* 'male' and the grandfather terms with the adjective *mukíla* 'female'. Because the initial segment of *owíla* 'male' is a vowel, it tends to be lost and the remaining segments joined to the grandmother terms to form the compounds *u?suwíla* 'mother's mother's brother' and *a?kawíla* 'father's mother's brother'. Prior to the creation of these special terms, grandparents' cross-sex siblings presumably were labeled with terms for opposite-sex grandparent for the side, maternal or paternal, to which they belonged, as shown in table 17.

Table 17. Tierra Blanca Terminology for Grandparents' Opposite-Sex Siblings

GRANDPARENT	GRANDPARENT'S OPPOSITE-SEX SIBLING	EXPECTED PRIOR TERM
<i>u?só</i>	<i>u?só owíla ~ u?súwíla</i>	<i>apalóči</i>
'mother's mother'	'mother's mother's brother'	'mother's father'
<i>apalóči</i>	<i>apalóči mukíla</i>	<i>u?só</i>
'mother's father'	'mother's father's sister'	'mother's mother'
<i>a?ká</i>	<i>a?ká owíla ~ a?kawíla</i>	<i>očí</i>
'father's mother'	'father's mother's brother'	'father's father'
<i>očí</i>	<i>očí mukíla</i>	<i>a?ká</i>
'father's father'	'father's father's sister'	'father's mother'

There is no apparent motivation for this innovation, which is not encountered in any other Ralámuli dialects. Because the new terms created a cross-parallel distinction, a link to marriage prescriptions might be suspected, but there is no evidence that such prescriptions ever existed, and none of the modified terms is used to label the grandparents' siblings' spouses. The spouses of both opposite- and same-sex siblings of grandparents are labeled with the same terms as grandparents, as seen in table 18.

Table 18. Tierra Blanca Terminology for Grandparents' Siblings's Spouses

MATERNAL				PATERNAL			
CROSS-SEX	SAME-SEX	CROSS-SEX	SAME-SEX	CROSS-SEX	SAME-SEX	CROSS-SEX	SAME-SEX
MMBW	MFBW	MFZH	MMZH	FMBW	FFBW	FFZH	FMZH
<i>u?só</i>	<i>u?sú</i>	<i>apalóči</i>	<i>apalóči</i>	<i>a?ká</i>	<i>a?ká</i>	<i>očí</i>	<i>očí</i>

Some innovations also occurred in all the dialects in their terminology for relatives separated by four or more generations. As seen in table 19, terms for these more distant relatives are attested in all dialects but the Southern.

Table 19. Modern Ralámuli Kinship Terms for More Distant Relationships

	CODE	±3	±4	±5	±6
Guachochi	C-G	<i>umúli</i>	<i>binísuli</i>	—	—
Samachique	I-S	<i>umúli</i>	<i>píčile</i>	<i>ságale</i>	<i>ságale</i>
Samachique	I-SB	<i>umúli</i>	<i>čokóboa</i>	<i>ranígowa</i>	—
Rejogochi	I-R	<i>umúli</i>	<i>píčile</i>	<i>iyócale ~ i?ócale</i>	—
Huichabóachi	N-H	<i>umúli</i>	<i>asagóli</i>	<i>apíčuli</i>	—
Mesa de Arturo	W-M	<i>umúli</i>	<i>wególi</i>	<i>gíyóči</i>	<i>bi?čé</i>
Tierra Blanca	W-T	<i>umúli</i>	<i>ególi</i>	<i>geyóči</i>	<i>bi?čé</i>
Balleza	S-B	<i>umúli</i>	—	—	—
Turuachi	S-T	<i>múli</i>	—	—	—

NOTE: — = not attested.

In contrast to the consistency seen in the reflexes of **umúli* ‘great-grandparent, great-grandchild’, there is no cross-dialect sharing of terms for the generations beyond. There are, however, three sets of terms, shown in (20)–(22), that probably derive from the same antecedent forms.

- (20) *asagóli* ‘fourth ascendant and descendant generation relative’ = Northern (N-H)
ególi ‘fourth ascendant and descendant generation relative’ = Western (W-T)
ságale ‘fifth and sixth ascendant and descendant generations relative’ = Interior (I-S)
- (21) *apíçuli* ‘fifth ascendant and descendant generation relative’ = Northern (N-H)
píçile ‘fourth ascendant and descendant generation relative’ = Interior (I-S, I-R)
- (22) *geyóçi* ‘fifth ascendant and descendant generation relative’ = Western (W-T)
giyóçi ‘fifth ascendant and descendant generation relative’ = Western (W-M)
iyóçale ~ *i?óçale* ‘fifth ascendant and descendant generation relative’ = Interior (I-R)

The element *-goli* ~ *-gale* in (20) possibly is cognate with Classical Nahuatl *-kool-* ‘grandfather, ancestor’ (Karttunen 1992:40; cf. Gardner 1982:95–96). The terms in (21) probably are related to a Tepiman word for great-grandparents, attested in eighteenth-century Northern Tepehuan as ⟨vippizare⟩ and in modern Tohono O’odham as *wiişad* (Rinaldini 1994:46; Hill and Zepeda 1998:15). With regard to the words in (22), *geyóçi* in Tierra Blanca Ralámuli is both a kinship term and the word for ‘fox’, but homophones probably are involved. In Rejogochi Ralámuli, *kióçi* ‘fox’ contrasts with *iyóçale* ~ *i?óçale* ‘fifth ascendant and descendant generation relative’. Nonetheless, some sort of metaphorical thinking, now forgotten by modern-day speakers, may have been involved in the selection of the terms for distant relationships. In Rejogochi and Samachique, *píçile* is both a kinship term and the name for a kind of skunk. In Tierra Blanca, *bi?çé* is both a kinship term and the name for a kind of wasp, and *ególi* means ‘outer bark of a tree’, as well as ‘fourth ascendant and descendant generation relative’. In Huichabóachi, *sagóli* is the name of a plant while *asagóli* is ‘fourth ascendant and descendant generation relative’.

The terms recorded in Samachique in the early 1930s for these categories of distant relationships are interesting in this regard because they appear to indicate that a body metaphor was used to select these terms. The body part terms that may be related to the kinship terms are shown in (23) as they are attested in Hilton’s dictionary (1993:26, 64, 81).

- (23) *umí* ‘waist’
çokóba ‘knee’
ranícuri ‘heel’

The descent in the location of the body parts from waist to foot parallels the descent (and ascent) in generations in the kinship terms: *umúli* ‘±3 generation

relatives', *čokóboa* '±4 generation relatives', and *ranígowa* '±5 generation relatives'. The last two terms are derived from the body part terms by the addition of the *-wa* suffix discussed in section 4.5 and below. The term *ranígowa* apparently ceased to be used in Samachique, and the referent of *čokóboa* appears to have shifted to 'stepchild'. Hilton (1993:26, 164) recorded *čokóbawa* as the term in Samachique for 'stepchild' and *čokóbala* as the term for 'stepmother' (see appendix 3, set 6).

Brambila (1976:375, 377) reports that *née-* ~ *néere-* conveys the meaning 'to be related to, to be a relative of'. This verb is not attested in our primary data set, and it may be an innovation restricted to the Northern dialect area. Martínez, Martínez, and Naranjo (2012) documented a related form, *néra*, in the community of Norogachi (N-N). They (2012:72) report that *néra* is inserted between the possessor pronoun and a kinship term to indicate that someone is a relative; for example, *Antonio nehé néra* (plus a kinship term) is one way of saying 'Antonio is my (whatever relationship the kin term designates)'. They note that this construction is used when an indication of the closeness of the relationship or an expression of affection is desired.

Additional lexical innovation that has occurred during the diversification of the modern Ralámuli dialects has involved the appropriation of Spanish kinship terms by attaching the *-wa* suffix to them. The earliest attested neologisms of this type are *komparí-wa*, from Spanish *compadre* 'co-godparent', and *nehé tatá-wa-la* 'my father', documented in 1903 by Gassó (1903:20, 48). The stem of the latter is *táta*, a word of Nahuatl origin that may have entered Ralámuli via Mexicanized Spanish (see appendix 3, set 36). Four decades later, Passin reported that the Spanish words *tío* 'uncle' and *sobrino* 'nephew' were transformed into *tío-wa* and *sobrino-wa*, commenting that such assimilation to Tarahumara lexical forms "is definitely not the same thing as taking on the Spanish structural system" (1943:377). He illustrated his point by noting that *tío-wa* was used as a self-reciprocal and that sometimes when the term was used for 'nephew', the word *towí* 'boy' was added to create *tíowa towí* 'my young uncle'. For the Interior dialect, *tí?-wa-la* 'parents' siblings' is attested in Rejogochi and *amígo-wa-la* 'friends' in Samachique (Hilton 1993:3), indicating that *-wa* was still a productive suffix in this dialect in the second half of the twentieth century.

5.6. The proliferation of linguistic forms of kinship terms. The linguistic forms of the stems of kinship etyma reconstructed for Proto-Tarahumara have remained for the most part unchanged in modern Ralámuli dialects. Above, in sections 5.1 and 5.4, we discuss the changes that have occurred in five stems labeling parents' siblings and 'relatives'. Similar changes are documented in the reflexes of Proto-Tarahumara **ko?či* 'elder sister', **ino* 'son (σ)', and **e?yé* 'mother' presented in table 20.

Four changes are attested in the reflexes of **ko?či* 'elder sister': the loss of initial **k-* (C-G, N-H, S-B, S-T); the shift of initial **k-* to *g-* (I-SB, W-M, W-T);

the loss of the medial glottal stop (all communities except Norogachi and Tierra Blanca); and the lexicalization of the possessed marker *-la* (W-M, W-T). The lexicalization of the possessed marker also occurred in the Western reflexes of **ino* ‘son (σ)’. The initial **i-* is preserved in the 1995 attestations from Guachochi (C-G) and Huichabóachi, of the Central and Northern dialect areas, as well as in the Western dialect communities, but it is lost in the reflexes of all other communities. In Balleza, *onó* ‘father’ has become a self-reciprocal for ‘son (σ)’ while in Turuachi the term for ‘son (σ)’ is *yútoli*, a word not attested in any other dialect.

Table 20. Dialectal Variation in Some Kinship Stems

COMMUNITY	DIALECT	CODE	<i>*koʔči</i> ‘elder sister’	<i>*ino</i> ‘son (σ)’	<i>*eʔyé</i> ‘mother’
Aboreachi	Central	C-A	<i>kočí</i>	<i>nó</i>	<i>iyé</i>
Guachochi	Central	C-G	<i>očí</i>	<i>nó</i>	—
Guachochi	Central	C-P	<i>kočí</i>	<i>inó</i>	<i>iyé</i>
Rejogochi	Interior	I-R	<i>kočí</i>	<i>nó</i>	<i>iyé ~ yé?</i>
Samachique	Interior	I-S	<i>kočí</i>	<i>nó</i>	<i>iyé</i>
Samachique	Interior	I-SB	<i>gočí</i>	<i>nó</i>	<i>iyé</i>
Samachique	Interior	I-SH	<i>kočí</i>	<i>nó</i>	<i>iyé</i>
Huichabóachi	Northern	N-H	<i>očí</i>	<i>inó</i>	<i>iyé</i>
Norogachi	Northern	N-N	<i>koʔčí</i>	—	—
Balleza	Southern	S-B	<i>očí</i>	<i>onó</i>	<i>iʔyé</i>
Turuachi	Southern	S-T	<i>očí</i>	<i>yútoli</i>	<i>iyé</i> (ʔ) ~ <i>ʔyé</i> (σ)
Mesa de Arturo	Western	W-M	<i>gočilá</i>	<i>inolá</i>	<i>eyé</i>
Tierra Blanca	Western	W-T	<i>goʔčilá</i>	<i>inolá</i>	<i>eyé</i>

Most reflexes of **eʔyé* ‘mother’ show a shift of the initial unstressed **e-* to *i-*. The glottal stop is preserved in its original position only in the Southern reflexes. The Western dialect communities retain initial *e-* in their reflexes of this etymon, but they have lost the glottal stop even though they normally retain this segment. The Turuachi community may be unique in having alternate forms of reflexes of **eʔyé* for female and male egos.

The proliferation in modern dialects of different linguistic forms for kinship terms labeling the same categories of relatives is due in large part to differences in the developments that have occurred with respect to the suffixes associated with the terms for grandparents, grandchildren, parents’ siblings, and siblings’ children. In our reconstruction of the Proto-Tarahumara terminology for these categories of relatives, we have proposed that the terms for descendant relations in the categories were derived from those of the ascendant relations by the addition of the suffix **-ma*. We suspect that affective forms, created by the addition of the **-či* suffix, existed for the ascendant relations terms, which may have become self-reciprocal by also labeling the descendant relations, replacing the forms with the **-ma* suffix.

These alternate forms would have coexisted with the different grammatical forms discussed in section 4.4. In addition, modern data from Samachique and Brambila (1976) provide evidence that, in possessive constructions with noun or nominative case pronoun possessors, the **-wa* suffix followed by the possessed marker **-la* appears on the terms for these categories of relatives. Thus, excluding the stative forms created with the **-rúame* suffix, the postulated grammatical forms would have been realized in four different morphophonological shapes: **STEM-∅*, **STEM-li*, **STEM-la*, and **STEM-wa-la*. With the addition of the descendant and affective forms created with the **-ma* and **-či* suffixes, twelve different forms would have existed for each of the kinship terms in these categories. The Proto-Tarahumara forms that we postulate for **a?ká* ‘father’s mother’ are presented in table 21.

Table 21. Postulated Alternative Forms of **a?ká* ‘father’s mother’

<i>*STEM-∅</i>	<i>*STEM-li</i>	<i>*STEM-la</i>	<i>*STEM-wa-la</i>
<i>*a?ká</i>	<i>*a?ká-li</i>	<i>*a?ká-la</i>	<i>*a?ká-wa-la</i>
<i>*a?ká-či</i>	<i>*a?ká-či-li</i>	<i>*a?ká-či-la</i>	<i>*a?ká-či-wa-la</i>
<i>*a?ká-ma</i>	<i>*a?ká-ma-li</i>	<i>*a?ká-ma-la</i>	<i>*a?ká-ma-wa-la</i>

In table 22, we present modern Ralámuli attestations of the four postulated morphophonological shapes for a stem, a stem with the *-či* suffix and a stem with the *-ma* suffix. Attestations are drawn from our corpus of terms for grandparents, grandchildren, parents’ siblings, and sibling’s children, plus one from Brambila (1976:956), who did not indicate the provenance of the attestation.

