

WORDS FOR ‘SNOW’ AND ‘ICE’ IN THE ARHUACAN LANGUAGES

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This article focuses on words for ‘snow’ and ‘ice’ in the Arhuacan languages of the Sierra Nevada de Santa Marta (Colombia). Specifically, Kogi /*nabʒala*/ and Damana /*dimingina*/ (both ‘ice’), as well as probably Kankuí *damöngána* ‘snow’, seem to be suffixed forms of a proto-word for ‘snow’ that itself survives directly in Damana /*dəm*/ and Ika /*dʒəN*/. Moreover, Ika /*dʒwábu*/ ‘ice’ is cognate with Kogi /*nuábi*/ ‘snow’, suggesting that this latter form was not borrowed from Spanish *nieve*, as has been suggested; instead both these words may be suffixed forms of a proto-word for ‘ice’. There are close relationships among these terms within Arhuacan, but they seem largely unrelated to synonymous terms in other Colombian Chibchan languages, which suggests that words for these concepts may have been created or borrowed when Chibchan speakers first arrived in the region of the Sierra Nevada de Santa Marta.

[KEYWORDS: Arhuacan, Chibchan, lexicology, etymology, vocabulary]

1. Introduction. The Arhuacan languages spoken in the Sierra Nevada de Santa Marta in northern Colombia belong to a Northern Magdalenic Chibchan subgroup within the wider Magdalenic branch of the Chibchan family (Constenla Umaña 2008).¹ There are currently three principal Arhuacan languages: Kogi (ISO code: kog), with an estimated 9,000 speakers (Adelaar 2004:66), Ika (ISO code: ikk), with an estimated 14,000 speakers (Adelaar 2004:66), and Damana (ISO code: mbp), with approximately 7,400 speakers (Pérez Tejedor 2009). A fourth member of the group, Kankuí (no ISO code), seems to be extinct, though some lexical records remain (Celedón 1892 and Wavrin, Celedón, and Trillos Amaya 1998) and it seems to have been closely related to Damana (Jackson 1995:66–67). Despite relatively sizable speech communities, documentation of these languages remains poor, and few comprehensive surveys of grammar or lexicon have so far been produced.

¹ Constenla Umaña (2008:126–28) identifies Ette Taara (Chimila) (ISO code: cbg) as a second branch of Northern Magdalenic alongside Arhuacan; he also defines a Southern Magdalenic branch containing Uw Cuwa (Tunebo) (ISO code: tuf), Barí (ISO code: mot), and extinct Muisca (ISO code: chb). This scheme represents a subtly but significantly different arrangement than that found in his earlier works (Constenla Umaña 1993; 1995). On the various alternate names used to identify these languages and speech communities, see Adelaar (2004:6) and Trillos Amaya (1989:15–17).

The Arhuacan languages were first formally recognized as a closely related group (with links to other Chibchan languages, such as Muisca) by Uhle (1890). Shafer (1962) provided the first methodologically modern comparative study of the Arhuacan languages, though he remained dependent on old and inconsistent data. Constenla Umaña's landmark study of comparative Chibchan phonology (1981) was not focused on the Arhuacan languages but did much to clarify issues for subsequent studies of Arhuacan historical linguistics, such as those of Frank (1988; 1992; 1993) and Jackson (1995).

Nevertheless, although the pace of publication on Arhuacan has increased in recent decades, much still remains in unpublished field notes, and details in the transcriptions produced by different researchers can vary considerably. This situation hampers efforts to understand relationships among the different Arhuacan languages and their place in the wider Chibchan family.² This paper seeks to clarify and expand on previous interpretations through an examination of words for 'snow' and 'ice' in the Arhuacan languages.

