A Lexical Class as Construction: On the Origins of Cariban Postpositions

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Abstract

Most postpositions in modern Cariban languages are bipartite, composed of a stem that indicates properties of the ground with reference to which the object is located (e.g., liquid, open space, container, hand, back) plus a suffix that indicates the type of relation (e.g., static location, allative, ablative, perlative). While bipartite postpositions are ubiquitous in modern languages, surprisingly, very few are fully cognate: cognate stems often take a non-cognate suffix, or cognate suffixes often occur with noncognate stems. We conclude that the antecedent to modern bipartite postpositions was a syntactic phrasal construction in (Pre-)Proto-Cariban, in which modern stems were relational nouns, modern suffixes were cliticized postpositions, and different combinations lexicalized in different modern languages. We also track more recent innovations by which some older stems have become suffixes, some sequences of postpositions have become compound suffixes, and innovative stems have come from other parts of speech.

1 Introduction

In the Cariban language family, most members of the lexical class of postpositions have so far resisted reconstruction. While this is due, in part, to the relative scarcity of detailed synchronic descriptions of this domain, in this paper we suggest another reason: the Proto-Cariban class of postpositions had relatively few fixed members, such that the large majority of especially spatial postpositions in Proto-Cariban were synchronically composed of a relational noun plus one from a set of nine postpositional suffixes expressing either locative, allative, perlative, or ablative semantics. Some of these relational nouns are now attested only in postpositions, such that they are perhaps better described as postpositional stems, but in any event, they reconstruct independently from their suffixes. Strikingly, almost no fixed collocations of a specific relational noun/postpositional stem plus a specific postpositional suffix are reconstructible to Proto-Cariban. This finding motivates the reconstruction of postpositions in Proto-Cariban as a phrasal construction, rather than as fixed lexical items.

In the remainder of this section, we briefly introduce the Cariban language family (§1.1), the morphosyntactic properties of the synchronic category of postposition (§1.2), and previous historical work with postpositions in the family (§1.3).

1.1 The Cariban language family

The Cariban language family is spoken across northern South America, with modern languages attested across the northern coast of the continent from the Colombia-Venezuela border, throughout Venezuela and the Guiana Shield area, south of the Amazon along the length of the Xingu River to its headwaters in central Brazil, and west to central Colombian Amazonia. Some 75 language names are mentioned in the historical literature, of which 25 languages have survived to modern times, most with fewer than 2000

speakers. The map in Figure 1 (Cáceres Arandia 2011: 49) shows the approximate locations where modern Cariban languages are spoken.
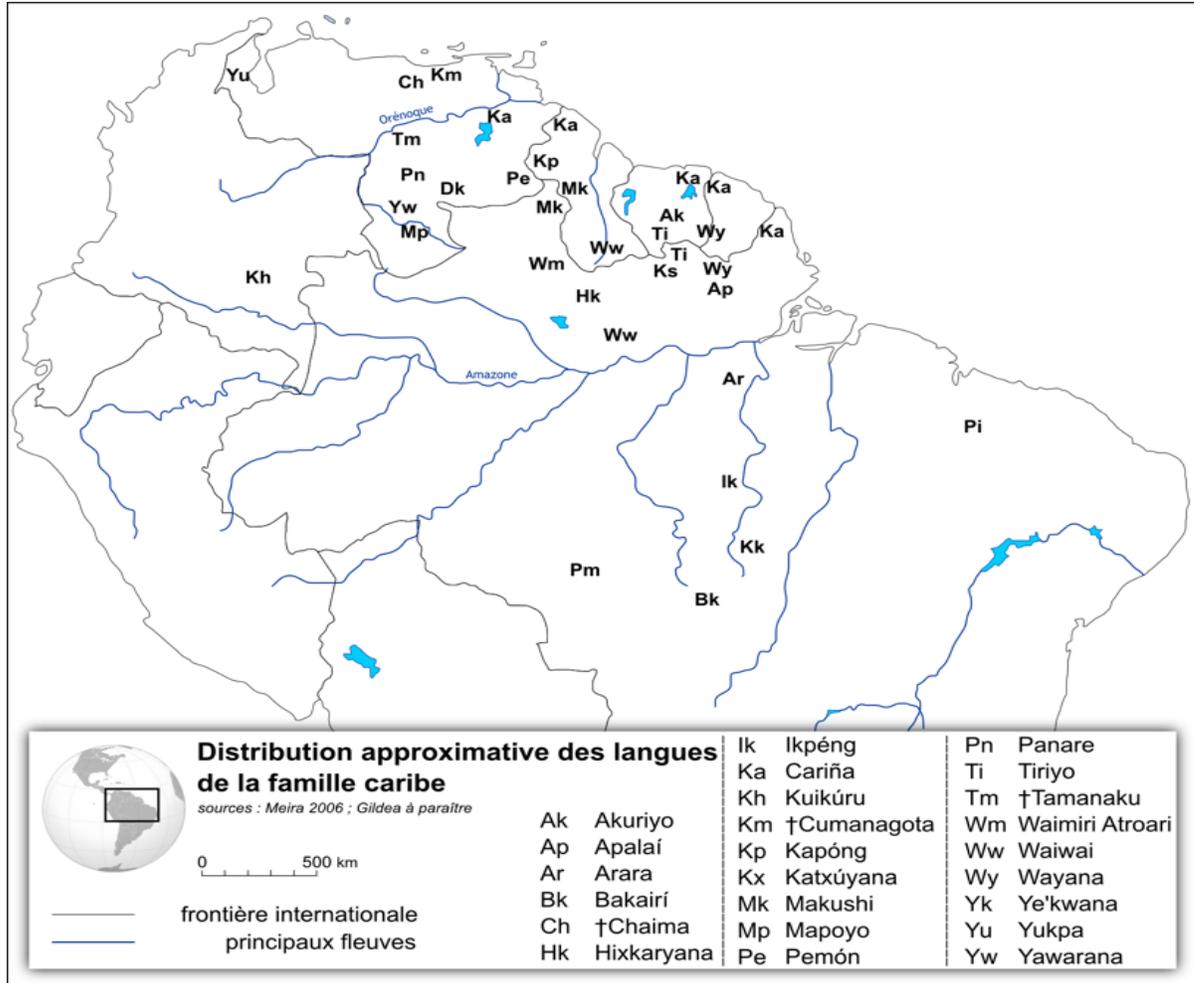