Table 22. Modern Attestations of Postulated Alternative Forms

	ATTESTATION	DIALECT	CODE
<i>*STEM-∅</i>	<i>a?ká</i>	Western	W-M
<i>*STEM-li</i>	—	—	—
<i>*STEM-la</i>	<i>a?ká-la</i>	Western	W-T
<i>*STEM-wa-la</i>	<i>usú-wa-la</i>	Interior	I-SH
<i>*STEM-či</i>	<i>kumú-či</i>	Southern	S-B
<i>*STEM-či-li</i>	<i>kumú-ča-li</i>	Central	C-P
<i>*STEM-či-la</i>	<i>opó-ča-la</i>	Interior	I-SH
<i>*STEM-či-wa-la</i>	<i>ra?té-či-wa-la</i>	Brambila	—
<i>*STEM-ma</i>	—	—	—
<i>*STEM-ma-li</i>	<i>raté-ma-li</i>	Central	C-P
<i>*STEM-ma-la</i>	<i>očī-ma-la</i>	Interior	I-R
<i>*STEM-ma-wa-la</i>	—	—	—

NOTE: — = not attested.

We encountered attestations for nine of the twelve possible forms. No clear attestation exists for *STEM-li*, but because this form is associated with the indefinite, nonpossessed state, it is improbable that it would have been the form

used in the contexts within which most of our data were collected. Nonetheless, a possible attestation is the Samachique Ralámuli term *mučímali* ‘sibling-in-law’. Hilton (1993:46) documents *mučímali* as the nonpossessed form and *mučíma-wa-la* as the possessed form used with a noun or nominative case pronoun possessor, suggesting that the *-li* suffix was interpreted as a nonpossessed state marker.

The absence of an attestation of the vocative form *STEM-*ma* is understandable given that the *-ma* suffix is attested almost exclusively in Rejogochi Ralámuli, and vocative forms of kinship terms were not elicited in this community. The fact that *STEM-*ma-wa-la* is not attested reflects the fact that in Rejogochi Ralámuli the *-wa* suffix is attested only in words with the form *STEM-*či-wa* (see (19) in section 5.4).

Table 23 presents the reflexes of two Proto-Tarahumaran etyma for grandparents and two Proto-Tarahumaran etyma for uncles. All attestations are the STEM- \emptyset form, used as the vocative and in possessive constructions with genitive case pronoun possessors.

Table 23. Modern Cognates for Some Terms for Grandparents and Uncles

COMMUNITY	DIALECT	* <i>a?ká</i> ‘FM’	* <i>očí</i> ‘FF’	* <i>ukulí</i> ‘MeB’	* <i>kumu</i> ‘FeB’
Aboreachi	Central (C-A)	—	—	<i>kulíči</i>	<i>kumúči</i>
Guachochi	Central (C-G)	<i>akási</i>	<i>očísi</i>	<i>kulíči</i>	<i>kumíči</i>
Guachochi	Central (C-P)	<i>akásuli</i>	<i>apá</i>	<i>kulíči</i>	<i>kumúčali</i>
Rejogochi	Interior (I-R)	<i>akáčale</i> ~ <i>kai</i>	<i>očikale</i>	<i>ukulíči</i>	<i>kumúčale</i>
Samachique	Interior (I-S)	<i>akáčuli</i>	<i>očikile</i>	<i>kulíči</i>	<i>kumúči</i>
Samachique	Interior (I-SB)	<i>kačóči</i>	<i>očí</i>	<i>ukulíči</i>	<i>kumúči</i>
Samachique	Interior (I-SH)	<i>akáčuli</i>	<i>očíkali</i>	<i>ukulíči</i>	<i>kumúči</i>
Huichabóachi	Northern (N-H)	<i>akásuli</i>	<i>očípali</i>	<i>kulíči</i>	<i>kumíči</i>
Norogachi	Northern (N-N)	<i>akáčuli</i>	<i>očípali</i>	<i>kulíči</i>	<i>kumúči</i>
Balleza	Southern (S-B)	<i>akásuli</i>	<i>očítuli</i>	<i>kulíči</i>	<i>kumúči</i>
Turuachi	Southern (S-T)	<i>kásuli</i>	<i>čuítuli</i>	—	—
Mesa de Arturo	Western (W-M)	<i>a?ká</i>	<i>očí</i>	<i>ukú</i>	<i>gumalá</i>
Tierra Blanca	Western (W-T)	<i>a?ká</i>	<i>očí</i>	<i>ukú</i>	<i>gumalá</i>

NOTE: — = not attested.

These four cognate sets clearly document a break between the Western dialect and all other dialects. The possessed marker *-la*, seen in table 23 in the Western reflexes of **kumu* ‘father’s elder brother’, is the only suffix to have become lexicalized in the Western dialect. In contrast, cognates from the other dialects show lexicalized *-či*, *-li*, or *-či-li* in most reflexes (the variation in the vowels occurs because they are unstressed). We suspect that the absence of lexicalized suffixes in the Western dialect is the result of syllable reduction because the *-li* suffix in **ukulí* was lexicalized in Proto-Tarawariho, as was the *-li* suffix in **cineli*, reflected in Western Ralámuli as *čené* (see appendix 3, sets 5, 12).

The reflexes from the Central, Northern, and Southern dialects document the shift from *-č- to -s- in some words but not others. The *-suli* suffix attested in reflexes of **a?ká* ‘father’s mother’ may actually reflect Tepehuan influence. Rinaldini (1994:46) recorded *kasuli* as the eighteenth-century Northern Tepehuan term for ‘father’s mother’, suggesting an isogloss linking the Central and Northern dialects to Northern Tepehuan through the Southern dialect.

Brambila (1976:395) identified *očípali* as the term for ‘father’s father’ in Norogachi and *očíkali* as the term in Narárachi, both located in the Northern dialect area. In the data we collected, the cognates of *očíkali* are attested only in the Interior dialect. This unusual distribution, also encountered in reflexes of **aki* ‘child (♀)’, can, we think, be accounted for as the result of historical events related to the differential impact of the Spanish influenza pandemic of 1918 on the Ralámuli as a whole.

When the pandemic struck, Ralámuli communities located near roads and major trails were severely affected, while the impact on communities with little or no contact with outsiders appears to have been minimal. In 1918, Rejogochi was only about two kilometers from the mule trail that linked the mining town of Batopilas to the railhead in Creel, and a station to care for the muleteers and their animals was located along the trail in the nearby village of Basihuare (Merrill 1988:24–29). People in Rejogochi informed Merrill in the 1970s and 1980s that almost the entire population of Rejogochi died in the pandemic, with the survivors inheriting all of their livestock and fields. People from other communities who were not affected by the pandemic were invited to move to Rejogochi to help with the herding and farming, and one and possibly more men from the Narárachi area accepted the invitation, later marrying into the community.

Migrants from Narárachi or other communities to the east of Rejogochi perhaps also introduced new words for ‘maternal grandmother; daughter’s daughter (♀)’. Rejogochi Ralámuli includes three different words for these kinship relationships—*u?sú*, *su?ú*, and *su?í*—plus *su?súwiri* as an affectionate term for ‘daughter’s daughter (♀)’. Brambila (1976:536, 542) reports that *su?í* is the Norogachi term for ‘mother’s mother, daughter’s daughter (♀)’, which is attested elsewhere as *suwí*, but he does not identify the Narárachi form, and neither *su?ú* nor *su?súwiri* appear in his dictionary.

Hilton (1993:57, 62, 82) recorded for Samachique Ralámuli *u?sú*, *su?ú*, and *očíkali*, as well as a reflex of **aki* ‘child (♀)’, but not *su?í* or *su?súwiri*. That the Rejogochi and Samachique kinship lexica should share most of these terms is not surprising. In the early 1930s, Bennett and Zingg (1935: vii, ix) reported that some Samachique people had homes in Umirá, located only a few kilometers from Rejogochi, and a number of residents of Rejogochi in the 1970s and 1980s were originally from Samachique or descended from people who were. However, there may have been some delay in the diffusion of the kinship terms, suggested by Bennett and Zingg’s (1935:220–21) documentation of *očí* rather than *očíkali* as the term for ‘father’s father; son’s son’.

5.7. Plurals. Reduplication is one of the principal mechanisms used in many Uto-Aztecan languages for creating plural forms of kinship terms and other nouns (Hill and Hill 1997, 2000) and perhaps should be reconstructed for early Proto-Tarahumara kinship terminology. Modern Sierra Warihio relies on reduplication to create plural forms of all kinship terms except those that are already reduplicated, for which different singular and plural forms do not exist (Miller 1996:67-70). However, plurals are not attested for the vast majority of modern Ralámuli kinship terms. In fact, all that are attested in Brambila's dictionary (1976) are presented in table 24, with their Sierra Warihio cognates (Miller 1996:67-70). The only plural forms that we collected are found in appendix 3, sets 8, 15, 35, and 39.

Table 24. Plurals of Kinship Terms in Modern Ralámuli and Sierra Warihio

REFERENT	RALÁMULI	SIERRA WARIHIO
'elder sisters'	<i>o?kóči</i>	<i>ko?kocí</i>
'younger sisters'	<i>i?píni</i>	<i>pihpinií</i>
'elder brothers'	<i>a?páči</i>	<i>pa?pací</i>
'younger brothers'	<i>o?póni</i>	<i>pohponí</i>
'daughters (σ)'	<i>amalá</i>	<i>ma?malála ~ mamalála</i>
'sons'	<i>hínowa ~ hino</i>	<i>no?nolá ~ nonolá</i>
'offspring'	<i>ta?tána ~ ra?taná ~ a?taná ~ sa?taná</i>	<i>ta?taná</i>

6. Conclusions. To a large degree, the Proto-Tarahumaran kinship terminological system has remained stable during the diversification of the modern Ralámuli dialects. The modern systems we have considered here share a basic structure in which seven generations of consanguineal relatives and five generations of affines are recognized, lineal and consanguineal relations are distinguished along maternal and paternal lines in the two ascendant and descendant generations, birth order is reflected in the terminology of siblings, parents' siblings, and siblings' children, cousins are labeled with sibling terms, lineal and collateral relationships merge beyond the first ascendant and descendant generations, and no cross-parallel distinctions are made.

The system documented for the Western dialect is the most distinctive, primarily because of this dialect's loss of genitive case pronouns and of all inflectional and derivational suffixes used with kinship terms except the possessed marker *-la*. However, it has retained reflexes of almost all of the kinship etyma that can be reconstructed for Proto-Tarahumara. Only reflexes of **mali* 'father (♀)', **aki* 'child (♀)', and **sali* 'grandchild's spouse, spouse's grandparent' are not attested for this dialect. On the whole, lexical retention has been high in all dialects, with lexical replacement most extensive in the terminology associated with the Southern (Turuachi) dialect, due in part perhaps to influence from Northern Tepehuan. The greatest lexical loss is seen in the system documented

for the Central dialect community of Aboreachi, as the result of a reduction in the number of terms for grandparent and grandchild and for parents' siblings and siblings' children. Many of the intercommunity and interdialectal differences in the attested systems reflect modifications in the terminology for these categories of relatives and for siblings-in-law.

According to our analysis of shared phonological innovations in modern Ralámuli kinship terms (see section 3.2), the Proto-Tarahumara speech community was intact until sometime after 1826. Given the size of Tarahumara territory at European contact, we assume that it was organized as a regional network of settlements, with some linguistic variation but no sharp dialectal breaks. In the seventeenth century, Guadalajara (1683:xii) reported some phonological, morphological, and lexical differences among the different Tarahumara communities, at a time when the boundaries of the speech community were being extended westward by Tarahumaras moving away from the Spanish frontier (Pennington 1963:8–10). A century later, Steffel implied the existence of a dialect chain with his comment, “The Tarahumara language is one but also many, varying notably among the missions that are distant from one another” (1799:4).

Various features of Tarahumara social organization, settlement patterns, and subsistence strategies, documented with little change from the early colonial period until today, would have contributed to maintaining the integrity of the speech community across such an extended area. Tarahumara settlements, characterized as ranchos, were dispersed across the landscape, with people living adjacent to the fields that they cultivated. The size and configuration of settlements varied according to the distribution of arable land (Pennington 1983; Merrill 1983). Many, if not most, Tarahumaras were mobile agriculturalists in the sense that households tended to cultivate fields in more than one rancho and to move between or among the ranchos where their fields were located (Hard and Merrill 1992). Because the location of the fields of different households varied, the residents of different ranchos also varied, resulting in households participating in multiple social groups over the course of a year. The social networks that resulted were reinforced and extended through the cooperation of the residents of neighboring ranchos in staging ritual events and completing agricultural tasks and other labor-intensive work, usually within the context of maize-beer drinking parties. This approach to social and labor organization produced what Kennedy described as an “overlapping, interwoven net of interaction systems” (1963:624–26).

In theory, this social network would have extended indefinitely and uniformly across the region. However, because the Tarahumara homeland is rugged, the population was not distributed evenly across it, resulting in variation in the intensity of interaction in different parts of the network. In addition, over the course of the Spanish colonial period, non-Indigenous settlers created gaps in the network by displacing Tarahumara people from the lands in their terri-

tory most suitable for farming and ranching. The influx of these settlers into the Sierra Tarahumara increased dramatically during the second half of the nineteenth century, driven to a large degree by mining and lumbering booms that were facilitated by the construction of a railway line into the heart of the Sierra Tarahumara, which arrived at Creel in 1907 (Almada 1955, 1968, 1971; Wampler 1969; Burgess 2013).

We suspect that the social disruption caused by these developments contributed to the formation of a series of smaller interaction spheres within the Tarahumara speech community which, in turn, created the contexts within which greater dialectal differences and diversity in kinship terminological systems could have emerged. The fact that the breakup of the Proto-Tarahumara speech community appears to have begun after 1826 lends support to this hypothesis. The limited available evidence indicates that diversification was underway before 1900. No innovations shared by all the dialects can be identified as dating later than the early twentieth century, and in 1903 Gassó (1903:18) documented an innovation characteristic of the modern Northern dialect, the alternation of initial *k-* and *g-* (Valiñas Coalla 2002:264), attested, for example, in *kočí* ~ *gočí*, the reflex of Proto-Tarahumaran **koʔci* ‘elder sister’.