2. Arhuacan words for 'snow' and 'ice'. The principal studies focused on the reconstruction of Proto-Arhuacan have been those of Frank (1988; 1992; and especially 1993) and Jackson (1995). Jackson's study did not treat terms for 'snow' or 'ice' specifically, but Frank (1993:98–99, 108, 115), drawing on his own and others' unpublished field notes, discussed terms for 'snow' in the three now-living Arhuacan languages: Kogi /nuwabi/, Ika /dʒʌn/, and Damana /d̪im/. Frank did not consider terms for 'ice', though the forms provided by Huber and Reed (1992:324) offer significant grounds for comparison: Ika /dʒwábu/, Kogi /nəbbugáldə/, Damana /dimi-ŋina/.³ More recent and perhaps more accurate transcriptions for some of these forms are Kogi /nu'abi/ 'snow' and /nab'gala/ 'ice' (Ortiz Ricaurte 2000:779) and Ika /dʒəN/ 'snow' (Landaburu 2000:736).⁴ Ortiz Ricaurte (2000:770) also provides Kogi /nu'gala/ 'hail', which is sufficiently similar in semantics and form to warrant consideration in the present study. Celedón's vocabulary of Kankuí (1892:596) provides the only term in that language: *damöngána* 'snow'. Additional information from Celedón and other researchers of the late nineteenth and early twentieth centuries,

² For summaries of research on the Chibchan family, see Constenla Umaña (1981; 1993; 1995; 2008), Adelaar (2004:54–55), and Quesada (2007).

³ It should be cautioned that Huber and Reed (1992) rely on other sources for their data: for Ika, Tracy and Tracy (1973); for Damana, Trillos Amaya (1989); for Kogi, Gawthorne and Hensarling (1984) and Ortiz Ricaurte (1989). Huber and Reed (1992:xxx) note that their data is "intended to be phonemic" but that "for some languages, it is unclear whether the data is phonemic or not." Nevertheless, here I reproduce their forms within slashes as though they were standard phonemic transcriptions.

⁴ The phoneme /N/ is a nasal consonant of variable realization, in this particular case [ŋ] (Landaburu 2000:737).

although predating the adoption of more standardized phonological transcription methods, generally correlates with more recently recorded forms. Table 1 summarizes the available data on these terms.⁵

3. Analysis of Arhuacan words for 'snow' and 'ice'. From table 1, a number of patterns are immediately evident. First, all the terms point to proto-forms with initial */d/. Conditions for the nasalization of initial */d/ in Kogi, its palatalization in Ika, and its preservation in Damana were noted by Constenla Umaña (1981:306, 312–19) and elaborated by Frank (1993:99) and Jackson (1995:59–62). Readily observable in the Ika and Damana words for 'snow' is a stem starting with a consonant derived from */d/, followed by a central vowel, and then a labial and/or nasal consonant; this same stem appears elsewhere with the addition of a suffix like *-gǃla* or *-gǃna*. Standing slightly apart are suffixed forms of stem */du-/, including Kogi /nuǃgala/ 'hail' as well as the disyllabic Kogi 'snow' and Ika 'ice' words.

With regard to these latter terms, Kogi /nuǃabi/ 'snow' is surely cognate with Ika /dǃwǃabu/ 'ice', and so not directly comparable with the Ika and Damana 'snow' words, as Frank assumed (1992; 1993). Moreover, the clearly cognate forms Damana /dimi-n-gina/ and Kankuí *damǃngána* must also be cognate with Kogi /nabǃgala/ 'ice'. Frank (1993:99–100) identifies intervocalic Kogi /l/ and Damana /n/ as common reflexes of Proto-Arhuacan intervocalic */d/. The /n/ that precedes the Damana suffix (realizing an archiphoneme /N/) is a connective element (Trillos Amaya 1998:37); given the close relationship identified between Damana and Kankuí, the same is likely true in Kankuí. Thus, these forms contain reflexes of a common suffix */-gada/, appearing as Kogi *l-gala*, Damana *l-(n)-gina*, and Kankuí *-(n)gána*.

Ortiz Ricaurte (2000:770) describes the Kogi *l-gala* suffix as providing the sense of 'materia con que está hecho' ('-stuff'), exemplified by /ʃei'za/ 'machete' alongside suffixed /ʃei'zagala/ ('machete-stuff' = 'iron'). If one accepts this analysis, then /nabǃgala/ 'ice' may be interpreted as 'the stuff from which /nab-/ is made', suggesting the Kogi morpheme /nab-/ originally signified 'snow', cognate with Ika /dǃǃN/ and Damana /dim/.