Figure 1. Approximate locations of modern Cariban languages

Linguistic descriptions of Cariban languages include several detailed reference grammars (Derbyshire 1985, Meira 1999, and Tavares 2005), several more sketch grammars (Hoff 1968, Pacheco 1997, and dos Santos 2007), three accessible dictionaries (Courtz 2008, Koehn and Koehn 1995, and Mattéi-Müller 1994)[1], and a range of published and unpublished sources, such as graduate theses (Cáceres Arandia 2011 and Matter 2021), manuscripts (Derbyshire 1999), articles on various topics (Cáceres Arandia 2016, 2021; Gildea 1998, 2003, 2018; Meira 2004, 2006; Meira and Franchetto 2005; and Meira and Gildea 2009; among others), and Gildea's field notes from multiple languages. Sérgio Meira has collected most of these primary sources and created annotated databases using SIL's Shoebox software, which was a tremendous help in collecting examples of postpositions in use. This paper also builds heavily off of the work done in Douglas (2019), a foundational thesis that compared postpositions in the Cariban family and reconstructed to Proto-Cariban 13 postpositionalizing suffixes, 7 monomorphemic postpositions, and 6

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1 Not included here are: Amodio and Pira's (1996) dictionary of Macushi, Camargo's (2002) dictionary of Apalaí, and Camargo and Tapinkili's (2010) dictionary of Wayana; these were also not part of the Douglas (2019) database.

Proto-Cariban postpositional stems. Additionally, its appendices provide a compilation of synchronic postpositions across 15 Cariban languages.

Despite multiple efforts over the last 70 years, including some recent efforts using phylogenetic statistical methods, there is still no widely accepted genetic classification of the family beyond lower-level groups, such that most hypotheses regarding higher-level branches that combine these groups remain tentative or even speculative (cf. Matter 2021 for a summary of these efforts to date). Figure 2 shows the most conservative classification from Matter (2021: 47).
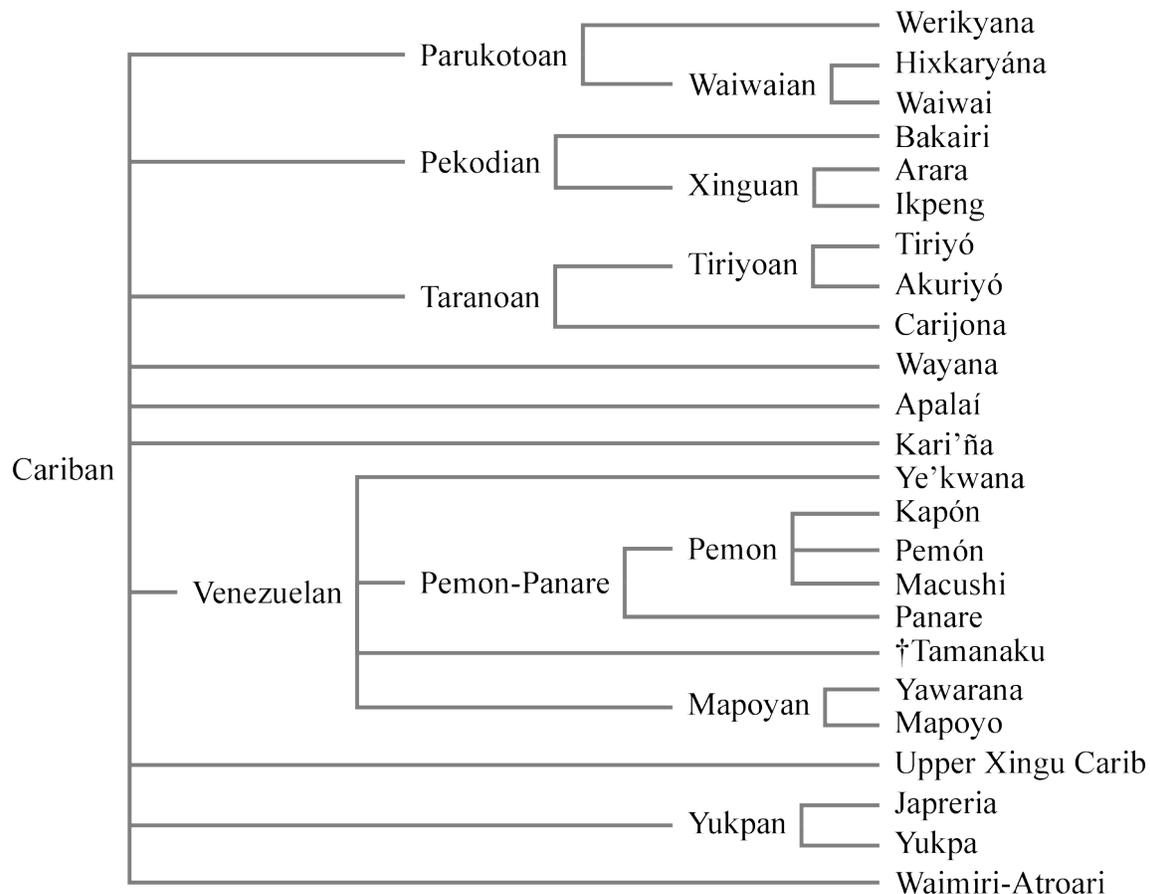

Figure 2. Matter's (2021) conservative classification of the Cariban family

In this paper, the Parukotoan, Pekodian, and Taranoan Groups, as well as the Venezuelan Branch, are all well-represented. In addition, we have data of varying degrees of detail from the currently unclassified languages: Kari'nja, Wayana, Apalaí, and Upper Xingu Carib (which we refer to here as Kuikuro).

1.2 Synchronic Cariban Postpositions

Nearly all grammatical descriptions of synchronic Cariban languages agree in identifying a class of postpositions, which is identified via internal morphosyntactic properties and external distribution. Internally, Cariban postpositions head the Postposition Phrase (PP), either taking a preceding nominal

object, as in (1), or bearing a personal prefix/proclitic that indexes the person of the object, as in (2), all examples from Wayana. These prefixes are identical to the prefixes that mark the possessor on nouns and a subset of them also occurs on verbs marking 1st and 2nd person P/Sᴘ. While it is not obligatory to indicate number, a distinct adverbial collective/plural suffix is found with postpositions (2), reconstructed as Proto-Cariban *-tine* (Gildea & Cáceres Arandia in progress). Also illustrated in (2) is that postpositions can be negated by a negative suffix/enclitic specific to adverbials, which reconstructs to *=pira* (Cáceres Arandia 2016).

(1)   a.   [NOUN POSTP]ₚₚ
        kunitomo=ja
        grandmother=DAT
        'by my grandmother'

    b.   [PREF-POSTP]ₚₚ
        ə-ja
        2-DAT
        'to you' (Tavares 2005: 337-338)

(2)   *ku-pəkə-he-ɾa*
    1+2-about-COLL-NEG
    'not busy with all of us' (Tavares 2005: 296)

Externally, PPs occur as nonverbal predicates, usually as complements of the copula (Gildea 2018: 369) or as adverbial adjuncts to predicates (cf. 3a-b below, from Hixkaryana). This syntactic distribution (and in a few languages, the collective suffix) is shared with adverbs, such that adverbs and PPs clearly constitute the superordinate category of adverbials (Meira & Gildea 2009: 121).