At the same time, the development of the modern dialects may not have advanced very far by this time. Gassó rejected the idea that dialects existed in Ralámuli. He characterized the linguistic differences that he had noted in different Ralámuli communities as “provincialisms,” commenting that the diversity within Ralámuli was less than that between the versions of Castilian spoken in Aragon and Albacete, “which are not dialects” (1903:2–3). The basic issue, of course, is not how much variation is required to be labeled dialectal, but rather what is nature of the linguistic variation that exists and how can it best be accounted for.

Valiñas Coalla (2001, 2002) has summarized the results of research that has been conducted to date on Ralámuli dialectology. Along with a number of lexical items, he identifies (2001:122) ten phonological or morphophonological features that are not shared among all the dialects, but while each of the five dialects has a unique complement of features, the isoglosses of most features crosscut at least one dialect boundary. The Northern, Central, and Interior dialects are more similar to one another than they are to either the Western or Southern (Turuachi) dialects, which are quite distinct from one another.

The same pattern applies to the systems of kinship terminology associated with these dialects, suggesting that the Proto-Tarahumara linguistic and social network diversified in stages. The first stage would have involved a decline in the level of interaction of the southernmost and westernmost communities with the core communities, followed by a second stage in which the level of interaction among the core communities also declined, resulting in further diversification. In a third stage, subdialectal differences emerged, especially evident in the terminological systems documented for the Central dialect communities of

Aboreachi and Guachochi. Undoubtedly diversification will continue to occur, unless the Indigenous terminological system is lost entirely.

Appendix 1: Dialect and Language Abbreviations and Sources

- C-A = Ralámuli (Central dialect, Aboreachi) (Kennedy 1970b, 1978)
 C-G = Ralámuli (Central dialect, Guachochi) (Burgess 1995)
 C-P = Ralámuli (Central dialect, Guachochi) (Passin 1943)
 ED = Eudeve (Pennington 1981)
 HP = Hopi (Hopi Dictionary Project 1998)
 I-R = Ralámuli (Interior dialect, Rejogochi) (Merrill, unpublished fieldnotes)
 I-S = Ralámuli (Interior dialect, Samachique) (Burgess 1995)
 I-SB = Ralámuli (Interior dialect, Samachique) (Bennett and Zingg 1935:220–22)
 I-SH = Ralámuli (Interior dialect, Samachique) (Hilton 1993)
 MY = Mayo (Collard and Collard 1962)
 N-H = Ralámuli (Northern dialect, Huichabóachi) (Burgess 1995)
 N-N = Ralámuli (Northern dialect, Norogochi) (Martínez, Martínez, and Naranjo 2012)
 NT = Northern Tepehuan (Bascom 1965)
 NT(R) = Northern Tepehuan (Rinaldini 1994)
 NV = Névome (Pennington 1979)
 PT = Proto-Tarahumara
 PTW = Proto-Tarawarihio
 PYP = Lower Pima (Yepachi dialect) (Shaul 1994)
 RL(B) = Ralámuli (Brambila 1976)
 S-B = Ralámuli (Southern dialect, Balleza) (Burgess 1995)
 S-T = Ralámuli (Southern dialect, Turuachi) (Burgess 1995)
 TC = Tehueco (Buelna 1989)
 TE = Teguima (Lombardo 2009)
 TO = Tohono O’odham (Saxton, Saxton, and Enos 1983)
 TSH = Timbisha Shoshone (Dayley 1989)
 W-M = Ralámuli (Western dialect, Mesa de Arturo) (Burgess 1995)
 W-T = Ralámuli (Western dialect, Tierra Blanca) (Burgess 1996; Burgess 1995)
 WR-R = Warihio (River dialect) (Félix Armendáriz 2005)
 WR-S = Warihio (Sierra dialect) (Miller 1996)
 WSH-G = Western Shoshone (Goshiute dialect) (Miller 1972)
 YQ = Yaqui, Sonora (Estrada Fernández, et al. 2004)
 YQ(K) = Yaqui, Sonora (Kroeber 1934:23–26)
 YQ-A = Yaqui, Arizona (Molina, Valenzuela, and Shaul 1999)

Appendix 2: Provenance of Modern Ralámuli Kinship Terminologies

The majority of our data on modern Ralámuli kinship terminology was compiled in 1995 as part of a bilingual (Ralámuli-Spanish) education program under the aegis of the Coordinación Estatal de la Tarahumara of the State of Chihuahua, Mexico (Burgess 1995; Ramos Chaparro, et al. 1997). Six native Ralámuli speakers representing the five dialect areas provided kinship data from their home communities, which Burgess (1995) organized into an unpublished report. These education specialists are listed here in alphabetical order with their dialects, communities, and the abbreviations for the dialects in parentheses: María Soledad Bustillos Peña (Southern dialect, Balleza; S-B), Miguel Carillo Frías (Western dialect, Mesa de Arturo; W-M), Ismael Castillo Aguirre (Northern dialect, Huichabóachi; N-H), Ventura Orozco Castro (Interior dialect,

Samachique; I-S), Cesáreo Prieto Vega (Southern dialect, Turuachi; S-T), and Aureliano Ramos Chaparro (Central dialect, Guachochi; C-G). Albino Mares Trias and Reynaldo Carabeo (Western dialect, Tierra Blanca; W-T) also collaborated in the project, working independently with Burgess. Additional data from the community of Rejogochi (Interior dialect; I-R) was compiled by Merrill between 1977 and 1984. Lirio Martínez and Masiria Rejogochi were his principal collaborators.

The kinship terminologies of two of these communities, Samachique and Guachochi, were documented in earlier studies. The Samachique system was first studied in 1930-31 by Wendell Bennett (Bennett and Zingg 1935:220-3; I-SB); Hsieh (1980) is a formal analysis of Bennett's data. Kenneth Simon Hilton, who served as a Protestant Bible translator in this community from 1940 to 1976, initially published his vocabulary of Samachique Ralámuli (I-SH) in 1959.

Guachochi (Central dialect) was the focus of research by Herbert Passin in 1940 (1943; C-P), but the degree to which his data represent this community exclusively is unclear. In 1940, Guachochi served as the administrative center of the municipal district of the same name, as well as the site of a school established in 1938 by the Mexican Federal government to train teachers in Indigenous education (Plancarte 1954:9). As a result, Passin (1943:361) had the opportunity to collect additional data from residents of several other Ralámuli communities who went to Guachochi to deal with judicial matters or to study. He named Sisoguichi, Pino Gordo, Ricorichi, and Guadalupe Coronado, none of which are in the immediate vicinity of Guachochi, but in most cases, he did not identify the community or communities with which specific kinship terms and usages were associated. However, at least with regard to changes in the kinship terminology designating parents' brothers and siblings' children, he commented, "it must be admitted that the sampling outside of the community of Guachóchi is not adequate for a high degree of reliability" (1943:377), suggesting that he relied primarily on his Guachochi data in describing the terminological system.

On the basis of fieldwork in 1959 and 1960, John Kennedy (1970b, 1978) summarized the terminology used by the residents of the settlements of Inápuchi and Yehuachique, both affiliated with the pueblo of Aboreachi of the Central dialect area (C-A). The most recent study of Ralámuli kinship terminology is that of Martínez, Martínez, and Naranjo (2012), which focuses on the community of Norogachi, located in the northern dialect area (N-N). They derived their data from interviews conducted in 2008 and 2009 with the residents of the rancho of Santa Cruz located three kilometers east of the village of Norogachi (Martínez, Martínez, and Naranjo 2012:31-2).

Additional data come from Leonardo Gassó (1903), a Jesuit missionary, who provided considerable detail on Ralámuli kinship terminology in his grammar of Ralámuli. Although based at Sisoguichi at the time that he wrote his grammar, it is not certain that his kinship data are from that community or that community alone. Although we do not treat Gassó's work as representing Sisoguichi Ralámuli (Northern dialect), it is invaluable to our study because it provides the earliest twentieth-century attestations of much of the Ralámuli kinship lexicon. The work of another Jesuit missionary linguist, David Brambila (1953, 1976, 1983), also has proven to be of great use in documenting the varying pronunciations and usages associated with the modern Ralámuli kinship lexicon, although he seldom associates his data with specific communities.

Appendix 3: Cognate Sets

The cognate sets are presented in alphabetical order according to the earliest reconstructed form, either early Proto-Tarahumara or late Proto-Tarahumara. If the early and late reconstructions are the same, only the single reconstruction is given. Both non-possessed and possessed forms are given. The nonpossessed forms are stems and are

shown with stress only if they have inherent stress. Sets are included for three words of Nahuatl origin, *čiči*, *nána*, and *táta* (sets 3, 21, and 36), that probably entered the modern Ralámuli kinship lexica via Mexicanized Spanish after dialectal diversification was underway. These words are not marked with an asterisk because we doubt that they formed part of the Proto-Tarahumaran kinship lexicon.

For those etyma whose reflexes have cognates in other Uto-Aztecan languages that are documented in Stubbs (2011), the numbers of Stubbs's cognate or resemblant sets are prefixed by "S-" and included in parentheses after the etyma. Sierra Warihio cognates, if attested, are presented immediately before the Ralámuli attestations, unless they are discussed in the comments.

The attestations are organized into numbered groups, with the reflexes closest in form to the reconstructed etyma listed first. The colon following the attested reflex is the punctuation mark, not the symbol for vowel length. The dialects in which they are attested are indicated by their abbreviations: C = Central; I = Interior; N = Northern; S = Southern; and W = Western. The names of the associated communities and sources of the data from them are given, along with the abbreviations, in appendices 1 and 2.

The reconstructed referents are complete except for those associated with the terms for grandparents and parents' siblings. The terms for grandchildren and siblings' children apparently were derived from those for the ascendant generations, but the reconstruction of the descendant terms is challenged by the dialectal diversity attested for these components of the system (see sections 2.1 and 5.1).

The comments are intended to clarify our decisions regarding the reconstruction of some etyma and to report dialectal variation and other details not mentioned in the main text. Most features discussed in the main text are not commented on in this appendix.

1. **aki* 'child (♀)'. **ki*, **ki?lá*. (1) *kí*: I-R, I-S, I-SB, I-SH. COMMENTS: (a) Despite the limited distribution of its reflexes, we reconstruct **ki* for Proto-Tarahumara because it is attested as female ego's term for 'child' in Sierra Warihio (*ahki*) and Teguima (*aki*) (Lombardo 2009:291). (b) Brambila (1976:249) reported its use only in the Naráachi area (Northern dialect) and noted that a glottal stop surfaced in the possessed form, which is attested in I-R *ki?-lá*.

2. **awáka* 'younger sister's husband'. **wáka*, **wáka-la* (S-2002). WR-S *awaká*. (1) *wáka*: I-SH. (2) *wága*: I-SB. (3) *wákale*: I-R. (4) *wágila*: W-T. (5) *wá*: C-P. COMMENTS: (a) The shared loss of the antecedent unstressed initial syllable **a-* accounts for the initial-syllable stress attested in the modern Ralámuli reflexes. (b) For I-SH, *-wa* is attested on the form used with the genitive case pronoun, the reverse of the usual pattern: *kéni wáka-wa*. The form used with the nominative case pronoun is *nihé wáka-la*. (c) The reflex of **awáka* has been lost in C-A and N-N. (d) No data: C-G, I-S, N-H, S-B, S-T, W-M.

3. *čiči* 'mother' (S-301: 'breast'). (1) *čiči*: C-A, I-R, I-S. COMMENTS: (a) In C-A and I-S, *čiči* is used as a term of address by male speakers only. In I-R, it is used by both female and male speakers. (b) The fact that Brambila (1976:113) recorded *čiči* 'mama' suggests that the term is used in more Ralámuli communities than attested in our data set.

4. **ci?é*, **ci?é-la* 'elder sister's husband'. WR-S *če?é*. (1) *či?éli*: I-R. (2) *čieli*: C-A. (3) *či?éla*: N-H, N-N, S-T. (4) *či?é*: I-S, I-SH, C-G. (5) *če?é*: W-M, W-T, C-P. (6) *čie*: I-SB. COMMENTS: (a) In W-M, *če?é* is self-reciprocal, labeling both 'elder sister's husband' and 'wife's younger sibling'. (b) In S-B, *nótisi* is attested as the self-reciprocal for 'elder sister's husband, wife's younger sibling'.

5. **činéli*, **činé-la* 'younger brother's wife'. WR-S *čenéli*. (1) *čené*: W-T. (2) *či?néala* ~ *či?né-la*: N-N. COMMENTS: (a) PT **činéli*, with the *-li* suffix, is reconstructed based on the Sierra Warihio reflex and RL(B) *činéli*. (b) Martínez, Martínez, and Naranjo (2012:93–94) report *či?néala* as the form used by and with respect to male egos and *či?né-la* as the

form used by and with respect to female egos. (c) A reflex of **činēli* has been lost in the Central and Interior dialect communities. (d) No data: I-S, C-G, N-H, S-B, S-T, W-M.

6. **čo?kóba-*, **čo?kóba-la*. Unclear referent. (1) *čo?kóbale*: I-R. (2) *čokóba*: I-SH. (3) *čokóbola*: C-A. (4) *sokóbali*: C-P. COMMENTS: (a) In the early 1930s, Bennett and Zingg (1935:221) reported *čokóbo-la* as the Samachique Ralámuli label for 'fourth ascendant and descendant relative'. In the late 1950s, Hilton (1993:26, 164) recorded *čokóba-la* 'stepmother', with *čokóba-wa* 'stepchild' as its reciprocal for this subdialect of Interior Ralámuli. The C-P and I-R cognates also are glossed as 'stepchild'. (c) Kennedy (1970b:182) glossed the Aboreachi cognate *čokóbola* as 'adopted child'. (d) A term for 'stepchild' is not reported for other dialects.