However, this interpretation conflicts with Frank's postulated Proto-Arhuacan */dub/ 'snow', which depends partly on the probably erroneous equation of Kogi /nuǃabi/ (instead of /nab-/) with Ika /dǃǃN/ and Damana /dim/ and partly on a phonological rule identified by Frank (1993:99) and Jackson (1995:61–62) that Proto-Arhuacan initial */d/ was preserved as Ika /dǃ/ and Damana /d/ only before Proto-Arhuacan high vowels (*/i/ and */u/); otherwise

⁵ This study, except when otherwise noted, generally cites forms from Ortiz Ricaurte (2000) for Kogi 'snow' and 'ice', from Landaburu (2000) for Ika 'snow', and from Huber and Reed (1992) for Ika 'ice' as well as Damana 'snow' and 'ice'.

TABLE 1
RECORDED FORMS FOR 'SNOW', 'ICE', AND 'HAIL' IN ARHUACAN LANGUAGES

	'snow'	'ice'	'hail' ¹
Kogi	<i>nuábi</i> (Celedón 1886)	<i>/nabbugálda/</i> (Huber and Reed 1992) ²	<i>nabuggalláshi</i> (Celedón 1886) ³
	<i>/nuwábi/</i> (Huber and Reed 1992)	<i>/nabgala/</i> (Ortiz Ricaurte 2000)	<i>/nugala/</i> (Ortiz Ricaurte (2000)
	<i>/nuwabi/</i> (Frank 1993)		
	<i>/nuabi/</i> (Ortiz Ricaurte 2000)	<i>/dʒwábu/</i> (Huber and Reed 1992)	—
Ika	<i>yeen</i> (Isaacs 2011) ⁴		
	<i>dyông</i> (Bolinder and Landaburu 1998) ⁵		
	<i>/dʒəm/</i> (Huber and Reed 1992)		
	<i>/dʒam/</i> (Frank 1993)		
Damana	<i>/dʒN/</i> (Landaburu 2000)	<i>danungana</i> (Isaacs 2011) ⁶	—
	<i>/dīm/</i> (Huber and Reed 1992)	<i>/dīmi-ngina/</i> (Huber and Reed 1992)	—
Kanku'	<i>damōngána</i> (Celedón 1892)	—	—

¹ For simplicity, this study uses the English gloss 'hail', although the original Spanish gloss 'granizo' could also mean 'hail(stone[s])'.

² The medial /-u-/ in */nabbugálda/* recalls the Kogi verb */nabugala/* 'freeze' (Ortiz Ricaurte 2000:778), distinct from (though surely related to) the similar Kogi noun */nabgala/* 'ice'. The two forms might easily have been confused by those recording them.

³ This is presumably a suffixed derivation of Kogi */nabugala/* 'freeze' (or of */nabgala/* 'ice').

⁴ Isaacs collected his data in 1881–82. It was first published in 1884, again in 1951, and again in 2011.

⁵ Bolinder's forms are thought to have been collected ca. 1915.

⁶ Glossed in Spanish as 'nevado' (Isaacs 2011:157).

initial */d/ became /n/ in Ika and Damana before Proto-Arhuacan non-high vowels (and universally in Kogi). There is, however, no clear parallel for a Proto-Arhuacan high vowel producing Kogi /a/, as appears in /nab-/. Although Frank asserts (1993:107) that “in both Ika and Damana, *u was centralized in the environment _*b#,” there seem to be no clear examples of such a process other than the */dub/ that Frank reconstructs behind Ika /dʒəN/ and Damana /dim/. A rule for centralization of */u/ in this environment also seems contradicted by, for example, Frank’s derivation (1993:107, 113) of Kogi /uba/, Damana /uma/, and Ika /umi/ from his reconstructed Proto-Arhuacan */ubʌ/ (from Proto-Chibchan */ub’/ ‘eye’) (Constenla Umaña 1981:380). Proto-Arhuacan */u/ does seem to have become Damana /ə/ before */r/ in /wən/ ‘ash’ (Trillos Amaya 2005:94), from Proto-Chibchan */bur-/ (Constenla Umaña 1981:362–63), although this form’s */u/ was preserved in Kogi /muli/ (Ortiz Ricaurte 2000:778) and Ika /buN(səga)/ (Landaburu 2000:748). In Ika, under certain conditions, */u/ seems to have been lowered to /o/ and */i/ to /e/, while in Kogi, */i/ seems to have been centralized in an environment like */sik/ (Frank 1993:106–7) but was certainly not lowered to /a/. Overall, the majority of examples suggest that */u/ and */i/ were both generally preserved as /u/ and /i/ in the modern Arhuacan languages.