Turning to the question of the internal morphological structure of Cariban postpositions, in each language we find a few simple monomorphemic postpositions, but the large majority of postpositions are complex, consisting of a stem plus what has been described synchronically as an inflectional suffix (Derbyshire 1998: 42-43) or a postpositionalizing suffix (Douglas 2019: 6). Inspired by terminology from Penutian/Hokan studies of bipartite verb stems (DeLancey 1996: 37), these complex postpositions have been described by Douglas (2019: 94) as "bipartite", the term that we adopt in this paper. Examples (3a-b) show such bipartite postpositions modifying predicates in Hixkaryana. Table 1 reproduces the first comparative list of bipartite postpositions from Derbyshire (1998: 43).[2]

(3)   Hixkaryana
    a.   *ekeju   jameno   <u>juhso   kwa-ka</u>*
        bread   3-dipped-it   manioc-drink   liquid-ALL
        'He dipped the bread <u>into the manioc drink</u>.' (Derbyshire 1988:208)

    b.   <u>*tuna   kwa-ha*</u>   *nteko*
        water   liquid-through   3-went
        'He went <u>through the water</u> (i.e. 'he swam underwater') or 'He swam along the surface.' (Derbyshire 1988:208)

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2 To enhance comparability between languages, in our comparative tables and examples we convert orthographies to IPA.

	Apalai	Hixkaryana	Waiwai	Makushi
Liquid				
in	*kwa-o*	*kwa-wo*	*kwa-w*	*ka*
into	*kwa-ka*	*kwa-ka*	*kwa-ka*	*ka-ta*
from	*kwa-e*	*kwa-je*	*kwa-j*	*ka-pai*
Flat surface				
on/at	*po*	*ho*	*ɸo*	*po*
to/onto	*po-na*	*ho-na*	*ɸo-na*	*po-na*
from	*po-e*	*ho-je*	*ɸo-j*	*po-i*
Open area				
in/on/at	*ta-o*	*ta-wo / ja-wo*	*ja-w*	*ja*
to/into	*ta-ka*	*ta-ka / ja-ka*	*ja-ka*	*ja-pɨh*
from	*ta-e*	*ta-je / ja-je*	*ja-j*	*ja-pai*
Enclosed space				
in	*a-o*	*ja-wo*	*ja-w*	*ta*
to	*a-ka*	*ja-ka*	*ja-ka*	*ta-pɨh*
from	*a-e*	*ja-je*	*ja-j*	*ta-pai*

Table 1. Derbyshire's (1998) examples of Bipartite Postpositions

Casual inspection of the forms in Table 1 reveals that each language has isomorphic stems encoding properties of the ground (liquid, flat surface, open area, or enclosed space) combined with suffixes encoding the spatial relation or path of the figure relative to this ground (locative, allative, or ablative). A more fine-grained inspection reveals that neither the stems nor the suffixes are always cognate across all four languages. Considering stems, even the sister Parukotoan languages Hixkaryana and Waiwai have differences in the stems used to encode 'open area', with Waiwai using the same stem *ja* for both 'open area' and 'enclosed space', whereas Hixkaryana allows a distinct stem *ta* in alternation with *ja* to indicate 'open area'. Considering suffixes, the Venezuelan Branch language Makushi has two non-cognate allative forms, -*ta* and -*pɨh*, and one non-cognate ablative form, -*pai*. Working with more recently published data, Douglas (2019: 72-73) reconstructs the bipartite postposition **kuwa-ka* LIQUID-ALLATIVE' to Proto-Cariban, yet in the modern reflexes of this proto-form, in addition to the innovative Makushi reflex *ka-ta*, there are innovative suffixes in Kuikuro and Ikpéng (4a-b).

(4)   a.   Kuikuro   *kwa-ti*
                             liquid-ALL
                             'into liquid' (Santos 2007:282)

       b.   Ikpéng   *gwa-tʃi*
                             liquid-ALL
                             '(to) in (liquid)' (Pacheco 1997:72)

In the much more extensive database of bipartite postposition inventories that informs the analysis in Douglas (2019), such noncognate forms proliferate, with hundreds of stems. In the next section, we turn to the problem of how to reconstruct postpositions in the face of such extensive synchronic variation.

1.3 Reconstructing Cariban Postpositions

The simple monomorphemic postpositions are relatively straightforward to reconstruct using the standard comparative method (§2). The task becomes more complicated as we consider the bipartite postpositions because similar semantic values may be encoded in individual languages with different stems and/or different suffixes. The appendices to Douglas (2019) include a list of approximately 160 noncognate postpositional stems and 20 noncognate postpositionalizing suffixes from individual languages. Given the consistency of the morphological template for bipartite postpositions, it is remarkable to find so many noncognate morphemes populating that template, such that there are so few richly attested postpositional words that are fully cognate.

One possible explanation for the lack of cognates could be the uneven coverage of postpositions in the documentary record. For some languages, the record contains quite detailed knowledge. For example, Kari'nja has multiple grammars and dictionaries, including the extensive dictionary by Courtz (2008), which offers etymological information for a substantial number of words. For Tiriyó and Ye'kwana, particularly motivated individuals wrote reference grammars (Meira 1999 for Tiriyó; Cáceres Arandia 2011 for Ye'kwana) and also published specific stimulus-driven research into spatial relations (Meira 2006; Cáceres Arandia 2021). As such, for each of these three languages, Douglas (2019) was able to collect well-described lists of over 100 attested bipartite postpositions. At the other end of the scale, we have languages like Ikpéng and Waimiri-Atroari, for which the coverage of postpositions is limited to 3 pages of a sketch grammar, or Yukpa, for which Douglas (2019) was only able to collect an opportunity sample from examples intended to illustrate other phenomena. In addition to providing a relatively short list of postpositions, such sources generally do not explore the semantics of the postpositions, generally providing only translational equivalents in the language of publication (usually Spanish, Portuguese, or English). While the bulk of the documentary record falls somewhere between these extremes, documentation for most languages tends towards the short lists with semantic range limited to translations.