7. **e?wéna-wa*, **e?wéna-wa-la* 'parents, parents' siblings, parents' siblings' spouses'. (1) *wénowa*: I-SB. (2) *?wéna-wa-la* ~ *?wéna-la*: I-SH. (3) *wé?nale*: I-R. COMMENTS: (a) The referent assigned to the PT etymon is from I-R. For the Samachique subdialect of Interior Ralámuli, Bennett and Zingg (1935:221) provide the gloss 'relations', while Hilton (1993:33) glosses *?wénawa* as 'to have parents', *nihé ?wénawala* as 'my parents' and *tamuhé ?wénala* as 'our parents'. (b) Brambila (1976:161) reported the alternate forms *ewénowa* ~ *ewénoa* ~ *wénowa*, which he glossed as 'parents, father and mother' and 'ancesters'. (c) The possibility that **e?wéna-* entered Proto-Tarahumara as a loanword is considered in section 3.1.

8. **ino*, **ino-lá* 'son (σ)' (S-1426). WR-S *nolá* ~ *noló*. (1) *inó*: C-P, N-H. (2) *inolá*: W-M, W-T. (3) *nó*: I-R, I-S, I-SB, I-SH, C-G. (4) *nó* ~ *nolá*: C-A. (5) *nolá*: N-N. PLURALS: (1) *hínua-la*: I-S. (2) *hinówa-la*: W-M. COMMENTS: (a) In the WR-S reflex, *-la*, identified by Miller (1996:250-51) as the absolutive suffix, has been lexicalized and the final vowel in the alternate form has been harmonized with the previous *o*. (b) The possessed marker *-la* is lexicalized in the Western dialect form *inolá* and in the alternate C-A form *nolá*, used as the term of reference (Kennedy 1970b:178, 1978:158-59). (c) The initial *h-* in the modern plural forms reflect **hínowa* and support the reconstruction of the initial **i* in the singular form. Guadalajara (1683:3) noted that when plurals of words with initial vowels were created through reduplication, an *-h-* was inserted between the vowels. In this case, the sequence likely involved reduplication followed by loss of the initial vowel: **inó* 'son (sg.)' > **ihino* 'son (pl.)' > *hino* 'son (pl.)'. (d) Gassó (1903:18) implied slight semantic differences among *hinó*, *nó*, and *nolá*. He glossed the construction *kéne hinó* as 'son, in general', *kéne nó* as 'my son', and *nolá* as 'someone's son'. (e) For C-P, Passin (1943:369) reported that the reflex of **ino* was used by both female and male egos. (f) For N-N, Martínez, Martínez, and Naranjo (2012:93) report *ba?čirúame*, the stative form of *ba?čí* 'elder brother', as the principal term used for 'son (σ)' (see set 26).

9. **ka?ká* 'father's mother'. **a?ká*, **a?ká-la* (S-1050). WR-S *ka?ká*. (1) *a?ká*: W-M, W-T. (2) *akáčale* ~ *kaí*: I-R. (3) *akáčuli*: I-S, I-SH, N-N. (4) *akásuli*: C-P, N-H, S-B. (5) *kásuli*: S-T. (6) *akási*: C-G. (7) *kačóci*: I-SB. COMMENTS: (a) In I-R, *akáčale* and *kaí-* are alternate forms, used with both genitive and nominative case pronoun possessors. The possessed marker *-la* is not used with *akáčale*. Stress shifts to the suffix in *kaí-lá*. (b) I-SB *kačóci* 'father's mother, son's daughter' is not attested in any other modern Ralámuli sources, but it is attested in eighteenth-century Tarahumara as *kacó* (Steffel 1809:323, 356). (c) The reflex of **a?ká* has been lost in C-A. The term used in other dialects for 'mother's mother', *usú* ~ *usú*, is the only term for 'grandmother' attested in this community. (d) In W-T, *a?káčili* 'son's child (♀)' is used as a term of endearment.

10. **ko?ci*, **ko?ci-lá* 'elder sister' (S-2000). (1) *ko?čí*: N-N. (2) *kočí*: C-A, C-P, I-R, I-S, I-SH. (3) *gočí*: I-SB. (4) *gočilá*: W-T. (5) *gočilá*: W-M. (6) *očí*: C-G, N-H, S-B, S-T. COMMENTS: (a) The medial glottal stop is reconstructed based on N-N *ko?čí*, W-T *gočilá*,

RL(B) *koʔčí*, and WR-S and WR-R *koʔčí*. (b) The possessed marker *-la* is lexicalized in the Western dialect.

11. **kúči-* ‘child, children’. WR-S *kučítá*. (1) *kúčuwała*: N-H, S-T, W-M. (2) *kúčuwa*: I-R, C-P. (3) *kúčiwa*: I-SB. (4) *kučwala*: C-A. (5) *kučiwí*: S-B. (6) *kúčala*: I-SH. (7) *?kúči-la*: W-T. COMMENTS: (a) For I-SH, Hilton (1993:21) reports *nihé kúčuwała* as the plural ‘my children’. For the same subdialect of Interior Ralámuli, Bennett and Zingg (1935:221) glossed *kúčiwa* as ‘son (used referring to children of God)’. (b) In Rejogochi Ralámuli, *kúči-* is both singular and plural, with *kúči-wa* used with a genitive case pronoun possessor and *kúči-le* used with a noun or nominative case pronoun possessor. (c) For N-N, Martínez, Martínez, and Naranjo (2012:95) report (kinikochi) as a term for ‘daughter (σ)’ and (kinikuchua) as a term for ‘younger brother’s son (σ)’. (d) No data: C-G, I-S.

12. **kukulí* ‘mother’s elder brother’. **ukulí*, **ukulí-la*. WR-S *kukulí*. (1) *ukulíči*: I-R, I-SB. (2) *kulíči*: C-A, C-G, C-P, I-S, I-SH, N-H, N-N, S-B. (3) *ukú*: W-M, W-T. COMMENT: (a) In N-N, *kulíči* is used only by and with respect to male egos (Martínez, Martínez, and Naranjo 2012:93). (b) No data: S-T.

13. **kumú*, **kumu-lá*, ‘father’s elder brother’ (S-2433). WR-S *kumú*. (1) *kumúčali*: C-P, I-SH. (2) *kumúčale*: I-R. (3) *kumúči*: I-S, I-SB, N-N, S-B. (4) *kumíči*: C-G, N-H. (5) *gumalá*: W-T, W-M. COMMENTS: (a) Burgess (1995) reports both *gumalá* and *kumúči* as W-M reflexes of **kumú*. An initial *g-* is the expected Western Ralámuli reflex of the initial **k-*, leading us to conclude that *kumúči* was mistakenly recorded. (b) Martínez, Martínez, and Naranjo (2012:94) report for N-N that *kumúči* is used by and with respect to female egos for both ‘father’s elder brother’ and ‘mother’s elder brother’. (c) No data: S-T.

14. **kuná*, **kuná-la* ‘husband’ (S-1240). WR-S *kuná*. (1) *kuná*: I-R, I-SH, N-N. (2) *guná*: I-SB, W-T. (3) *uná*: C-P. (4) *kunála ~ unála*: C-A. COMMENT: No data: C-G, I-S, N-H, S-B, S-T.

15. **malá*, *malá-la* ‘daughter (σ)’ (S-140). WR-S *malála*. (1) *malá*: all dialects and attestations except C-A and N-N. (2) *malála*: C-A, N-N. PLURALS: (1) *a?malá-la*: I-S, W-M, W-T. (2) *amalá*: C-G, N-H. (3) *amála*: S-B. (4) *malá-la*: S-T. COMMENTS: (a) Kennedy (1970b:179, 1978:158–59) identified C-A *malála*, with the possessed marker *-la* lexicalized, as the term of reference used by both female and male egos. (b) For C-P, Passin (1943:369) reported that the reflex of **malá* was used by both female and male egos. (c) In WR-S *malála*, the *-la* suffix is lexicalized (Miller 1996:355). (d) In S-T *kéni malála*, the possessed marker *-la* appears to be lexicalized.

16. **mali*, **mali-lá* ‘father (♀)’. (S-852). WR-S *ma?má*. (1) *malí*: I-R, I-SB, I-SH, C-A, N-H. COMMENTS: (a) In the Western and Southern dialects and C-G and C-P, reflexes of **o?nó* ‘father (σ)’ are used by both female and male egos. (b) Miller (1996:251, 365) reports WR-S *mari-wá* as the irregular possessed form of *ma?má* and notes that many Warihio speakers use *no?nó* ‘father (σ)’ as the term for ‘father’ for both male and female egos. (c) Passin (1943:369) characterized the reflex of **mali* reported for Samachique by Bennett and Zingg as a “regional variant.” (d) In N-N, the reflex of **mali* has been replaced by *táta* ‘father (♀, σ)’ (see set 36). (e) No data: I-S, W-M.

17. **mo?né*, **mo?né-la* ‘daughter’s husband’ (S-2085). WR-S *mo?né*. (1) *mo?né*: W-T, I-R, I-S, I-SH, C-G, C-P, N-H, N-N, S-B, S-T. (2) *moné*: I-SB. (3) *mo?néla*: C-A, W-M. COMMENT: In N-N, both *mo?né* and the stative form *mo?nérwame* are reported for ‘daughter’s husband (♀)’ (Martínez, Martínez, and Naranjo 2012:94, 96).

18. **mo?olí*, **mo?olí-la* ‘son’s wife’. WR-S *mo?olí*. (1) *mo?olí*: I-R, I-S, I-SH, C-G, C-P, N-H, S-B, S-T. (2) *mo?olí ~ mo?olilá*: N-N. (3) *moolí*: I-SB. (4) *mo?lí*: W-T. (5) *mo?lila*: W-M. (6) *mo?olila*: C-A.

19. **mučímali* ‘wife’s younger sibling’. WR-S *mučímáli* ‘spouse’s younger sibling’. (1) *mučímali*: all dialects and attestations except I-SB, S-B, and S-T. (2) *mučímuli* ‘siblings-in-law’: I-SB. COMMENTS: (a) We interpret this term as a loanword of Teguima origin, with considerable interdialectal variation in its modern Ralámuli referents (see section 3.1). (b) S-B *nótisi* is attested as the self-reciprocal for ‘elder sister’s husband, wife’s younger sister’. The term for ‘wife’s younger brother’ was not recorded. (c) Gassó (1903:19) glossed *mučímali* as “concuñado,” which we interpret as a mistake for “cuñado,” ‘sibling-in-law’. (d) No data: S-B, S-T.

20. **nahiréma*, **nahiréma-la* ‘consanguineal relatives’. (1) *nahiréma-la*: C-G. (2) *naharéma-la*: W-T. (3) *nahiréma-ga*: I-R, I-SB. (4) *nahirém-ami*: I-S, I-SH. (5) *naharén-ame*: W-M. (6) *nahiré-ama*: C-P. (7) *nahiré-ama-la*: N-H. (8) *nahibón-ami*: I-S. COMMENTS: (a) The *-ga* suffix in the I-R and I-SB reflexes is an allomorph of **-wa*, the result of the fortition of **-w* to **-gʷ* attested in the data of Guadalajara (1683) and Steffel (1809) (Merrill 2007:416–34). (b) The suffix *-amV* is the adjectivalizer and nominalizer reconstructible for PT as **-ame*. (c) Normally the possessed marker *-la* is not used with the reflex *-amV*, but it appears in N-H *nahiré-ama-la*. In this dialect, *nahiré-ama-la* is used only for ‘brothers’ while **teáma-la*, the reflex of **re?tehima-la*, is the generic for ‘relatives’. (d) In our source for I-S (Burgess 1995:25–26), *naherémami* is glossed as ‘distant relatives’ and *nahibónami* ‘relatives’. These glosses probably are switched, as suggested by S-B *nahibónami* ‘distant relatives’. (e) Reflexes of **nahiréma* are not attested in our sources for C-A, S-B, and S-T, although S-B *nahibónami* ‘distant relatives’ must be related.

21. *nána* ‘mother’ (S-1454). (1) *nána*: C-G, I-R, N-H, N-N, S-T, W-M, W-T. COMMENTS: (a) This term is used only as a term of address except in N-N, where it is used as a term of reference. (b) It is used by both female and male speakers in C-G, I-R, N-N, W-M, and W-T, by female speakers only in N-H, and by male speakers only in S-T.

22. **nawilá*, **nawilá-la* ‘child’s spouse’s parent’. (1) *nawilále* ~ *nawilá-la* ~ *naulá-la*: I-R. (2) *naolá*: W-T. COMMENTS: (a) Although reflexes of **nawilá-* are attested in only two communities, we reconstruct this etymon for Proto-Tarahumara because the dialects represented are quite different, and their kinship lexica are our best documented. In addition, Brambila (1976:370) recorded a cognate, *nauyá*, which he tentatively glossed as ‘co-parent-in-law’, but he did not reveal the dialect or dialects in which it occurred. (b) I-R *naulá*, W-T *naolá*, and RL(B) *nauyá* have final-syllable stress and show the shift in the second syllable from *-ua-* to a round vowel. The replacement of *-l-* by *-y-* in Brambila’s form is unexplained. (c) Brambila (1976:363, 508) recorded *salí* and *na?salí* as definitely designating ‘co-parent-in-law’. In our data, ‘spouse’s grandparent, grandchild’s spouse’ is the referent of reflexes of **salí* (see set 31).

23. **nesa*, **nesa-lá* ‘mother’s elder sister’ (S-87). WR-S *nehsá*. (1) *nisá*: C-P, I-SB. (2) *neselá*: I-S, W-M, W-T. COMMENTS: (a) Reflexes of **nesá* have been lost in C-A, C-G, I-R, N-H, N-N, S-B (see section 5.1). (b) The possessed marker *-la* is lexicalized in the I-S, W-M, and W-T reflexes. (c) In W-M, *wa?lúla nanála*, literally, ‘big mama’, is also used to refer to ‘mother’s elder sister’. (d) No data: I-SH, S-T.

24. **no?no* ‘father’ (σ). **o?no*, **o?no-lá* (S-851). (1) *o?no*: I-S, W-T. (2) *ono*: all other dialects except C-A. (3) *ono* ~ *onolá*: C-A. COMMENTS: (a) In S-B, S-T, and W-T, both male and female speakers use reflexes of **o?no* for ‘father’. Reflexes of **mali* are documented in other dialects as the terms used by female egos (see set 16). Hilton (1993:164) reports for Samachique that female speakers use both *mali-* and *ono-*. (b) C-A *ono* and *onolá* are alternate forms of the term of reference.