Frank (1993:96) and Jackson (1995:62–65) both assume Proto-Arhuacan had two central vocalic phonemes: low /a/ and a non-low central vowel. Two principal influences probably play on this assumption. First, this is the pattern seen in the modern languages’ phonological systems (Landaburu 1988; 1992; 2000, Trillos Amaya 1989, and Ortiz Ricaurte 1989; 2000).⁶ Second, this is likewise the pattern Constenla Umaña (1981:192) originally reconstructed for Proto-Chibchan (specifically, */a/ and */ə/). In general, Frank (1993:108) and Jackson (1995:65) interpret a Proto-Arhuacan non-low central vocalic phoneme as continuing a Proto-Chibchan */ə/. Both see this Proto-Arhuacan non-low central vocalic phoneme as having been lowered to /a/ in Kogi (thus falling together with Proto-Chibchan */a/) but largely preserved as the non-low central vowels in Ika and Damana. However, if one accepts Constenla Umaña’s revised Proto-Chibchan phonology (2008:128–29), which reassigns examples of originally reconstructed */ə/ to */a/,⁷ it must instead be the case

⁶ Earlier researchers had identified more central vocalic phonemes for Kogi (Gawthorne and Hensarling 1984) and Ika (Tracy and Tracy 1973), and though more recent consensus is that there are only two, questions may remain about the relative height of the non-low central vocalic phoneme in Kogi and Ika (Landaburu 2000 and Ortiz Ricaurte 2000). Trillos Amaya (2005:99), however, characterizes the central vocalic phonemes in all three living Arhuacan languages as low /a/ and mid /ə/ (see also figure 1). This interpretation is broadly adopted here, although cited forms are reproduced as found in their sources; for example, Damana /dim/ (Huber and Reed 1992:317) instead of probably more accurate /dəm/.

⁷ In the present study, Proto-Chibchan forms drawn from Constenla Umaña’s original reconstructions (1981) are silently updated to reflect his revised phonology (2008).

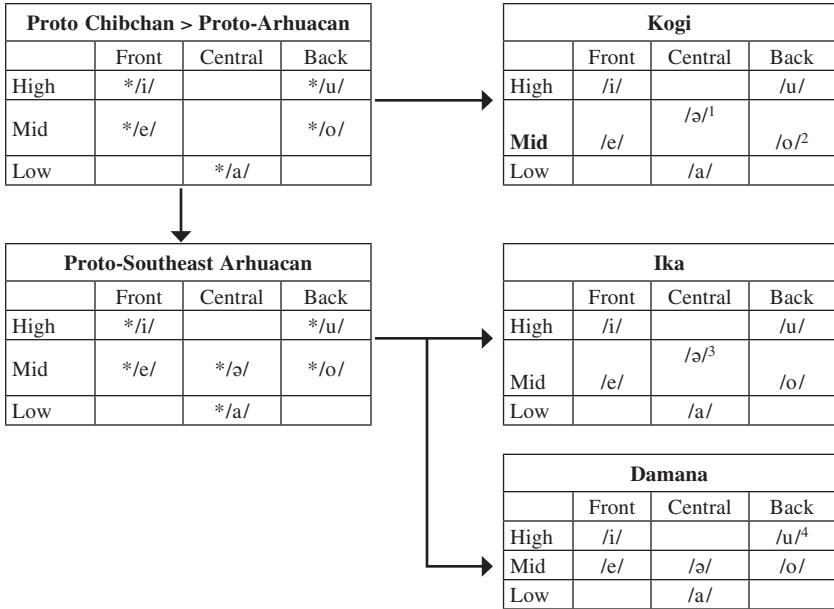


FIG. 1.—Note the following about forms displayed here:

¹ Trillos Amaya (2005:99) describes Kogi's non-low central vocalic phoneme simply as /ə/; in contrast, Ortiz Ricaurte (2000:760) describes it as high back /u/. The slightly raised placement of Kogi mid /ə/ in figure 1 is intended to reflect this variability.