We are confident that, as future documentation becomes more extensive, it will become possible to identify cognates for many more stems, and perhaps for more suffixes as well. Even so, we are not confident that we will greatly increase the inventory of *words* that can be reconstructed as postpositions in Proto-Cariban. On the basis of similarly uneven documentation for nouns and verbs, Meira & Franchetto (2005) were able to provide cognate sets for 168 nouns and 36 verbs, as compared to only 4 postpositions. Similarly, Gildea & Payne (2007) were able to reconstruct 85 nouns and 28 verbs and no postpositions. Across the individual languages of the family, the variation in inventories of postpositions is qualitatively different than the variation across nouns and verbs, such that the task of reconstruction is also qualitatively different.

In this paper, we propose to reconstruct only a small inventory of Proto-Cariban postpositional words. Beyond those words, we reconstruct a constructional template, in which a relatively limited set of pre-Proto-Cariban spatial/directional postpositions combined freely with relational nouns. A few of these combinations appear to have lexicalized early and thereby can be reconstructed with some confidence. The remainder of modern postpositions appear not to have become firmly lexicalized combinations until much more recently, such that the attested combinations vary to a remarkable degree across even closely related individual languages. In some cases, lexicalized combinations have been reanalyzed as single morphemes, leading to the creation of new monomorphemic postpositions, which in turn become suffixes on relational nouns.

In the remainder of this paper, we divide the exposition so as to build up this historical scenario, piece by piece. Section 2 reconstructs the clear cases of monomorphemic postpositions. Section 3 considers the inventory of reconstructible postpositionalizing suffixes, most of which we argue were Pre-Proto-Cariban monomorphemic postpositions, some of which were likely still postpositions in Proto-Cariban; this

section also considers the more recent development of new suffixes from postpositions. In Section 4, we consider the status of the postpositional stems, separating the vast majority that clearly originates in relational nouns from the handful that are not attested outside of postpositions, and whose etymological part of speech can only be inferred by analogy to the larger group of known origin. We also present evidence of the creation of new stems from verbal origins and discuss how these processes apply more broadly to adverbials in the Cariban family. In Section 5 we discuss some implications of our reconstructions, both for our understanding of processes of change and for our understanding of what kinds of entities are, in fact, reconstructible to Proto-languages.

2 Monomorphemic Postpositions

Monomorphemic postpositions are a relatively small subsection of the postpositional inventory in any modern Cariban language, and of this group, only 5 monomorphemic postpositions can be definitively reconstructed to Proto-Cariban. It is telling that the majority of these postpositions convey grammatical information, as compared to the predominantly locative meanings found in the bipartite postpositions. As illustrated in §1.2, monomorphemic postpositions either directly follow their object noun, cliticizing to it phonologically, or they bear a personal prefix indexing their object. We now briefly consider the five reconstructible monomorphemic postpositions based on the cognate sets in Table 2 (drawn from the much more detailed cognate sets in Douglas 2019: 56-69, 158).[3]

Language	*pəkə 'SUPR'	*te 'DESID'	*wɨya 'DAT'	*pe/me 'ESS'	*ke 'INSTR'
Wayana	pəkə	se	ja	me	ke
Tiriyó	pə(k)(ə)	se	=:ja	me	ke
De'kwana	həkə	se	wə	-he	ke
Ye'kwana	həkə	-se	uw	-he	ke
Apalaí	poko	se	a	me	ke
Werikyana	poko	tʃe	w(ɨ)ja	me	
Waiwai	ɸoko	ʃe	(w)ja	me	ke
Hixkaryana	hoko	ʃe	(w)ja	me	ke
Kari'nja	poko	ʔse	:wa	me	ke
Waimiri	pɨkɨ	sɨ	ja		ke
Akawaio	piʔ		uja	pe	ke
Makushi	piʔ	juʔ-se	ja	pe	ke
Panare	pəʔ		uja	pe	ke
Ikpéng	pok			pe	ke
Kuikuro	heke	-ti			ke

Table 2. Cognate sets for the clearly reconstructible monomorphemic postpositions

Reflexes of *pəkə 'adhesion-attachment' are found in every language in our database with a wide range of meanings, both within and across languages, including adhesion-attachment, superessive, dative, ergative, source, 'about', and 'because'. The most concrete of these, adhesion-attachment, such as gum stuck to a desk, is also the most widely attested, and so reconstructs as the most likely original meaning (Douglas 2019: 58). Similarly widespread is *te 'desideritive', a mental state postposition (Meira 2004:

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3 We thank an anonymous reviewer for providing some additional cognates, which we have included in this table. Notably excluded from this table is *po, which is discussed further below as reconstructing originally to a postpositional stem rather than a monomorphemic postposition.

143) found in at least 10 languages, and so the only mental state postposition that reconstructs to Proto-Cariban (Douglas 2019: 64). Another extremely common form is **wɨja* 'dative', with a reflex found in at least 11 languages (Douglas 2019: 67). In nearly all these languages, it also marks the causee in causative constructions and agent of nominalizations; in a few, it also marks the main clause ergative (Gildea 2003: 5-7). Reflexes of **ke* 'instrumental' are found in almost all languages in our database, in three occurring also as a postpositionalizing suffix (Douglas 2019: 54-55). Finally, reflexes of **pe/me* 'essive' are also found throughout the family, with some languages presenting a reflex of **pe* and others a reflex of **me* (not a regular correspondence, although similar oral-nasal correspondences are found in some verbal derivational suffixes, cf. Gildea & Cáceres Arandia in preparation). The meaning of this postposition is somewhat obscure, sometimes translated 'as, seems as, serves as', but sometimes claimed to have no semantic value, serving instead the simple syntactic function of making it possible for a noun to occur in a position reserved for adverbials (Gildea 2018: 369). Modern reflexes of this postposition are frequently described as an adverbializing suffix, suggesting that it has grammaticalized more readily than the others.

There are a few other monomorphemic postpositions whose reflexes are well-attested across multiple languages, but which are missing from enough genetic sub-units that they do not automatically reconstruct all the way to Proto-Cariban. These include **pəkərə* 'behind', **akərə* 'commitative (exclusive)', **marə* 'commitative (inclusive)', and **wara* 'similaritive'.[4]

Given so few reconstructible forms, we are led to conclude that monomorphemic postpositions were a small class in Proto-Cariban. Further, there is little evidence of syntactic change: from the status of monomorphemic postpositions in Proto-Cariban, nearly all of these (except perhaps **pe/me*) continue to be attested primarily as monomorphemic postpositions in the modern languages. The absence of evidence for any morphosyntactic change from PPC to Proto-Cariban to the modern languages suggests the syntactic development modeled in Figure 3: a PPC noun and monomorphemic postposition, acting as a postpositional phrase, ends up synchronically either as a retention of that postpositional phrase structure, as a postposition, or as an adverb.