25. **pabáma-* ‘grandchild’. (1) *pabámoala*: N-H. (2) *pabámoli*: C-A, S-T. (3) *pabámali*: C-P. COMMENTS: (a) N-H *pabámoala* is glossed as ‘son’s child (♀)’ and ‘daughter’s child (σ)’

while S-T *pabámoli* is glossed as ‘son’s son (♀)’ and ‘son’s daughter (♂)’. Passin (1943:373) reported it as the generic term for ‘grandchild’. (b) The *-o-* in three of the four reflexes supports reconstructing **pabáma-wa-la*. (c) The word may be a loan from Northern Tepehuan. Rinaldini (1994:45 [section 2]) recorded ⟨bamara⟩ for ‘daughter’s child (♂)’.

26. **paʔči* ‘elder brother’. PT **baʔči*, **baʔči-lá* (S-305). (1) *bači*: all dialects except N-N and Western. (2) *baʔči*: N-N. (3) *baʔčilá*: W-T. (4) *bačilá*: W-M. COMMENTS: (a) The medial glottal stop is reconstructed based on N-N *baʔči*, W-T *baʔčilá*, RL(B) *baʔči*, and WR-S and WR-R *paʔči*. (b) The possessed marker *-la* is lexicalized in the Western dialect.

27. **papá* ‘mother’s father’. **apá*, **apá-la* (S-1048). WR-S *papá*. (1) *apá*: N-H. (2) *apalóči*: C-A, C-G, C-P, I-SH, N-N, W-M, W-T. (3) *apulóči*: I-SB. (4) *palóči*: I-S, S-B. (5) *apalócale*: I-R. COMMENTS: (a) All dialects except N-H have adopted the diminutive form reflecting **apalóči* for both ‘mother’s father’ and ‘daughter’s child (♂)’, which may be a loanword from Warihio (Miller 1996:270, 371; cf. Medina Murillo 2012:132–33). In N-H, the diminutive form is used only for ‘daughter’s child (♂)’. (b) In C-P, *apá* is used for ‘father’s father, son’s child (♂)’ instead of a reflex of **ocí*. (c) In S-T, *ocítoli*, presumably a reflex of **ocí*, is the term for ‘mother’s father’, while *čúituli* labels ‘father’s father’.

28. **papoi* ‘father’s younger sister’. **bapó*, **bapo-lá* (S-88). WR-S *papói*. (1) *bapó*: I-R. (2) *apó*: C-P, I-SB, N-N. (3) *apói*: C-G, N-H, S-B. (4) *apuí*: W-M, W-T. (5) *opóči*: I-SH. COMMENTS: (a) The reflex of **bapó* has been lost in C-A (see section 5.1). (b) Brambila (1976:26) gives the alternate forms *bapói ~ wapói ~ apói* ‘father’s younger sister’, which suggests that a shift of initial *b-* to *w-* may have preceded the loss of the initial consonant seen in all dialects but I-R. (c) No data: I-S, S-T.

29. **pini* ‘younger sister (♀)’. **bini*, **bini-lá* (S-2001). WR-S *pini* ‘younger sister (♀, ♂)’. (1) *bini*: All dialects except Western. (2) *binilá*: W-M, W-T. COMMENTS: (a) The possessed marker *-la* is lexicalized in the Western reflexes. (b) Passin (1943:370) reported that *bini ~ bini-lá* was used exclusively by male egos.

30. **poni* ‘younger brother’. *boní*, *boni-lá* (S-310). WR-S *poní*. (1) *boní*: all dialects except S-T and Western. (2) *oní*: S-T. (3) *bonilá*: W-M, W-T. COMMENT: The possessed marker is lexicalized in the Western dialect reflex.

31. **salí*, **sali-lá* ‘grandchild’s spouse, spouse’s grandparent’. (1) *salí*: I-R, C-A, C-P. COMMENTS: (a) Reflexes of **salí* were not reported by any of the bilingual Ralámuli education specialists, but they were not explicitly requested to provide a term or terms for ‘grandchild’s spouse, spouse’s grandparent’ (Burgess 1995). (b) Kennedy (1978:160–61) recorded two terms, *salí* and *salú*, for the ‘grandchild’s spouse, spouse’s grandparent’ relationship (see section 5.2). (c) Brambila (1976:363, 508) reported ‘co-parent-in-law’, not ‘grandchild’s spouse, spouse’s grandparent’, as the referent of *salí*, and he recorded *naʔsalí* as a collective noun designating ‘co-parents-in-law (both)’ (“consuegros [los dos]”). This second term, not attested in any other sources, is derived from *salí* by prefixing *na-*, a reciprocal marker also seen in **nawilá* ‘co-parent-in-law’ (see set 22). Brambila gave *sali-lá* as the nominative possessed form for *salí*, but he did not provide the comparable form for *naʔsalí*.

32. **siʔa*, **siʔa-lá* ‘spouse’s father’. WR-S *siʔá*. (1) *siʔá*: W-M, I-R, I-S, I-SH, C-G, N-H, S-B, S-T. (2) *siʔá ~ siʔyá*: W-T, I-SH. (3) *siá*: I-SB, C-A, C-P. COMMENTS: (a) The reflexes of **siʔa* are the only modern Ralámuli affinal kinship terms that lack inherent stress. (b) Martínez, Martínez, and Naranjo (2012:93–94) give ⟨siaʔruame⟩ as the N-N form for ‘spouse’s father’; *siʔarúame* is expected.

33. **solo*, **solo-lá* ‘father’s elder sister’. WR-S *soló*. (1) *soló*: all dialects and attestations. COMMENTS: (a) Brambila (1976:534) reported a lengthened first-syllable vowel in this

word: *sooró* and *sooro-lá*. (b) For N-N, Martínez, Martínez, and Naranjo (2012:93-96) recorded *sooló* ~ *soló* ~ *so?ló* as alternate forms. (c) No data: S-T.

34. **su?su* 'mother's mother'. **u?sú*, **u?su-la* (S-1051). WR-S *su?su*. (1) *u?sú*: C-G, N-N, W-M, W-T. (2) *usu*: C-P, I-S, N-H, S-B. (3) *usú* ~ *usu*: C-A. (4) *u?sú* ~ *su?ú*: I-R, I-SH. (3) *uusú*: I-SB. (4) *súkoli*: S-T. COMMENT: The term *su?i* 'mother's mother' also is attested in I-R, which has *su?súwiri* as a term of endearment for 'daughter's daughter (♀)' (see section 5.6).

35. **taná* 'offspring'. **raná*, *raná-la* (S-146). WR-S *taná*. (1) *raná*: C-A, C-P, I-R, I-SB, I-SH, N-N, S-B, W-T. COMMENTS: (a) The reflexes of **raná* are used in modern Ralámuli as terms of reference. (b) In S-B, the construction *kíne raná* 'my child' is used only by female speakers. (c) In S-T, *ranála* and its plural *tanála* are used only in reference to the offspring of animals. (d) In N-H, *nihé ranála towí* 'my boy offspring' and *nihé ranála tewé* 'my girl offspring' (*towí* 'boy'; *tewé* 'girl') are sometimes used, a practice also reported for C-P (Passin 1943:369). (e) Attested plural forms are *né a?taná-la* (W-T) and *nihé ataná-la* (C-G).

36. *táta* 'father (♀)' (S-850). *táta*: C-A, I-R, I-S, I-SH, N-H, N-N, W-M, W-T. COMMENT: (a) In N-N, *táta* is the sole term used for 'father (♀, ♂)'. (b) Our data from other dialects indicate that *táta* is used only as a term of address by female egos, but Hilton (1993:79) did not mention this restricted usage for I-SH.

37. **ta?tai* 'mother's younger brother'. **ra?té*, **ra?te-lá* (S-2432). WR-S *ta?tai* ~ *ta?téi*. (1) *ra?té*: N-N. (2) *raté*: C-G, C-P, I-R, I-S, I-SH, N-H, S-B, S-T. (3) *ratéçi*: C-A. (4) *raté* ~ *ata-lá*: I-SB. (5) *atelá*: W-M. (6) *a?talá*: W-T. COMMENTS: (a) In W-T, *a?téla* is the reference form and *a?talá* is the vocative form. The phonological alternation of *a?té-* ~ *a?ta-* parallels that attested in I-SB. (b) In I-SH, *raté* is glossed as 'mother's younger sibling'. (c) Tepiman cognates indicate that the vowel sequence *-ai is the result of the loss of *-l-: NT(R) *tatali* and TO *tatal(i)*.

38. **teçi* 'father's younger brother'. **riçi*, **riçi-lá*. WR-S *teçi*. (1) *riçi*: C-P, I-R, I-SB, I-SH. (2) *ri?çi*: N-N. (3) *riçuí*: C-G, N-H, S-B. (3) *riçilá*: W-M, W-T. (4) *riçúile*: I-S. COMMENTS: (a) The -*la* suffix is lexicalized in the Western dialect reflexes. (b) The glottal stop is attested only in N-N and RL(B) *ri?çi*. (c) No data: S-T.

39. **tehima* 'relative, spouse, companion'. **rehimá*, **rehimá-la* (S-2585). WR-S *tehima* 'spouse', *tetehima* 'consanguineal and affinal relatives'. (1) *rehimá*: I-S. (2) *rehimá-la*: W-M, W-T. (3) *rihimá-la*: C-A, C-P, I-R, I-SB, I-SH, N-H, N-N. COMMENTS: (a) In most dialects, reflexes of **tehimá* are used only as terms of reference and thus are attested with the possessed marker -*la*. (b) For I-S, the nominative possessed form was not provided. (c) Reflexes of the singular **rehimá* are not attested in C-G and the Southern dialect, but reflexes of the plural **re?tehima* are. The attested plural forms are presented in section 5.4, set (17). (d) Reflexes of the plural **re?tehima* are not attested in C-A, W-M, or the Interior dialect. In the Interior dialect, reflexes of **nahirema* 'consanguineal relatives' serve as the suppletive plurals for reflexes of the singular **rehimá*. (e) In modern Ralámuli dialects, reflexes of **tehima* are used by spouses only as a term of address, and apparently only consanguineal kin are designated by the plural form. In WR-S, 'spouse' is the only referent given for the singular form, and the referent of the plural form includes both consanguineal and affinal kin (Miller 1996:392, 394).

40. **tepó*. **repó*, **repó-la* 'elder brother's wife'. WR-S *tepó*. (1) *rehpó*: W-T. (2) *ripó*: I-R, N-N. (3) *repóla*: C-G, N-H. (4) *repóala*: W-M. (5) *ripóli* ~ *ripómala*: C-A. (6) *póçili*: S-B. COMMENTS: (a) Passin (1943:383) reported the use of *repómari* by one woman to label her second husband's sister. (b) A reflex of **repó* is not attested for Samachique Ralámuli (I-S, I-SB, I-SH). (c) No data: S-T.

41. **umúli*, **umúli* ‘great-grandparent, great-grandchild’. (1) *umúli*: All dialects and attestations except C-P, I-R, N-N, and S-T. (2) *u?múli*: N-N. (3) *umúli* ~ *omúli*: I-R. (4) *múli*: C-P, S-T. COMMENTS: (a) Gassó (1903:19) reported that *omúli* labeled ‘great-grandparents’ and *múli* ‘great-grandchildren’. (b) Brambila (1976:571) recorded *u?múli* ~ *yu?múli* ‘great-grandfather’. The glottal stop, also seen in the N-N form, suggests an antecedent **mu?mú-li*, but an initial *m-* is not attested in any of our modern Ralámuli sources.

42. **upí*, *upí-la* ‘wife’ (S-2572). WR-S *upí*. (1) *upí*: C-P, I-R, I-SB, I-SH, N-H, N-N, S-B, W-M, W-T. (2) *upí* ~ *upíla*: I-S. (3) *upíla*: C-A, C-G. (4) *puíla*: S-T. COMMENTS: (a) The genitive case pronoun construction with the possessed marker *-la* is attested for I-S and C-G as *kéni upíla* and for S-T as *kéni puíla*. The plural is *hubí-la* (Ramos Chaparro, et al. 1997:21). (b) The plural *hubí-* presumably is the result of reduplication and the subsequent shared loss of the initial vowel: **uhubí-* > *hubí-*.

43. **wasí*, **wasí-la* ‘spouse’s mother’ (S-1789). WR-S *wasí*. (1) *wasí*: I-R, I-SB, I-SH, C-G, C-P, N-H, S-B, S-T. (2) *así*: I-S. (3) *wasíla*: C-A, W-M, W-T. COMMENTS: (a) The possessed marker *-la* is lexicalized in the Aboreachi and Western reflexes. (b) For N-N, Martínez, Martínez, and Naranjo (2012:93–94) give the stative form ⟨*wasirúame*⟩ ‘spouse’s mother’, with no stress indicated; *wasirúame* is expected.

44. **wayé* ~ **wai*, **wayé-la* ~ **wai-la*, ‘younger sister (σ)’ (S-2573). (1) *wayé*: C-A, C-G, C-P, I-S, I-SH, N-H, N-N, S-B, S-T. (2) *wayé* ~ *wai*: I-R. (3) *wai*: I-SB, W-T. (4) *wáila*: W-M. COMMENTS: (a) For the Interior dialect, the earliest form recorded at Samachique (I-B) is *wai*, but *wayé* was reported later (I-S, I-SH). Rejogochi is the only Interior dialect community where *wayé* ~ *wai* are attested as alternate forms. (b) Brambila (1976:578) reported a medial glottal stop in *wa?i* but not the alternate form *wayé*. A glottal stop is not documented in any other attestations. (c) Lexicalization of the possessed marker *-la* is attested only for the Mesa de Arturo subdialect of Western Ralámuli. (d) Passin (1943:370) reported that *wayé* was used by both female and male egos.