² Ortiz Ricaurte (2000:760) categorizes /o/ as a phoneme not commonly encountered in Kogi. Jackson (1995:63) argues that neither /e/ nor /o/ has phonemic status in Kogi; he considers them allophones of diphthongs /ai/ and /au/.

³ Landaburu (2000:734–35) categorizes Ika /ə/ (often written *u*) as a non-low—and, indeed, specifically high—central vowel whose realization ranges from higher [i] to lower [ʌ], depending on the environment. The slightly raised placement of Ika mid /ə/ in figure 1 is intended to reflect this variability.

⁴ Trillos Amaya (2000:751) additionally identifies a Damana phoneme /ū/, though notes that it is marginal (with only a single minimal pair opposition to support its existence).

that Kogi /a/ simply continues Proto-Chibchan */a/. Kogi's non-low central vocalic phoneme seems to result from a fusion of allophones of */i/ and */u/ (Jackson 1995:65). In contrast, the non-low central vocalic phonemes of Ika and Damana often seem to represent cases where Proto-Chibchan */a/ was raised to */ə/.

Figure 1 summarizes the vocalic phonemes (excluding any diphthongs) reconstructed for Proto-Chibchan (Constenla Umaña 2008) and Proto-Arhuacan (understood in this study to be essentially identical to the Proto-Chibchan system), for Proto-Southeast Arhuacan (ancestor of Ika and Damana, as well as of Kanku'), and in the modern Arhuacan languages (based principally on Landaburu 2000, Ortiz Ricaurte 2000, and Trillos Amaya 2005).

Jackson (1995:65–66) argued that originally reconstructed */ə/ in open syllables became /u/ in Ika and Damana.⁸ In fact, it seems that Proto-Chibchan

⁸ Jackson (1995) interprets all non-low central vocalic phonemes in all modern Arhuacan languages as /u/.

**/a/* was often preserved in open syllables (though raised in word-final position in Ika) but raised to */ə/* in stressed closed syllables (Frank 1993:108). For example, Proto-Chibchan medial **/a/* in **/kara/* 'leg' (Constenla Umaña 1981:395–96) was raised to **/ə/* in Ika */(ˈbju)kənə/* 'knee' (Landaburu 2000:747), Ika */kani(ˈtʃama)/* 'lower leg' (Frank 1993:114), and Damana **/kina/* (Frank 1993:114) but preserved in Kogi */(nuˈga)kala/* (Ortiz Ricaurte 2000:779). In contrast, Proto-Chibchan **/a/* in the open syllable **/ua/* 'fish' (Constenla Umaña 1981:383) was uniformly preserved in Kogi */ua(ka)/* (Ortiz Ricaurte 2000:778), Ika */wa(kə)/* (Landaburu 2000:747), and Damana */wa(ka)/* (Frank 1993:114), while Proto-Chibchan final **/a/* in **/kuhká/*, **/kuhkuá/* 'ear' (Constenla Umaña 1981:377) was preserved in Kogi */kuka/* (Ortiz Ricaurte 2000:779) and Damana */kuk'kwa/* (Frank 1993:113), */kəkuá/* (Trillos Amaya 2005:95) but raised in Ika */kukwə/* (Landaburu 2000:747).⁹

Accordingly, the vocalism of all three cognates—Kogi */nab-/*, Ika */dʒəN/*, and Damana */dim/*—can readily be explained by a common proto-form containing **/a/* that was raised to */ə/* in Ika and Damana. However, in such a case, the proposed rule that initial **/d/* nasalized to */n/* before historical non-high vowels in Ika and Damana (Frank 1993:99 and Jackson 1995:61) should have taken effect—whereas, in fact, it did not.