PPC	PC	Modern languages
**[N=POSTP]$_{PP}$ >	*[N=POSTP]$_{PP}$ >	[N=POSTP]$_{PP}$
		[STEM-*ke*]$_{POSTPOSITION}$
		[N-*pe/-me*]$_{ADVERB}$
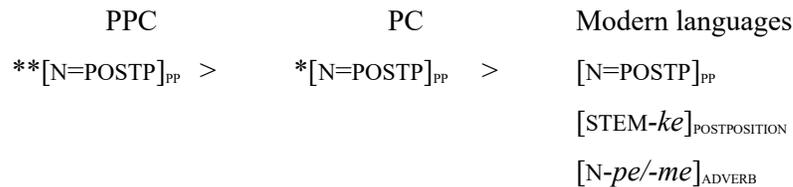
Figure 3. Evolution of monomorphemic postpositions

From this rather modest beginning, we have established the foundation for our more ambitious reconstruction of the spatial/directional postpositionalizing suffixes as historically monomorphemic postpositions. We turn to this task in section 3.

3 Pre-Proto-Cariban postpositions to Proto-Cariban and/or modern suffixes

Having established that we must reconstruct a (Pre-)Proto-Cariban category of monomorphemic postposition, we turn to the problem of how to reconstruct each half of bipartite postpositions. Recall from §1.2 that most postpositions found in modern languages are bipartite; these stems and suffixes can

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4 Douglas (2019), based on a less conservative classification of the family, found **pəkərə* in Guianan and Venezuelan; **akərə* in Guianan, Venzuelan, and Parukatoan; **marə* in the Guianan, Venzuelan, Apalaí, and Waimirí Atroarí; and **warə* in Guianan, Venezuelan, Parukatoan, and Waimirí Atroarí.

be compared and reconstructed to Proto-Cariban independently from each other. Recall from §1.3 that most specific combinations of stem plus suffix are not reconstructible as words, because even though there are often ample cognates for both the stems and the suffixes in question, modern languages generally express what translates as the same meaning by means of cognate stems plus noncognate suffixes (e.g., from Table 1, Hixkaryana *kwa-ka* 'liquid-allative' vs, Makushi *ka-ta* 'liquid-allative') or less commonly, cognate suffixes affixed to noncognate stems (also from Table 1, Apalaí *ta-ka* 'open.space-allative' vs Hixkaryana *ya-ka* 'open.space-allative'. In this section we focus on reconstructing the suffixes, leaving until §4 the origins of stems.

Altogether, Douglas (2019) was able to identify 33 different postpositional suffixes in modern languages. Of these, 20 are attested in only one language, and so cannot be reconstructed via the comparative method.[5] Of the 13 that are found in multiple languages of the family, four seem to carry the allative meaning (Table 3), four the static locative meaning (Table 4), and the remainder have the perlative, ablative, or instrumental meaning (Table 5). Under each table we discuss the distributions of these forms, with an eye to diagnosing the likely relative time depth of each in this particular function.

Language	*-ka* 'ALL'	*-na* 'ALL'	*-kəi* 'ALL'	*-kətjə* 'ALL'
Wayana	-k	-na		
Tiriyó	-ka	-na	-kɨi	
De'kwana	-ka	-na		
Ye'kwana	-ka	-na	-kəi	
Apalaí	-ka	-na		
Werikyana	-ka	-na		-koso
Waiwai	-ka	-na		-koso
Hixkaryana	-ka	-na		-koso
Kari'nja	-ka	-na(k)(a)		
Waimiri	-ka	-naka		
Akawaio	-ka	-na	-kɨi	
Makushi		-na	-kɨi	
Panare	-ka	-na		
Ikpéng	-k			-ktʃi
Kuikuro		-na		-ti

Table 3. The cognate allative suffixes

The first thing to notice about the allative suffixes is that three different morphemes are attested for most of the languages, occurring (in a sort of complementary distribution) on different postpositional stems. It is tempting to think of them as a single suppletive morpheme in synchronic languages, but this analysis is not available as a reconstruction because the individual suffixes do not consistently occur on cognate stems across the modern languages. As such, the reconstruction needs to allow flexibility for individual suffixes to occur with different individual stems. The second thing to notice is that most reflexes of *-kəi* 'allative' are attested in the best-documented languages, which suggests that more cognates are likely to be encountered with more complete documentation of the other languages.

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5 We do not consider these forms further here, although an interesting future project might be seeking cognates for these suffixes in other parts of speech, whether in the same languages or in more closely-related languages.

Language	*-po 'LOC'	*-wə 'LOC'	*-tə 'LOC'	*-ta 'LOC'
Wayana	-po	-u		-ta
Tiriyó	-po	-wə	-tə	
De'kwana	-ho:	-wə	-tə ~ -də	-da
Ye'kwana	-ho	-wə	-to ~ -tə	-ta
Apalaí	-po	-o	-to	
Werikyana	-ho	-wo	-to	-ta
Waiwai	-ɸo	-w(o)	-to	-ta
Hixkaryana	-ho	-wo	-to	
Kari'nja	-po	-wo	-to	
Waimiri				
Akawaio	-po	-u		
Makushi	-po			-ta
Panare	-po	-wo		
Ikpéng	-p			
Kuikuro	-po		-te	-ta

Table 4. The cognate static locative suffixes

Considering the locative suffixes, again the typical pattern is for each language to have multiple suffixes that do not create a synchronic contrast on any individual stems. They are distributed across various non-cognate stems in the modern languages and again it is likely that more complete documentation would fill several of the gaps in Table 4.[6]

Language	*-irə 'PERL'	*-ro 'PERL'	*-kəkə 'PERL'	*-je 'ABL'	*-ke 'INSTR'
Wayana	-irə	-ro		-je	
Tiriyó				-e	
De'kwana				-i	
Ye'kwana			-kəkə	-i	
Apalaí				-je	
Werikyana				-je	-ke
Waiwai	-ri			-j	
Hixkaryana	-rje		-koko	-je	
Kari'nja		-ro			-ke
Waimiri					
Akawaio	-rə	-ro		-i	
Makushi		-ro		-i	
Panare				-i	
Ikpéng					
Kuikuro					-ki

Table 5. The remaining cognate suffixes

Table 5 is considerably sparser than the previous two tables, with only reflexes of *-je 'ablative' sufficiently well-attested to be clearly reconstructible to Proto-Cariban. That said, each of the others is

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6 Given their similarity in meaning and form, it may be appealing to think of *-të and *-ta as having a common origin. However, the two forms co-exist in multiple modern languages and there is no environment that would condition either *a or *ë to split in this way (cf. Douglas 2019: 51).

attested in languages that are separated by some distance, both geographically and genetically, which indicates that at least the source morpheme for each suffix must have been present at an early stage of the Cariban family. Interestingly, in this table better documentation does not correlate with filled cells on the table, as the best-documented languages (Tiriyó, Kari'nja, and Ye'kwana) each have only one or two forms attested.