45. **woci* ‘father’s father’. **očí*, **očí-la* (S-1049). WR-S *woci*. (1) *očí*: I-SB, W-M, W-T. (2) *očíkali*: I-SH. (3) *očíkile*: I-S. (4) *očíkale*: I-R. (5) *očípali*: N-H, N-N. (6) *očítuli*: S-B. (7) *očítoli* ‘mother’s father’: S-T. (8) *očísi*: C-G. COMMENTS: (a) In C-A, *apalóči* became the sole term used for ‘grandfather, grandchild’, replacing the reflex of **očí*. In C-P, *apá* replaced the reflex of **oci*, but *apalóči* was the term for ‘mother’s father’. (b) In N-H, the alternate form for ‘father’s father’, *čurákali*, is not attested elsewhere, while *očípali* is used as an endearment form in C-G, I-R, W-M, and W-T. (c) In S-T, *očítoli*, the reflex of **očí*, labels ‘mother’s father’ while *čuítuli*, not attested in other modern Ralámuli dialects, labels ‘father’s father’. (d) The reconstruction of PT **očíka-* is supported by the Tepimian cognates presented in (4) (section 3.1). A medial *-k-* also is attested in the River Warihio cognates, *o?očíki* ‘paternal grandfather’ and *o?očíkírira* ‘son’s child (σ)’ (Félix Armendáriz 2005:450).

46. **ye?či* ‘mother’s younger sister’. **e?čí*, **e?čí-lá* (S-90). WR-S *ye?čí*. (1) *i?čí*: I-SB, C-P. (2) *i?čilá*: W-M, W-T. COMMENTS: (a) Reflexes of **e?čí* have been lost in C-A, I-R, N-H, N-N, and S-B (see section 5.1). (b) No data: I-S, I-SH, S-T.

47. **ye?yé* ‘mother’. **e?yé*, **e?yé-la* (S-1452). WR-S *ye?yé*. (1) *i?yé*: S-B, S-T. (2) *eyé*: W-M, W-T. (3) *iyé*: C-P, I-S, I-SB, I-SH, N-H. (4) *iyé* ~ *yé?*: I-R. (5) *iyéla*: C-A, N-H. COMMENTS: (a) The medial glottal stop is preserved in the Southern dialect only. It has shifted to final position in the Rejogochi (I-R) genitive possessed form *yé?*, but it is not attested in the nominative possessed form *yé-la*. (b) For S-T, the alternate forms of the term of address were recorded as *iyéla* ~ *i?yé* for female egos and as *?yéla* and *nána* for male egos. For the Northern (N-H) dialect, the alternate forms *iyé* ~ *iyéla* were recorded. C-A *iyéla* is

the term of reference. (c) In N-N, the reflex of **ye?yé* has been replaced by *nána* ‘mother (♀, ♂)’ (see set 21). (d) No data: C-G.

48. **?yú-la* ‘spouse’. (1) *?yú-la*: I-S, W-M, W-T. (2) *yú-la*: I-R. COMMENT: In modern Ralámuli, this word is used only as a term of reference. It derives from *yúa* ~ *yúga* ~ *úga* ‘with’ and has the sense of ‘companion’ (Ramos Chaparro, et al. 1997:21).

Notes

Acknowledgments. We are grateful to all the Ralámuli people who have collaborated with us over the past several decades in our studies of Ralámuli language and culture and to the following people who contributed detailed information on and their insights into Ralámuli kinship terminology: María Soledad Bustillos Peña, Josefina Campos Murillo, Reynaldo Carabeo, Miguel Carillo Frías, Ismael Castillo Aguirre, Martina Mares Pinto, Albino Mares Trías, Candelario Martínez, Lirio Martínez, Ventura Orozco Castro, Cesáreo Prieto Vega, Aureliano Ramos Chaparro, Masiria Rejogochi, and Salomena Rejogochi. We also thank Cecilia Troop for her assistance in compiling and analyzing data on Ralámuli kinship in the Rejogochi community; Martha Graham for providing her perspectives on these data; Claudia Molinari Medina for making our work with the bilingual education team possible; Sabina Aguilera Madrigal for sharing her data on Ralámuli kinship terminology; Marcia Bakry and Daniel G. Cole for preparing the maps; and Lisa María Burgess Noudehou, Karen Dakin, and an anonymous reviewer for their comments on earlier versions of this article. Financial and logistical support for this project were provided by the Smithsonian Institution and the Coordinación Estatal de la Tarahumara of the Gobierno del Estado de Chihuahua.

Abbreviations. Standard abbreviations are used for generations and for kin types: B = brother; C = child; D = daughter; e = elder; F = father; G = generation (G^0 = same generation as ego, G^{+1} = first ascending generation, G^{-2} = second descending generation, etc.); H = husband; M = mother; P = parent; S = son; W = wife; y = younger; Z = sister. For abbreviations for languages, dialects, and sources, see appendix 1.

Transcription and graphic conventions. Our orthography corresponds in most regards to the Americanist phonetic notation; *c* represents the voiceless alveolar affricate, *č* the voiceless post-alveolar and alveopalatal affricates, and *š* the voiceless alveopalatal fricative; VV (where V stands for any vowel) denotes both vowel length and identical vowel sequences. We use *ĩ* instead of *i* as the grapheme for the high central or back unrounded vowel. Etyma are marked with ** for Proto-Uto-Aztecan and with * for Proto-Tarahumara, Proto-Tarawarihió, and other intermediary protolanguages. When the original orthography of a source is reproduced, the form is enclosed in angle brackets ⟨ ⟩.

We have standardized the spelling of all Indigenous words. The only significant change to Ralámuli words is our use of *l* to represent the phoneme /l/, which has lateral and rhotic allophones (Burgess 1970:47–49, 1984:7–8; Lionnet 1972:12–13; Caballero 2008:26, 42–44; Villalpando Quiñonez 2010:52–54). In many sources, ⟨r⟩ or ⟨r ~ l⟩ is the grapheme used for this phoneme. We use *r* to represent the word-initial rhotic, usually realized as a trill, replacing the ⟨r̄⟩ used by Brambila (1953, 1976, 1983) and Martínez, Martínez, and Naranjo (2012). Bennett and Zingg (1935), Passin (1943), and Kennedy (1970b, 1978) appear not to have recognized the glottal stop in several kinship terms, but because there is considerable dialectal variation in the retention of reflexes of Proto-Tarahumaran *ʔ, we have not modified the forms attested in their works beyond standardizing the orthographies.

1. The relationship between “Tarahumara” and “Ralámuli” remains to be clarified. We suspect that “Tarahumára,” or more likely “Taláumali,” was the antecedent form, which became standardized in writing as “Tarahumar(a)” according to Spanish orthographic conventions, with stress on the penultimate syllable in keeping with Spanish

stress patterns. We also suspect that “Ralámuli” derived from “Taláumali” as the result of phonological and morphological changes that occurred in the spoken language between the seventeenth and early nineteenth centuries.

2. Valiñas Coalla (2001, 2002) and Villalpando Quiñonez (2010:19–28) provide the best overviews of the current status of Ralámuli dialectology. Additional perspectives are offered by Brambila (1953:x, 1976:i), Lionnet (1982:61–62), and Burgess, Bascom, and Nellis (1983).

3. Valiñas Coalla (2001:117) proposes that a sixth dialect area, Eastern, should be considered, with the Balleza subdialect classified with it rather than with subdialects of Southern Ralámuli spoken south of the Sinforosa Canyon. Speakers of the “Cumbre” dialect live above the Urique and Batopilas Canyons (Valiñas Coalla 2002:261). Caballero (2008:10) chooses “Highland” as the English translation of “Cumbre,” but we prefer “Interior” because the communities associated with this dialect are located in the heart of the area where Ralámuli is spoken and some are at lower elevations than those of other dialect areas.

4. Ferrero (1920) is the source of the incomplete set of modern Ralámuli kin terms included in the comparative studies of Radin (1931), Kroeber (1934:19–20, 25; citing both Ferrero [1920] and Radin [1931]), and Anzaldo Figueroa (2007:55–56; citing Radin [1931] only). Shimkin (1941), Romney (1967:211), and Hsieh (1980) draw upon the more detailed information collected by Bennett (Bennett and Zingg 1935:220–23) in 1930–1931 in the Ralámuli community of Samachique.

5. We use “Warihio” to designate both the language and its speakers. The name is usually spelled in modern Spanish as “Guarijío” and in Spanish colonial documents as “Varohío” or variants of that spelling (Sauer 1934:32–36). Speakers of the River dialect of the language are reported to call themselves “Warihío” and “Makuráwe,” while speakers of the Sierra dialect are reported to use “Warihó” as their self-designation (Miller 1996:21; Vélez Storey and Harriss Clare 2004:5; Félix Armendáriz 2007:1). Whether additional dialects of the language should be recognized is the subject of debate (Valiñas Coalla 2002:256–58).

6. The suffix *-ma* clearly is related to words in these and other Uto-Aztecan languages that are associated with giving birth. In fact, PT **malá* ‘daughter (♀)’ is the reflex of Proto-Uto-Aztecan ***maana* ‘child’ (Stubbs 2011:72, set 140).

7. Although the documentation of the Eudeve kinship terminological system is incomplete, the *-ma* suffix is attested in three terms: *vóc-ma-r-* ‘son’s child (♂)’, *pá-ma-r-* ‘daughter’s child (♂)’, and *kúc-ma-r-* ‘father’s younger brother’s child’ (Pennington 1981:174–75, 215, 246). The first two of these terms share the referents of their Teguima cognates, *posi-ma-ri* and *pao-ma-ri*, while the third is cognate with Teguima *kuci-ma-ri* ‘younger sister’s child (♂)’ (Lombardo 2009:292). Anzaldo Figueroa (2007) does not include Eudeve data or comment on the *-ma* suffix in her study of the kinship terminological systems of Teguima and other Uto-Aztecan languages. This suffix is not attested in the kin terms recorded for the Cahitan languages (Moctezuma Zamarrón 2007:117–19, 123–25).

8. The initial syllable of **nawilá* ‘co-parent-in-law’ presumably is the reciprocal prefix *na-*, but the stem *-wilá* is not identified. It perhaps is related to the verb *wi-* ‘to tie’, the use of which is restricted to humans and animals (Brambila 1983:63). A comparable use of the *na-* prefix is seen in the Tubatulabal term *nawasu* ‘co-parent-in-law’, the stem of which is *-wasu* ‘spouse’s parent’ (Gifford 1917:223).

9. Stubbs (2011:327, set 2002) identifies Cora *ne-?iwaa-ra?a* ‘my relative, younger sister’ and Huichol *?iwá* ‘cousin’ as cognate with the terms in (3).

10. The terms appear in the original as “*mumúmac*, mujeres y niños &c. o toda la gente, plebe, y pueblo” and “*upíma*, mujer con toda la familia y alajas, &c.” (Guadalajara 1683:16v).

11. Stubbs (2011:200, set 1049) discusses the difficulties of reconstructing the initial consonant of this Proto–Southern Uto-Aztecan etymon, noting that both **poci* and **k^woci* are possibilities.

12. Cognates of Ralámuli *mučí* ‘vagina’ are attested in Warihio, two Tepiman languages, and Hopi: WR-S *muhčí*, WR-R *muučíra*; TO *muus*, PYP *muusi* ‘pubic hair’, and HP *mos^wa* ‘clitoris’ (Miller 1996:360; Félix Armendáriz 2005:445; Saxton, Saxton, and Enos 1983:43; Shaul 1994:332; Hopi Dictionary Project 1998:252; cf. Stubbs 2011:383, set 2447). Eudeve cognates for the Teguima sibling-in-law terms are *múci* and *mucimar*, both glossed in the original source as ‘sibling-in-law’ (“cuñado”) (Pennington 1981:206).

13. The word for ‘daughter’ appears in Steffel’s dictionary as ⟨aguila⟩. In most cases, Steffel used the grapheme ⟨gu⟩ to represent [g^w] before a vowel, but his orthography lacked a grapheme for [g]. We interpret his representation of this word as *agi-la* rather than *ag^wi-la* because it reflected Proto-Tarawarihio **aki* and the medial *-k-* could have been voiced intervocalically. In eighteenth-century Tarahumara, Proto-Tarahumaran **-k-* was reflected in most cases as *-k-*, while **g^w* tended to reflect antecedent **w* (Merrill 2007:416–34).

14. The only form attested by Ferrero (1924:39) is *eyé-la* ‘mother’, and none of the forms we recorded for modern Ralámuli dialects data show an initial *y-* (see appendix 3, set 47). Brambila (1976:161), however, recorded *yeyé* ~ *eyé* ~ *eé* as alternate modern forms. The reduplication of initial syllables seen in the singular forms of some kinship terms is encountered only rarely in other noun classes, for example, in the presumably onomatopoeic *čáčámuli* ‘a kind of rattlesnake’ (Brambila 1976:102). The use of initial-syllable reduplication to create plural nouns is more common. One example is early Proto-Tarahumara **mumugí* ‘women’, derived from **mukí* ‘woman’ through reduplication of the initial syllable and the voicing of the medial **-k-*. In the second decade of the nineteenth century, Tellechea (1826:6) recorded *mumugí*, and in the early twentieth century Gassó (1903:13) also documented the retention of the initial consonant in this word (the stress placement in his form ⟨múmuqui⟩ [*múmu^wki*], as well as the voiceless *-k-*, are suspect). By the second half of the twentieth century, however, the initial consonant was in the process of being lost. Brambila (1976:571) reported the alternate forms *mumugí* ~ *umugí*, plus a third alternate, *omugí*, in which the unstressed *u-* had shifted to *o-*. For a detailed discussion of reduplication in Uto-Aztecan languages, see Haugen (2008b).

15. Kennedy (1970b:183) reported for the Aboreachi subdialect of Central Ralámuli that relative age rather than birth order of the connecting relatives determined the use of elder and younger sibling terms. Passin noted a similar use in the Guachochi area, but only in cases “of extreme disparity in age between cousins” (1943:371).

16. In Aboreachi Ralámuli, *salí* and a second term, *salú*, were used to label these relationships in a more complex system of reciprocals (see section 5.2).

17. The only extant copy of Guadalajara’s grammar, housed at the British Library, is incomplete. Missing are three vocabularies, including one devoted exclusively to kinship terminology (Guadalajara 1683: title page). This loss is particularly unfortunate for the present study because Guadalajara (1683:32) directed his readers to this vocabulary instead of including the kinship terms in his grammatical overview. For a facsimile edition of Guadalajara’s extant work, see Rodríguez López (2010).