Thus, there is good reason to reconsider this rule. While it does seem to be the case that initial **/d/* did nasalize in Ika and Damana before low **/a/*, and did not before high **/i/* and **/u/*, there is less certainty about the fate of initial **/d/* in Ika and Damana before historical mid-vowels—at least in part because there are relatively few examples. Indeed, the sole clear example at present seems to be Proto-Chibchan **/doʔ/* 'otter' (Constenla Umaña 1981:405), reflected in Kogi */nauwi/* and Ika */(dʒe)nawa/*. The Kogi example is not diagnostic, as initial **/d/* generally nasalized in Kogi. With the Ika example, it is unclear whether initial **/d/* had already become */n/* before **/o/* or only did so later, after the vowel diphthongized to */aw/* (perhaps causing nasalization as before */a/*).¹⁰ Moreover, as intervocalic **/d/* seems to have generally become */n/* in Ika before non-high vowels (Frank 1993:99–100), the position of **/doʔ/* as the second element in a compound following */dʒe/* 'water' may have caused intervocalic nasalization of **/d/* that might not have occurred had the morpheme been preserved as a simplex. Similar issues arise with Arhuacan words for 'go/walk': Kogi */néinhi/*, Ika */nai-/*, and Damana */nai(ə)n/* (Trillos Amaya 2005:98). Frank (1993:116) and Jackson (1995:63) relate these to Proto-Chibchan **/da/*, a form that Constenla Umaña (1981:373,

⁹ Constenla Umaña (2008:123) additionally proposes that **/a/* was raised in Ika and Damana (and Kankui) when followed by an alveolar consonant (a rule that would not apply in a case like **/dab/*).

¹⁰ There seems to have been a strong tendency for historical **/e/* and **/o/* to diphthongize in the modern languages, a process that seems most advanced in Kogi but is also visible in Ika and Damana (Jackson 1995:63).

386–87) glossed separately as both ‘come’ and ‘go’,¹¹ though they could also be related to Proto-Chibchan */de/ ‘come’ (Constenla Umaña 1981:373). The diphthongs in the modern forms are suggestive of a proto-form with */e/, though here again the nasalization of initial */d/ in Ika and Damana might have occurred only after a following */e/ diphthongized to /ai/ (as following /a/ causes nasalization of initial */d/ in these languages).

Accordingly, it may be that initial */d/ was in fact preserved in Damana and (with palatalization) in Ika except before */a/ and diphthongs.¹² This allows explanation of Ika /dʒəN/ and Damana /dəm/ from Proto-Southeast-Arhuacan */dəb/, in which the vowel had been raised from that in Proto-Arhuacan */dab/ ‘snow’, itself reflected directly in Kogi /nab-/.¹³ In turn, the cognates Kogi /nu’abi/ ‘snow’ and Ika /dʒwábu/ ‘ice’ seem to descend from Proto-Arhuacan */du-/ (with a sense like ‘ice’), to which a suffix */-abV/ (of uncertain meaning) was added.¹⁴ Kogi appended the suffix */-gada/ both to */du-/, producing /nugala/ ‘hail’, and to */dab/ ‘snow’ (otherwise lost as a simplex in Kogi), creating a new ‘ice’ word, /nab’gala/. Damana has perhaps likewise replaced the ‘ice’ proto-word with a suffixed form of the ‘snow’ proto-word but also retained a descendant of the ‘snow’ proto-word with its original sense. If Celedón’s gloss (1892:596) is correct, then Kankuí also suffixed the ‘snow’ proto-word but retained the sense ‘snow’ for the newly suffixed form; alternatively, Celedón’s gloss may be inaccurate, in which case the clearly cognate Kankuí and Damana forms might both mean ‘ice’. In any event, only Ika seems to preserve descendants of both the ‘snow’ and ‘ice’ proto-words (albeit the latter in a suffixed form) with their original senses. The proposed situation is summarized in figure 2.

4. Autochthonicity of Arhuacan terms for ‘snow’ and ‘ice’. Given these interpretations, the suggestion that Kogi /nu’abi/ ‘snow’ might have

¹¹ Constenla Umaña notes that “the nexus [between the similar reconstructions for ‘come’ and ‘go’] could be the idea of ‘arriving’” (1981:386).

¹² Although the very few examples of */de-/ and */do-/ do suggest diphthongization in these environments, not all examples of historical */e/ and */o/ were necessarily diphthongized in Ika or Damana. Moreover, given that /ə/ seems not to have been inherited from Proto-Chibchan or even common Proto-Arhuacan but created separately in Proto-Northwest-Arhuacan (pre-Kogi) and in Proto-Southeast-Arhuacan (antecedent of Ika and Damana), there is no reason to expect these distinctly created phonemes have effects similar to those of inherited */e/ and */o/. In other words, considering their distinct origins, we should not expect all non-high vowels in the historical antecedents of the modern Arhuacan languages to behave as a group, *pace* Frank (1993) and Jackson (1995:65).