Having introduced these forms as suffixes, we turn to the evidence that they might once have been monomorphemic postpositions. The main argument is by analogy to monosyllabic, monomorphemic postpositions. One of those presented in §2, *ke* 'instrumental' (Table 2) has become a postpositionalizing suffix in three languages (Table 5), demonstrating that postpositions can be reanalyzed as postpositionalizing suffixes. In addition, a few of these erstwhile suffixes are still attested synchronically as monomorphemic postpositions: Douglas (2019: 101-105) gives a full list of monomorphemic postpositions encountered in his sources, from which we extract four whose similarity to the corresponding suffixes in both form and meaning is too great to be coincidence. First, he gives **po* 'LOC' in Akawaio, Apalaí, Hixkaryana, Kari'nja, Makushi, Panare, Tiriyó, Waiwai, Wayana, Werikyana, and Ye'kwana. Next, **ka* 'ALL' in Akawaio, Apalaí, Dekwana, Hixkaryana, Kari'nja, Makushi, Panare, Tiriyó, Waimirí Atroarí, Waiwai, Wayana, Werikyana, and Ye'kwana. Then, **ta* 'LOC' in Kari'nja, Makushi, Panare, and Waimiri. Finally, he gives **na* 'ALL': in Waiwai and perhaps Wayana.

For at least these four suffixes plus *-ke* 'INSTR', the most reasonable hypothesis is that the suffixes are a later development, derived via the grammaticalization of the former postpositions. In the absence of another mechanism for creating the postpositionalizing suffixes, the most parsimonious internal reconstruction is that all such suffixes are former postpositions, as modeled in Figure 4.

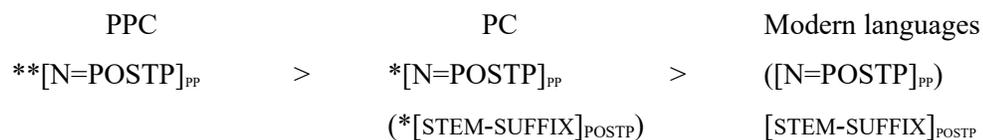| PPC		PC		Modern languages
$**[\text{N=POSTP}]_{\text{PP}}$	>	$*[\text{N=POSTP}]_{\text{PP}}$	>	$([\text{N=POSTP}]_{\text{PP}})$
		$(*[\text{STEM-SUFFIX}]_{\text{POSTP}})$		$[\text{STEM-SUFFIX}]_{\text{POSTP}}$

Figure 4. Evolution of bipartite postpositions

Since internal reconstruction does not provide a means to triangulate and thereby determine time depth, the reconstruction of suffixes as etymological postpositions is secure only for Pre-Proto-Cariban; given the number of modern reflexes that are attested only as suffixes, it is possible that several had already become suffixes by the time of Proto-Cariban (in parentheses in Figure 4). However, there is a logical problem to reconstructing stem plus suffix combinations to Proto-Cariban: if the combinations were already lexical items, why are there so few modern cognates of bipartite postpositional *words*? At the very least, this indicates a high degree of suppletion in Proto-Cariban and its immediate daughters, of a kind not seen in other word classes in the family. Since combinatorial freedom is typically a property of phrases rather than word-internal morphology, we presume that most such combinations were still postpositional phrases in Proto-Cariban, even though such phrases are not common in the modern languages (and so marked in parentheses in Figure 4). We return to this problem in §5. Next, we look to the creation of new postpositionalizing suffixes.

As discussed above, there are many different postpositionalizing suffixes in synchronic Cariban languages, and while it is possible that such extensive suppletion originated in a large supply of synonymous postpositions in Proto-Cariban, that answer is a bit too facile. A more plausible scenario would be one that allows innovative suffixes to arise from other sources via more recent mechanisms. At this time, we identify two such sources: stem+suffix can be reanalyzed as a monomorphemic suffix and sequences of two postpositions can be reanalyzed as a monomorphemic postposition/suffix.

We begin with reanalysis of the sequence stem+suffix as a single postposition, which itself can become a new suffix. The first evidence of this source comes from the morphemes **po* 'locative

(contact)' and *ta 'inessive', which are remarkable in a few individual languages because of their versatility.

Beginning with the form *po,* in most languages it functions as the simple locative with surface contact (i.e., 'on'), which it can do as either a simple postposition or suffix. Yet the same form also serves as the stem for various other suffixes, thereby playing the *other* role in bipartite postpositions. To illustrate we use examples from Wayana (parallel versatility is found in Tiriyó and Werikyana). In (5a-d), we see what is apparently a single morpheme *po* 'locative (with contact)' acting as a simple postposition (5a), as a postpositional suffix (5b), as a postpositional stem (5c), and as the first in a sequence of postpositions (5d).

(5)   Wayana *po* 'locative (contact)'
    a.   *t-əpɨj-pa-he*   *e-ja-he*   <u>*kumaka*   ***po***</u>
            PRTCPL-stair-VZR-PRTCPL   3-ERG-COLL   tree   LOC
            'They placed (a) ladder <u>on the kumaka tree</u>.' (Tavares 2005:315)

    b.   *uh-**po***
            head-LOC
            'on top of' (Tavares 2005:171)

    c.   <u>*i-jala epɨj-nu*   ***po**-lo*</u>   *i-w-əh-anuku-topo-Ø-komo*
            3-floor stair-PSD   LOC-PERL   3-SA-DETR-put.up.above-NZR-PSD-COLL
            'Their going up (was) by the stair of the floor, their going' (Tavares 2005:315)
            (lit. 'their means of going up (was) <u>via **on** the stair of the floor</u>')

    d.   *malonme*   *ku-kun-iptə*   *inələə* <u>*pihicleta*</u>   ***po** inə*
            then   RED-3DIST.PST-go.down   3PRO   bicycle   LOC ABL
            'Then, he came down <u>from (**on**) the bicycle</u>.' (Tavares 2005: 315)

Our deepest internal reconstruction actually follows Tavares' (2005) analysis, which is that *po* is a stem which takes multiple directional suffixes, but that the locative suffix is idiosyncratic because it is a zero morpheme: *po-Ø* 'SUPPORTED-LOC', *po-na* 'SUPPORTED-ALL', *po-lo* 'SUPPORTED-PERL'. Since the stem *po* appears to be a monomorphemic postposition, it is not surprising that it could readily become a postpositional suffix, which it has done in combination with *upu* 'head' to form *uh-po* 'on top of', with *apo* 'back' to form *ah-po* behind/in back of', and with *etatï* 'hammock' to from *eta-po* 'in/on the hammock of' (Tavares 2005: 318-320).