18. The biographical information on Tellechea is based on unpublished documents in the Fondo Guadalupe Zacatecas, housed in the Archivo Histórico de Zapopan, in Zapopan, Jalisco, Mexico. These documents had not been classified when Merrill examined them in 1991. A document from 1830 housed in another repository reported that Tellechea had served for sixteen years in the Tarahumara missions, thus dating his arrival there to 1814 (Biblioteca Pública de Jalisco [Guadalajara], Manuscritos, vol. 58, folios 4v–12v; copy at Manuscritos, vol. 95, folios 199r–205r).

19. Both Guadalajara (1683:4v, 6, 6v) and Steffel (1799:10, 28, 31, 32, 34; 1809:350, 360) reported that the third person pronoun *pú* was combined with the interrogative *g^wé* to form *g^wépu* ‘who?’. Steffel (1809:350, 360) represented the word in his dictionary as *k^wépu* ~ *képu* and recorded *k^wépu-la*, with the possessed marker *-la*, as the interrogative ‘of whom?’. The modern reflex is *épu*, also attested as *yépu* ~ *épuka* ~ *épuká* (Brambila 1976:155).

20. The construction *kípu reteíma* ‘their relatives’ is attested as ⟨quipú rétey^ma⟩ (Tellechea 1826:152). Tellechea was inconsistent in his placement of stress on *kípu*, but the other three attestations of the word for ‘relatives’ in his work show its form as ⟨reteí^ma⟩.

21. Gassó presented the genitive pronouns without stress.

22. Félix Armendáriz also noted that the final syllable *-li* attested in many River Warihio nouns seemed to be “old absolutives already grammaticalized” (2007:26–27).

23. Burgess (1996:25–26) documented a different pattern in the Western Ralámuli community of Tierra Blanca. The *-e* suffix replaces the final vowel of the stem only if that vowel is an *-a* or a stressed *-í*, and it usually appears with the suffix *-game*, for example, *baʔč-é-game* ‘have an elder brother’ and *mal-é-game* ‘have a daughter (σ)’. A possible Yaqui cognate of Proto-Tarawarihio **-e* is discussed by Haugen (2008a:459–61, 2008b:154–57).

24. The suffix **-či* also is unattested in reflexes of **apá* ‘mother’s father’, which in most dialects has been replaced by *apalóči*, the self-reciprocal for ‘mother’s father, daughter’s child (σ)’ (see appendix 3, set 27). An alternative approach to reciprocity in grandparent-grandchild terms may have existed in Samachique around 1930. Bennett and Zingg (1935:220) reported that, rather than being self-reciprocals, Samachique terms for these relationships were sex-linked. The reflexes of Proto-Tarahumaran **apá* ‘mother’s father’, **uʔsú* ‘mother’s mother’, **oči* ‘father’s father’, and **aʔká* ‘father’s mother’ were used by both male and female speakers also to label ‘daughter’s son’, ‘daughter’s daughter’, ‘son’s son’, and ‘son’s daughter’, respectively. Martínez, Martínez, and Naranjo (2012:44–47, 92–93) documented the same approach in the Norogachi community (N-N), but it is not attested in any of the other modern Ralámuli dialects.

25. Passin (1943:480–82) provides a good summary of these relationships. For an overview of institutionalized joking relationships between grandparents and grandchildren and among siblings-in-law, see Kennedy (1966, 1970a, 1978:171–74).

26. Although this pattern in the use of *-či* suggests Nahuatl influence, we think that the Nahuatl terms *číči* ‘mother’, *nána* ‘mother’, and *táta* ‘father (♀)’ likely entered the lexica of some modern Ralámuli dialects via Mexicanized Spanish (see appendix 3, sets 3, 21, 36). All these words were integrated into the Spanish lexicon early in the colonial period (Santamaría 1978:377, 753, 1014–15), and none is attested in Balleza Ralámuli (S-B). Balleza is the only community in our sample where Nahuatl is reported to have been spoken in the Spanish colonial period (Alegre 1959:358).

27. The shift of medial **-k-* to *-g-* in Western Ralámuli is attested in the Tierra Blanca term *wágila* ‘younger sister’s husband’, the reflex of Proto-Tarahumaran **wáka*. The loss of initial **k-* in the Northern and Southern dialects is seen in *oči* ‘elder sister’, the reflex of **koʔči*.

28. The suffix *-či* is rare in Western Ralámuli. In the Tierra Blanca subdialect, it is attested only in *apalóči* ‘mother’s father’, *aʔkáčili* ‘son’s child (♀)’, which is used solely as a term of endearment, and *geyóči*, the self-reciprocal for relatives of the fifth ascendant and descendant generations.

References

- Alegre, Francisco Javier
 1959 Historia de la Provincia de la Compañía de Jesús de Nueva España. Vol. 3: Libros 9-10 (Años 1676-1766), edited by Ernest J. Burrus and Félix Zubillaga. Rome: Institutum Historicum S.J.
- Almada, Francisco R.
 1955 Resumen de historia del Estado de Chihuahua. Mexico City: Libros Mexicanos.
 1968 Diccionario de historia, geografía y biografía chihuahuenses. Chihuahua: Sección de Historia, Departamento de Investigaciones Sociales, Universidad de Chihuahua.
 1971 El ferrocarril de Chihuahua al Pacífico. Mexico City: Editorial Libros de México.
- Alvarez Gonzalez, Albert, and Fany Muchembled
 2013 Les classificateurs possessifs en langues uto-aztèques: catégorisations et évolutions. *La Linguistique* 49(2):11-31.
- Anzaldo Figueroa, Rosa Elena
 2007 Comparación del sistema de parentesco del tegüima y otras lenguas yutoaztecas. In *Estructura, discurso e historia de algunas lenguas yutoaztecas*, edited by Ignacio Guzmán Betancourt and José Luis Moctezuma Zamarrón, 47-71. Mexico City: Instituto Nacional de Antropología e Historia.
- Barreras Aguilar, Isabel
 2001 Estado actual de los estudios sobre la lengua guarijío. In *Avances y balances de lenguas yutoaztecas: homenaje a Wick R. Miller*, edited by José Luis Moctezuma Zamarrón and Jane H. Hill, 181-93. Mexico City: Instituto Nacional de Antropología e Historia.
- Bascom, Burton W.
 1965 Proto-Tepiman. Ph.D. diss., University of Washington.
- Bennett, Wendell C., and Robert M. Zingg
 1935 The Tarahumara: An Indian Tribe of Northern Mexico. Chicago: University of Chicago Press.
- Brambila, David
 1953 Gramática rarámuri. Mexico City: Editorial Buena Prensa.
 1976 Diccionario rarámuri-castellano (tarahumar). Mexico City: La Obra Nacional de la Buena Prensa.
 1983 Diccionario castellano-rarámuri (tarahumar). Mexico City: La Obra Nacional de la Buena Prensa.
- Buelna, Eustaquio, ed.
 1989 Arte de la lengua cahita por un padre de la Compañía de Jesús. Mexico City: Siglo Ventiuno. (Facsimile edition of 1890 reprint of undated seventeenth-century original.)
- Burgess, Don [H.]
 1970 Tarahumara Phonology (Rocoroibo Dialect). University of Texas at El Paso, Studies in Language and Linguistics 1969-70:45-66.
 1984 Western Tarahumara. In *Studies in Uto-Aztecan Grammar*. Vol. 4: Southern Uto-Aztecan Grammatical Sketches, edited by Ronald W. Langacker, 3-149. Dallas: Summer Institute of Linguistics; [Arlington]: University of Texas at Arlington.
 1996 Ralámuli Kinship (Tarahumara Baja data from Tierra Blanca, Ejido of Monterde, Municipio of Guazapares, Chih.). MS.

Burgess, Don, ed.

- 1995 Notes on Tarahumara Kinship Terms. MS.
 2013 *Sierra Challenge: The Construction of the Chihuahua al Pacífico Railroad: News Articles and Photographs* by Glenn Burgess. Taos, New Mexico: Barranca Press.

Burgess, Donald, Burt Bascom, and Donald Nellis

- 1983 Tarahumara. *In La inteligibilidad interdialectal en México: resultados de algunos sondeos*, edited by Doris A. Bartholomew, Saúl Cruz Ramos, and Steve Eglund, 52–53. 2d ed. Mexico City: Instituto Lingüístico de Verano.

Caballero, Gabriela

- 2008 *Choguita Raramuri (Tarahumara) Phonology and Morphology*. Ph.D. diss., University of California, Berkeley.
 2011a Behind the Mexican Mountains: Recent Developments and New Directions in Research on Uto-Aztecan Languages. *Language and Linguistics Compass* 5(7):485–504.
 2011b Morphologically Conditioned Stress Assignment in Choguita Rarámuri. *Language* 49(4):749–90.

Campbell, Lyle

- 1997 *American Indian Languages: The Historical Linguistics of Native America*. Oxford: Oxford University Press.

Collard, Howard, and Elizabeth S. Collard

- 1962 *Castellano-mayo, mayo-castellano*. Mexico City: Instituto Lingüístico de Verano.

Cramaussel, Chantal

- 1998 Sistema de riego y espacio habitado: la lenta y azarosa génesis de un pueblo rural. *In Historia y arte en un pueblo rural: San Bartolomé (hoy Valle de Allende, Chihuahua)*, edited by Clara Bargellini, 17–89. Mexico City: Instituto de Investigaciones Estéticas, Universidad Nacional Autónoma de México.

Dakin, Karen

- 1991 Nahuatl Direct and Mediated Possession: A Historical Explanation for Irregularities. *International Journal of American Linguistics* 57(3):298–329.
 1995 Contribuciones de las fuentes coloniales a la lingüística comparativa yutoazteca. *Amerindia* 19–20:211–21.

Dayley, Jon P.

- 1989 Tümpisa (Panamint) Shoshone Dictionary. University of California Publications in Linguistics 116. Berkeley: University of California Press.

Dedrick, John M., and Eugene H. Casad

- 1999 *Sonora Yaqui Language Structures*. Tucson: University of Arizona Press.

Deeds, Susan M.

- 1989 Rural Work in Nueva Vizcaya: Forms of Labor Coercion on the Periphery. *The Hispanic American Historical Review* 69(3):425–49.

Embriz Osorio, Arnulfo, and Óscar Zamora Alarcón

- 2012 *México, lenguas indígenas nacionales en riesgo de desaparición: variantes lingüísticas por grado de riesgo, 2000*. Mexico City: Instituto Nacional de Lenguas Indígenas.

Estrada Fernández, Zarina, Crescencio Buitimea Valenzuela, Adriana Elizabeth Gurrola Camacho, María Elena Castillo Celaya, and Anabela Carlón Flores

- 2004 *Diccionario yaqui-español y textos: obra de preservación lingüística*. Mexico City: Plaza y Valdés; Hermosillo: Universidad de Sonora.

Félix Armendáriz, Rolando

2005 A Grammar of River Warihío. Ph.D. diss., Rice University.

2007 A Grammar of River Warihío. Munich: Lincom Europa.

Ferrero, José

1920 Pequeña gramática y diccionario de la lengua tarahumara. Mexico City: J. Aguilar Vera.

1924 Diccionario tarahumar-castellano. Mexico City: Escuela Tipográfica Salesiana.

Gardner, Brandt

1982 A Structural and Semantic Analysis of Classical Nahuatl Kinship Terminology. *Estudios de Cultura Náhuatl* 15:89-124.

Gassó, Leonardo

1903 Gramática rarámuri ó tarahumara. Mexico City: J. Aguilar Vera y Comp.

Gifford, Edward W.

1917 Tubatulabal and Kawaiisu Kinship Terms. *University of California Publications in American Archaeology and Ethnology* 12(6):219-48. Berkeley: University of California Press.

1922 California Kinship Terminologies. *University of California Publications in American Archaeology and Ethnology* 18:1-285. Berkeley: University of California Press.

González Rodríguez, Luis

1984 Crónicas de la Sierra Tarahumara. Mexico City: Secretaría de Educación Pública.

1995 Thomás de Guadalajara (1648-1720), misionero de la Tarahumara, historiador, lingüista y pacificador. *Estudios de Historia Novohispana* 15: 9-34.

Griffen, William B.

1969 Culture Change and Shifting Populations in Central Northern Mexico. Tucson: University of Arizona Press.

Guadalajara, Thomás de

1683 Compendio del arte de la lengua de los Tarahumares y Guazapares Contiene cinco libros de la gramática, un vocabulario, que comienza en Tarahumar y otro en Castellano, y otro de nombres de parentesco. Puebla de los Ángeles: Diego Fernández de León.

Hard, Robert J., and William L. Merrill

1992 Mobile Agriculturalists and the Emergence of Sedentism: Perspectives from Northern Mexico. *American Anthropologist* 94(3):601-20.

Hard, Robert J., William L. Merrill, A.C. MacWilliams, John R. Roney, Jacob C. Freeman, and Karen R. Adams

2015 Rain-Fed Farming and Settlement Aggregation: Reflections from Chihuahua, Mexico. *In Traditional Arid Lands Agriculture: Understanding the Past for the Future*, edited by Scott E. Ingram and Robert C. Hunt, 237-72. Tucson: University of Arizona Press.

Haugen, Jason D.

2008a Denominal Verbs in Uto-Aztecan. *International Journal of American Linguistics* 74(4):439-470.

2008b Morphology at the Interfaces: Reduplication and Noun Incorporation in Uto-Aztecan. Amsterdam: John Benjamins.

Hill, Jane H.

2005 A Grammar of Cupeño. *University of California Publications in Linguistics* 136. Berkeley: University of California Press.

2011 Subgrouping in Uto-Aztecan. *Language Dynamics and Change* 1(2):241-78.

Hill, Jane H., and Kenneth C. Hill

- 1997 Culture Influencing Language: Plurals of Hopi Kin Terms in Comparative Uto-Aztecan Perspective. *Journal of Linguistic Anthropology* 7(2):155–80.
- 2000 Marked and Unmarked Plurals in Uto-Aztecan. *In Uto-Aztecan: Structural, Temporal, and Geographic Perspectives: Papers in Memory of Wick R. Miller by the Friends of Uto-Aztecan*, edited by Eugene H. Casad and Thomas L. Willet, 241–75. Hermosillo: Universidad de Sonora.

Hill, Jane H., and Ofelia Zepeda

- 1998 Tohono O'odham (Papago) Plurals. *Anthropological Linguistics* 40(1):1–42.