¹³ Proto-Arhuacan */dab/ would be a near homonym of Proto-Chibchan */daba/ ‘feline’ (Constenla Umaña 1981:381). A comparison of these two forms’ respective fates in modern Arhuacan might be instructive, though such an effort awaits more and better lexical data.

¹⁴ Proto-Arhuacan */du/ ‘ice’ would be a homonym of Frank’s (1993:113) proposed Proto-Arhuacan */du/ ‘armadillo’, though there would be no reason to rule it out on those grounds.

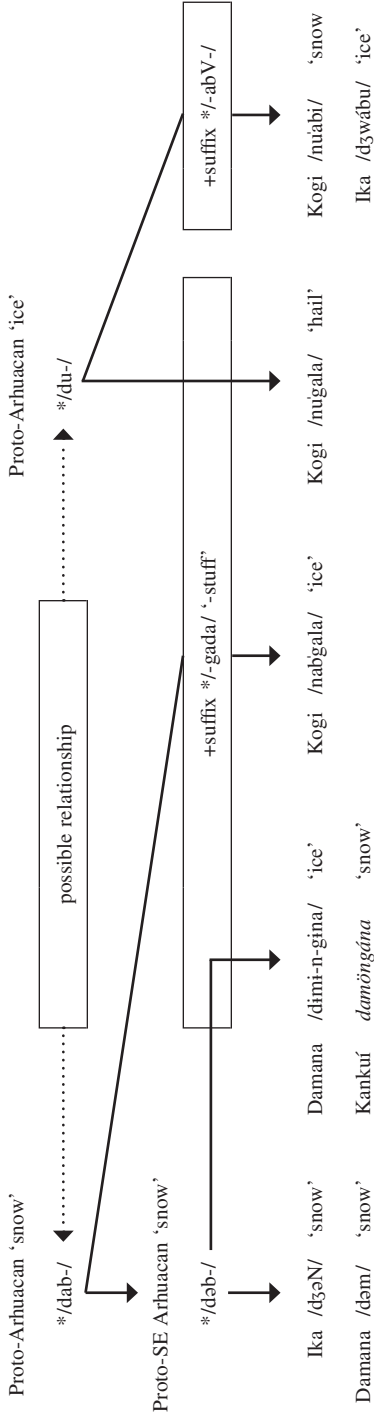


FIG. 2

been loaned from Spanish *nieve* (Ortiz Ricaurte 1998:32; 2000:770) seems untenable. While Kogi does reveal other probable loans from Spanish (for example, /'pio/ 'dog' from *perro*), many of these not surprisingly seem to be for things (or particular variations of things) that were introduced to Kogi culture (or its antecedents) by Spanish speakers. Yet it could hardly be the case that pre-Hispanic inhabitants of the Sierra Nevada de Santa Marta had no autochthonous word for 'snow'; the *Sierra Nevada* is, after all, the 'snowy mountain-range'. Moreover, while a loan from Spanish might seem understandable were Kogi /nu'abi/ viewed only alongside the other modern Arhuacan 'snow' words (Ika /dʒəN/ and Damana /dim/), more comprehensive investigation shows that /nu'abi/ is surely cognate with Ika /dʒwábu/ 'ice', and together these forms point to a common proto-word with initial */d/. A loan from Spanish *nieve* can effectively be ruled out.

Words for snow are also recorded for other Magdalenic Chibchan languages. Celedón (1886:124) reported the Ette Taara form *mauuá*, while Isaacs (2011:163) reported *monse*, presumably identifiable with the form *mon:še* glossed as both 'snow' and 'cloud' by Reichel Dolmatoff (1947:30; also cited in Meléndez Lozano 2000:790). Several words for 'snow' are reported for Uw Cuwa (Headland 1997:264), spoken in the Sierra Nevada de Cocuy: *ábartá*, *cuisoca*, and *útira*, as well as *bura* (for which the sense 'snow' is derived from a primary sense 'ash') and *sucua* (also 'soup'). Two colonial-era vocabularies of the extinct Bogotá dialect of Muisca include entries for 'snow': *hichu* (González de Pérez 1987:283) and *ichu* (Quesada Pacheco 1991:78).¹⁵