Another possible scenario is that of "stacked" postpositions. While we do not have evidence for this scenario from the example of Wayana *po*, we must also admit the possibility that a postposition could become the preceding member of an apparent bipartite postposition in the situation where a locative postposition is extended by the addition of a second postposition indicating direction of motion, whether 'to', 'from', or 'along' the locative space defined by the first postposition. This possibility is implicit in examples of "stacked" postpositions like *po inë* 'LOC ABL' (i.e., 'from on') in (5d).

The behavior of *ta* 'in.container' in Kari'nja is virtually identical to the behavior of *po* in Wayana. It can be a monomorphemic postposition (6a), a postpositionalizing suffix (6b), or a stem followed by a directional suffix (6c).[7]

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7 Courtz' (2008) Kari'nja orthography places a grave accent on vowels to indicate either vowel length, vowel plus [h], or vowel plus [ʔ], depending on the phonological environment. We have replaced the accented vowels in the original with what we understand would be the phonetic value in each environment.

(6)   Kari'nja *ta* 'in.container'
    a.   *oʔmakon*   <u>*ajautɨ* **ta***</u>   *seneja*
        a-myre-kon   a-auty ta   si-ene-ja
        2-child-PLN   2-house in   1A-see-TPR
        'I see your children **in your house**.' (Courtz 2008:141)

    b.   *ajuhta*   *kɨnaitan*
        <u>a-upu-**ta**</u>   kyn-ai-tan
        2-head-LOC   3-COP-FUT
        'It will be your fault, you'll be sorry for it' (Courtz 2008:416)
        (lit. 'It will be **on/in your head**')

    c.   *j:- emɨɨ-rɨ*   *moro* *a-patɨ*   *aro-ko*   *moni*
        1-daughter-PSD that 2-hammock take-IMPER   that
        <u>*i-tarɨ-bɨn*</u>   <u>*ta**ka***</u>
        GEN-contents-PRIV   DIR
        'My daughter, take your hammock **into yonder empty house**.' (Hoff 1968: 306)

What these scenarios have in common is that both morphemes start out as stems, but unlike *po*, in the case of *ta* we have comparative evidence that the static locative form was historically bipartite: **ta-wə* 'CONTAINER-LOC'. This locative suffix eroded phonologically, to *-wə* in Werikyana (which alternates with vowel length when followed by certain particles), shrinking to *-w/-u/-o* in Akawaio, Apalaí, Tiriyó, and Wayana, and finally reducing all the way to *-Ø* in Makushi, Panare, Waimiri, and Kari'nja. As this static locative suffix was lost, the stem *ta* was reinterpreted as a synchronically monomorphemic postposition, a portmanteau form combining the notion of static location with the notion that the ground is an enclosed container. However, alongside this innovative portmanteau form *ta*, the allative and perlative forms continue to be bipartite, adding directional suffixes to the stem *ta* 'CONTAINER', as in *ta-ka* 'into' (6c). The same pattern is observed in a range of body part nouns (Table 6), which can be employed as (suffixless) locative postpositions or as stems for various other postpositions by means of postpositionalizing suffixes. (Courtz 2008: 101-102).[8]

	NOUN		AS LOCATIVE POSTPOSITION		AS POSTPOSITION STEM
aina-rɨ	'hand of'	*aina*	'in hands of'	*aina-ka*	'to hands of'
ɨnta-rɨ	'mouth of'	*ɨnta*	'in mouth of'	*ɨnta-ka*	'into mouth of'
ena	'arms'	*ena*	'in arms of'	*ena-ka*	'into arms of'
mota-rɨ	'shoulder'	*mota*	'on shoulder of'	*mota-ʔwo*	'in shoulder area of'
ɨnkaʔna-rɨ	'back'	*ɨnkaʔna*	on back of'	*ɨnkaʔna-ka*	'to the back of'
				ɨnkaʔna-pota	'behind, at the back side of'
ekata-rɨ	'space between legs'	*ekata*	'in the care of'	*ekata-hpona*	'between the legs of'
				ekata-hponaka	'toward between the legs of'

Table 6. Kari'nja body part nouns as locative postpositions and as stems

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8 Note that five of these nous have the obligatory *-rɨ* 'POSSESSED' when they are possessed. When the same nouns bear a postpositionalizing suffix, the preceding dependent noun shifts its function from possessor to object of a postposition and the suffix *-rɨ* does not occur. As such, when the static locative **-wə* disappears, it leaves behind a morphological distinction between the otherwise identical possessed noun (which bears *-rɨ*) and postposition (which has no suffix).
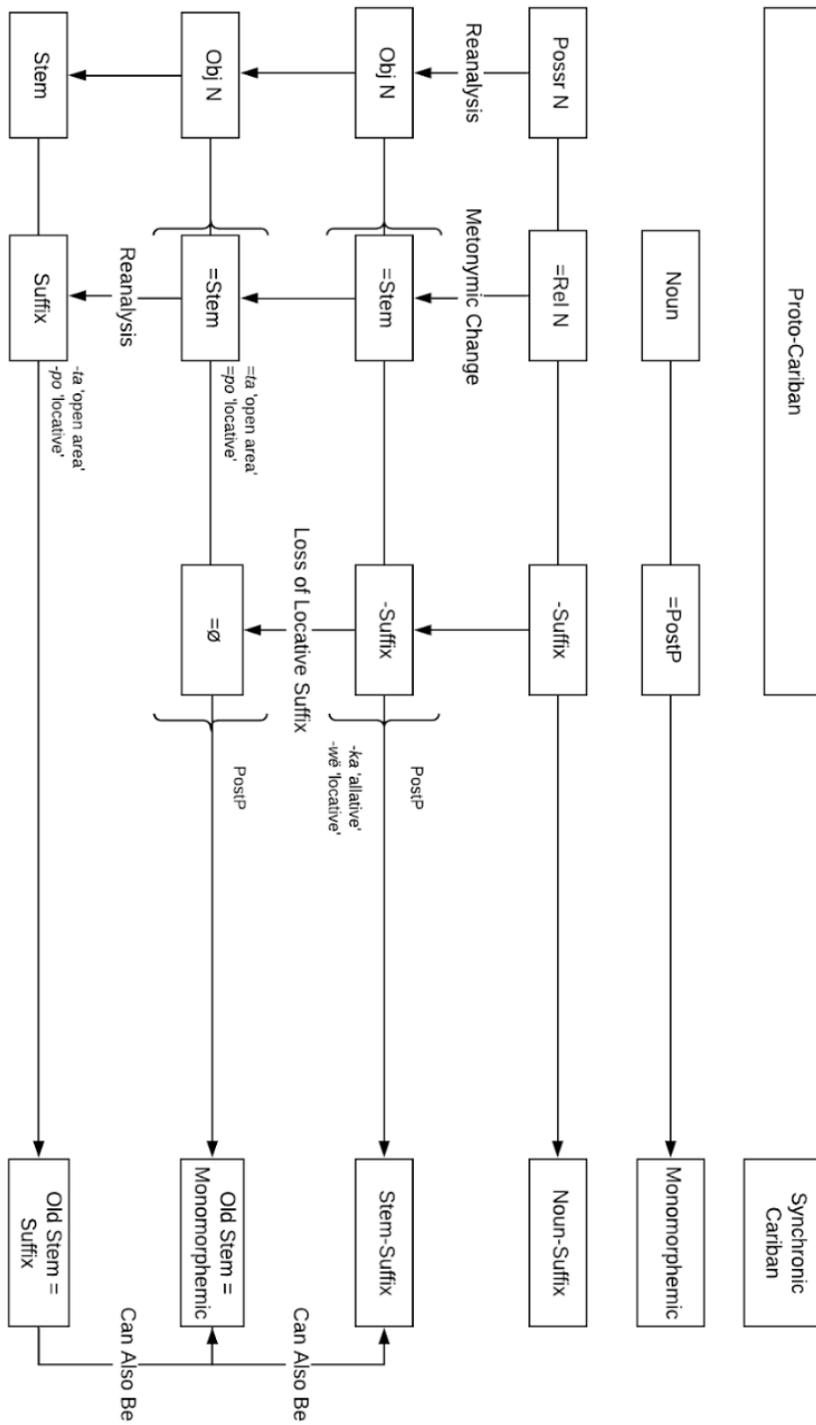
Figure 5. Grammaticalization of monomorphemic stems to postpositionalizing suffixes