Hilton, K. Simón

- 1993 *Diccionario tarahumara de Samachique, Chihuahua, México*. 2d ed. Tucson, Ariz.: Instituto Lingüístico de Verano.

Hopi Dictionary Project

- 1998 *Hopi Dictionary / Hopiikwa Lavàytutuveni: A Hopi-English Dictionary of the Third Mesa Dialect*. Tucson: University of Arizona Press.

Hsieh, Jih-Chang Chester

- 1980 A Formal Account of the Tarahumara Kinship Terminology. *Bulletin of the Department of Archaeology and Anthropology, National Taiwan University, Taipei, Taiwan, Republic of China* 41:99–114.

Hu-DeHart, Evelyn

- 2004 The Yaqui Rebellion of 1740: Prelude to Jesuit Expulsion from New Spain. *Memoria Americana, Cuadernos de Etnohistoria* 12:197–219.

Johnson, Jean B., and Irmgard Weitlander de Johnson

- 1947 Un vocabulario varohío. *Revista Mexicana de Estudios Antropológicos* 9: 27–45.

Karttunen, Frances

- 1992 *An Analytical Dictionary of Nahuatl*. Norman: University of Oklahoma Press.

Kennedy, John G.

- 1963 Tesguino Complex: The Role of Beer in Tarahumara Culture. *American Anthropologist* 65(3):620–40.
- 1966 Tarahumara Joking Relationships: Some Theoretical Implications. *In XXXVI Congreso Internacional de Americanistas, España, 1964: actas y memorias*, 3:179–86. Seville: ECESA.
- 1970a Bonds of Laughter among the Tarahumara Indians: Toward a Rethinking of Joking Relationship Theory. *In The Social Anthropology of Latin America: Essays in Honor of Ralph Leon Beals*, edited by Walter Goldschmidt and Harry Hoijer, 36–68. Los Angeles: Latin American Center, University of California.
- 1970b Inápuchi, una comunidad tarahumara gentil. Mexico City: Instituto Indigenista Interamericano.
- 1978 *Tarahumara of the Sierra Madre: Beer, Ecology, and Social Organization*. Arlington Heights, Ill.: AHM Publishing Corporation.

Kroeber, Alfred L.

- 1934 *Uto-Aztecan Languages of Mexico*. Ibero-Americana 8. Berkeley: University of California Press.

Langacker, Ronald W.

- 1977 *An Overview of Uto-Aztecan Grammar*. Dallas: Summer Institute of Linguistics; [Arlington]: University of Texas at Arlington.

Lionnet, Andrés

- 1972 *Los elementos de la lengua tarahumara*. Mexico City: Universidad Nacional Autónoma de México.

- 1977 Relaciones del varojío con el mayo y el tarahumara. *Anales de Antropología* 14:226-42.
- 1978 El idioma tubar y los tubares según documentos inéditos de C. S. Lumholtz y C. V. Hartman. Mexico City: Universidad Iberoamericana.
- 1982 Un dialecte méridional du tarahumar. *Amerindia* 7:61-84.
- Lombardo, Natal
- 2009 Arte de la lengua teguima, vulgarmente llamada ópata, compuesta por el padre Natal Lombardo, edited by Ignacio Guzmán Betancourt. Mexico City: Instituto Nacional de Antropología e Historia. (Facsimile edition of 1702 original.)
- Manaster Ramer, Alexis
- 1992 A Northern Uto-Aztecan Sound Law: *-c- → -y-. *International Journal of American Linguistics* 58(3):251-68.
- Martin, Cheryl E.
- 1996 *Governance and Society in Colonial Mexico: Chihuahua in the Eighteenth Century*. Stanford, Calif.: Stanford University Press.
- Martínez, Isabel, Jorge Antonio Martínez, and Nashielly Naranjo
- 2012 Para seguir siendo lo que se debe ser: parentesco, grupos domésticos y migración entre los rarámuri. In *Estudios sobre parentesco rarámuri y rancharo en el noroeste de México*, edited by María Eugenia Olavarría and Isabel Martínez, 31-110. Mexico City: Miguel Ángel Porrúa and Universidad Autónoma Metropolitana, Unidad Iztapalapa.
- Medina Murillo, Ana A.
- 2012 *Diccionario léxico-morfológico del guarijío*. Mexico City: Universidad Nacional Autónoma de México; Hermosillo: Universidad de Sonora.
- Merrill, William L.
- 1983 Tarahumara Social Organization, Political Organization and Religion. In *Handbook of North American Indians*. Vol. 10: Southwest, edited by Alfonso Ortiz, 290-305. Washington, D.C.: Smithsonian Institution.
- 1988 *Rarámuri Souls: Knowledge and Social Process in Northern Mexico*. Washington, D.C.: Smithsonian Institution Press.
- 2001 La identidad ralámuli: una perspectiva histórica. In *Identidad y cultura en la Sierra Tarahumara*, edited by Claudia Molinari and Eugeni Porrás, 71-103. Mexico City: Instituto Nacional de Antropología e Historia and Congreso del Gobierno del Estado de Chihuahua.
- 2007 La obra lingüística del padre Matthäus Steffel, S.J. In *Desde los confines de los imperios ibéricos: los jesuitas de habla alemana en las misiones americanas*, edited by Karl Kohut and María Cristina Torales Pacheco, 409-39. Frankfurt: Vervuert; Madrid: Iberoamericana.
- 2013 The Genetic Unity of Southern Uto-Aztecan. *Language Dynamics and Change* 3(1):68-104.
- Miller, Wick R.
- 1972 *Neuwe Natekwinappéh: Shoshoni Stories and Dictionary*. Salt Lake City: University of Utah Press.
- 1983 Uto-Aztecan Languages. In *Handbook of North American Indians*. Vol. 10: Southwest, edited by Alfonso Ortiz, 113-24. Washington, D.C.: Smithsonian Institution.
- 1988 Variation in Kinship Terminology and Language among the Guarijío of Northwest Mexico. Paper presented at the Forty-Sixth International Congress of Americanists, Amsterdam, 4-8 July 1988.
- 1993 *Guarijío de Arechuyvo, Chihuahua*. Mexico City: Colegio de México.

- 1996 Guarijío: gramática, textos y vocabulario. México: Universidad Nacional Autónoma de México.
- Moctezuma Zamarrón, José Luis
- 2007 Diversidad lingüística y cultural en el noroeste de México durante la colonia: el caso de las llamadas lenguas cahitas. *In* Estructura, discurso e historia de algunas lenguas yutoaztecas, edited by Ignacio Guzmán Betancourt and José Luis Moctezuma Zamarrón, 115–25. Mexico City: Instituto Nacional de Antropología e Historia.
- 2012 La familia yutoazteca sureña: una introducción. *In* Aproximaciones a la documentación lingüística del huichol, edited by Carmen Conti, Lilián Guerrero, and Saul Santos, 41–62. Jaén: Universidad de Jaén.
- Molina, Felipe S., Herminia Valenzuela, and David L. Shaul
- 1999 Yoeme–English, English–Yoeme Dictionary: With a Comprehensive Grammar of Yoeme Language. New York: Hippocrene Books.
- Ortiz Zapata, Juan
- 1678 [Report from an inspection tour of the Jesuit missions of northern New Spain]. MS. Archivo General de la Nación [Mexico], Misiones 26, folios 241–69v.
- Passin, Herbert
- 1943 The Place of Kinship in Tarahumara Social Organization. *Acta Americana* 1(3–4): 360–83, 471–95.
- Pennington, Campbell W.
- 1963 The Tarahumar of Mexico: Their Environment and Material Culture. Salt Lake City: University of Utah Press.
- 1983 Tarahumara. *In* Handbook of North American Indians. Vol. 10: Southwest, edited by Alfonso Ortiz, 276–89. Washington: Smithsonian Institution.
- Pennington, Campbell W., ed.
- 1979 The Pima Bajo of Central Sonora, Mexico. Vol. 2: Vocabulario en la Lengua Névome. Salt Lake City: University of Utah Press.
- 1981 Arte y vocabulario de la lengua dohema, heve o eudeva: anónimo (siglo XVII). Mexico City: Universidad Nacional Autónoma de México.
- Plancarte, Francisco M.
- 1954 El problema indígena tarahumara. Mexico City: Instituto Nacional Indigenista.
- Radin, Paul
- 1931 Mexican Kinship Terms. University of California Publications in American Archaeology and Ethnology 31(1):1–14. Berkeley: University of California Press.
- Ramos Chaparro, Aureliano, Ismael Castillo Aguirre, Cesáreo Prieto Vega, Ventura Orozco Castro, Miguel Carillo Frías, María Soledad Bustillos Peña, Albino Mares Trías, Don Burgess McGuire, and William L. Merrill
- 1997 Compendio básico de la gramática ralámuli. Chihuahua: Coordinación Estatal de la Tarahumara.
- Rinaldini, Benito
- 1994 Arte de la lengua tepeguana: con vocabulario, confessionario y catechismo, edited by Javier Guerrero Romero. Mexico City: Consejo Nacional para la Cultura y las Artes; [Durango]: Gobierno del Estado de Durango. (Facsimile edition of 1743 original.)
- Rodríguez López, Abel
- 2010 Gramática tarahumara (1683). Ciudad Juárez: Universidad Autónoma de Ciudad Juárez.

Romney, A. Kimball

- 1967 Kinship and Family. *In Handbook of Middle American Indians*. Vol. 6: Social Anthropology, edited by Manning Nash, 207-37. Austin: University of Texas Press.

Santamaría, Francisco J.

- 1978 Diccionario de mejicanismos: razonado, comprobado con citas de autoridades, comparado con el de americanismos y con los vocabularios provinciales de los más distinguidos diccionaristas. 3d ed. Mexico City: Editorial Porrúa.

Sauer, Carl

- 1934 The Distribution of Aboriginal Tribes and Languages in Northwestern Mexico. *Ibero-Americana* 5. Berkeley: University of California Press.

Saxton, Dean, Lucille Saxton, and Susie Enos

- 1983 Dictionary: Tohono O'odham/Pima to English, English to Tohono O'odham/Pima. 2d ed., rev. and expanded. Edited by R. L. Cherry. Tucson: University of Arizona Press.

Schwaller, John F.

- 2012 The Expansion of Nahuatl as a Lingua Franca among Priests in Sixteenth-Century Mexico. *Ethnohistory* 59(4):675-90.

Seiler, Hansjakob, and Kojiro Hioki

- 1979 Cahuilla Dictionary. Banning, Calif.: Malki Museum Press.

Shaul, David L.

- 1990 Teguima (Opata) Inflectional Morphology. *International Journal of American Linguistics* 56(4):561-73.
1994 A Sketch of the Structure of Oob No'ok (Mountain Pima). *Anthropological Linguistics* 36(3):277-365.

Shimkin, D. B.

- 1941 The Uto-Aztecan System of Kinship Terminology. *American Anthropologist* 43(2, part 1):223-45.

Spicer, Edward Holland

- 1962 Cycles of Conquest: The Impact of Spain, Mexico, and the United States on the Indians of the Southwest, 1533-1960. Tucson: University of Arizona Press.

Steffel, Matthäus

- 1799 Grammatica Linguæ Tarahumaricæ Americanæ nationis in regno Novæ Viscayæ. MS. Archiv města Brna, fondo Mitrovští, 1799.
1809 Tarahumarisches Wörterbuch, nebst einigen Nachrichten von den Sitten und Gebräuchen der Tarahumaren, in Neu-Biscaya, in der Audiencia Guadalupe im Vice-Königreiche Alt-Mexico, oder Neu-Spanien. Halle: Joh. Christian Hendel.

Stubbs, Brian D.

- 2000 The Comparative Value of Tubar in Uto-Aztecan. *In Uto-Aztecan: Structural, Temporal, and Geographic Perspectives: Papers in Memory of Wick R. Miller by the Friends of Uto-Aztecan*, edited by Eugene H. Casad and Thomas L. Willett, 357-69. Hermosillo: Universidad de Sonora.
2011 Uto-Aztecan: A Comparative Vocabulary. Flower Mound, Texas: Shumway Family History Services; Blanding, Utah: Rocky Mountain Books and Productions.

Sullivan, Thelma D.

- 1998 Compendio de la gramática náhuatl. Mexico City: Universidad Nacional Autónoma de México.

- Tardá, Joseph, and Tomás de Guadalajara
1676 [Letter to Provincial Francisco Ximénez, August 15, 1676, n.p.]. MS. Archivum Romanum Societatis Iesu, Mexicana 17, folios 356–92.
- Tellechea, Miguel
1826 Compendio gramatical para la inteligencia del idioma tarahumar: oraciones, doctrina cristiana, pláticas, y otras cosas necesarias para la recta administración de los santos sacramentos en el mismo idioma. Mexico City: Imprenta de la Federación en Palacio.
- Valiñas Coalla, Leopoldo
2001 Lengua, dialectos e identidad étnica en la Sierra Tarahumara. *In* Identidad y cultura en la Sierra Tarahumara, edited by Claudia Molinari and Eugeni Porras, 105–25. Mexico City: Instituto Nacional de Antropología e Historia and Congreso del Gobierno del Estado de Chihuahua.
2002 Reflexiones en torno a las lenguas guazapar y tarahumar coloniales. *Anales de Antropología* 36:249–82.
- Vélez Storey, Jaime, and Claudia J. Harriss Clare
2004 Guarijíos. Mexico City: Comisión Nacional para el Desarrollo de los Pueblos Indígenas and Programa de las Naciones Unidas para el Desarrollo.
- Villalpando Quiñonez, Jesús
2010 Hacia una caracterización del tarahumara de Turuachi: de lo básico a lo complejo. M.A. thesis, Universidad de Sonora.
- Wampler, Joseph
1969 *New Rails to Old Towns: The Region and Story of the Ferrocarriles Chihuahua al Pacífico*. Berkeley: Joseph Wampler.
- West, Robert C.
1949 *The Mining Community in Northern New Spain: The Parral Mining District*. Ibero-Americana 30. Berkeley: University of California Press.
- Whorf, Benjamin L.
1936 Appendix [to J. Alden Mason, “The Classification of the Sonoran Languages”]. *In* *Essays in Anthropology Presented to A.L. Kroeber in Celebration of his Sixtieth Birthday, June 11, 1936*, edited by Robert H. Lowie, 197–98. Berkeley: University of California Press.