Clearly, no common proto-word for 'snow' can be proposed for either Magdalenic Chibchan or the Chibchan family as a whole. Even the two branches of Northern Magdalenic Chibchan, Ette Taara and Arhuacan, appear to have created or acquired etymologically distinct 'snow' words. This situation is not surprising; in contrast with highland Colombia, snow verges on the unknown in the present (or formerly) Chibchan-speaking regions of Central America that are presumed to have been the language family's *Urheimat* (Constenla Umaña 1981; 1991; 1995, Barrantes et al. 1990, and Melton 2008).¹⁶ Thus,

¹⁵ Muisca words for 'hail' are also reported: *hichaagua* (González de Pérez 1987:266) and *hischuaqua* (Quesada Pacheco 1991:68). These are apparently compounds formed by suffixing the 'snow' word with the word *agua* (glossed separately as 'maize kernel') (González de Pérez 1987:266 and Quesada Pacheco 1991:68).

¹⁶ The prehistory of Chibchan-speaking populations remains uncertain, though a comparison of linguistic (Constenla Umaña 1991; 1995), archaeological (Bray 1984; 2003, Langebaek Rueda 1987; 1988; 2005, Cooke and Ranere 1992, Oyuela-Caicedo 1996; 2001, 2008, Hoopes and Fonseca Z. 2003, Cooke 2005, and Hoopes 2005), and genetic (Barrantes et al. 1990, Batista, Kolman, and Bermingham 1995, Kolman et al. 1995, Kolman and Bermingham 1997, Keyeux et al. 2002, Ruiz-Narvaez et al. 2005, Melton 2005; 2008, and Melton et al. 2007) studies suggests an original Central American Chibchan population began to diverge during the Pleistocene/Holocene transition (ca. 10,000 years before the present). Particular communities (including

newly established Chibchan-speaking communities in prehistoric Colombia may have needed to establish new terms for 'snow' and 'ice', and different Chibchan-speaking communities in different regions may have separately created (or borrowed from substrate languages) their own distinct terms for these concepts.¹⁷

5. Conclusions. Despite advances in recent decades, a tremendous amount of basic documentary and classificatory work remains to be done—and only with such work will our understanding of these languages and their relationships advance at a more satisfactory pace. Nevertheless, even our present state of knowledge grants us reasonable certainty that pre-Hispanic Proto-Arhuacan contained a word for 'snow'—as Frank (1993) presumed, though different from his original reconstruction—as well as a distinct (though possibly related) word for 'ice'. These proto-words often shifted in form and meaning as the modern Arhuacan languages evolved. It also seems likely that the Proto-Arhuacan terms for 'snow' and 'ice' may well have been created afresh or borrowed from substrate languages when Chibchan-speaking groups first arrived in the region of the Sierra Nevada of Santa Marta.¹⁸ These new interpretations, though drawn from a relatively restricted examination of lexis, also help clarify some aspects of historical phonological evolution in Arhuacan—but additionally highlight the need for further comparative work both within Magdalenic Chibchan and between it and its neighbors. The derivation of further insights on the prehistory of Chibchan and its speakers in Colombia—as well as so much else concerning these languages—will depend heavily on the publication of more and better data that enables more and better comparative and historical linguistic studies.

those ancestral to modern Arhuacan-speakers) then migrated into northern South America during the following millennia and, since arriving in the regions occupied by their modern descendent populations, have remained essentially in place.

¹⁷ Intriguingly, Melton et al. (2007:764) observe that Arhuacan speakers are similar to Central American Chibchan speakers in that the majority belong to haplogroup A (one of the five haplogroups to which Native American mitochondrial DNA can be traced back, the others being B, C, D, and X) but differ in that some belong to haplogroup C (absent from the Central American groups), suggesting haplogroup C in the modern Arhuacan-speaking population could derive from an earlier (non-Chibchan) South American population (Lalueza Fox 1996 and Keyeux et al. 2002). There is relatively little archaeological evidence (at present) for pre-Chibchan groups in the Santa Marta region, although even relatively small (perhaps hunter-gatherer) populations could have provided loanwords for 'snow', as well as haplogroup C, to incoming Chibchan-speaking communities.

¹⁸ Better data on known neighboring language families could even conceivably, though far from certainly, help identify possible sources for loans into Proto-Arhuacan and other Magdalenic Chibchan languages.

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