We summarize with the schematic in Figure 5: when followed by a postposition, a body part term can shift its meaning to become a more abstract relational noun. When a subset of these postpositions become postpositionalizing suffixes, the erstwhile relational noun becomes a postpositional stem. When one of these suffixes erodes phonologically to zero, the stem itself is available for reanalysis as a monomorphemic postposition. This innovative postposition can then become a postpositionalizing suffix on other nouns. This cycle of reanalyses creates the situation where what appears to be a single synchronic morpheme may actually be postposition, stem, and suffix in the same language. This process accounts for quite a few of the innovative postpositions, some of which go on to become innovative postpositionalizing suffixes. We believe this is what occurred with *po and *ta in Wayana and Kari'nja, respectively.[9]

More of the innovative postpositions and suffixes could be accounted for via another process of change, in which sequences of postpositions become reanalyzed as single units, thereby creating innovative polysyllabic postpositions. Sequences of postpositions are not frequent, but they are attested in multiple languages in the family (cf. 5d above). Some sample sequences are provided in (7a) for Kari'nja and (7b) for Tiriyó. Bipartite postpositions that have themselves become bimorphemic suffixes include -po-na, -ta-ka, and -na-ka. This latter suffix reinforces three different static locative suffixes and one ablative suffix to generate the etymologically tri-morphemic suffixes -po-na-ka, -to/të-na-ka,[10] -wë-na-ka, and -e-na-ka. To complete the picture (for just these two languages), add in the two other tri-morphemic suffixes, the triple locative form -na-po-ta and -të-na-kïï, a Tiriyó variant of -të-na-ka.

(7)   Innovative postpositions/suffixes from sequences of postpositions

a.   Kari'nja

ekata-pona	'between the legs of'	< *ekata*	'space between legs'
tuh-ponaka	'on top of'	< *t-upu*	'3REFL-head'
reh-taka	'to on top of'	< *retɨ*	'horns, crown of head'
kopose-naka	'to the other side'	< *kopose*	'other side'
apori-tonaka	'next to'	< *apori*	'wing'
ɨnkaʔ-napota	'behind'	< *ɨnka*	'back'

b.   Tiriyó

poh-tənaka	'to the top/front/beak of'	< *potɨ*	'beak'
ra-wənaka	'to the midway point of'	< *ra*	'middle of body'
reh-tənakɨɨ	'to the top/summit of'	< *retɨ*	'horns, crown of head'
nka-enaka	'to behind'	< *nka*	'back'

These two mechanisms still account for only a small subset of the cross-Cariban variation in postpositionalizing suffixes, but it is already an ample demonstration of why it is so difficult to identify cognate postpositional words — despite the many clear cognate components, they are combined and

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9 An anonymous reviewer asks if we can identify a morpheme with synchronic reflexes of the entire pathway from noun to postpositionalizing suffix. We do not. What we have are modern reflexes of noun cognate to stem (many examples) and (older stem) cognate to both postposition and suffix (*po* and *ta*).

10 Note that these are two distinct morphemes, corresponding with *të* and *ta* 'inessive'. While both forms are quite similar to each other, they cannot be reconciled into one reconstruction (Douglas 2019: 51).

recombined in multiple ways in different languages of the family, leaving many partial cognates, but very few fully cognate combinations. In the next section, we consider the other half of the bipartite postposition, the ground-classifying stem.

4   From relational nouns to postpositional stems

Across the modern Cariban languages, postpositional stems are distributed quite unevenly, with a few quite widely attested, several attested only once, and the majority somewhere between the two extremes. In a distinct, but related pattern, some stems have no cognates outside of their role as stems; others are primarily attested as stems but in one or two languages a cognate is found as a relational noun; and many are clearly nominal in origin, usually cognate to body part nouns. After reviewing the older stems, which reconstruct back to Proto-Cariban as stems, we turn to consider the usefulness of the new stems in reconstructing the origins of all stems to relational nouns.

We present the old stems in Tables 7-8, from Douglas (2019: 71-83). Table 7 has the four usually monosyllabic stems (not coincidentally the same four stems given in Derbyshire 1999, reproduced here in Table 1), and Table 8 the four polysyllabic stems.

Language	*kuwa 'LIQUID'	*ja 'CONTAINER'	*ta 'OPEN AREA'	*po 'HORIZ. SURFACE'
Wayana	kwa	(j)a	ta	po
Tiriyó	hka	a		po
De'kwana	hakə	a	da	ho:
Ye'kwana	kwa		ta	ho
Apalaí	kua	a		po
Werikyana	kuwa		ta	ho
Waiwai	kwa	(h)ja		ɸo
Hixkaryana	kwa	ja		ho
Kari'nja			ta	po
Waimiri	ka			
Akawaio	ka	ja		po
Makushi	ka	ja	ta	po
Panare	(h)ko	ja		po
Ikpéng	gwa			
Kuikuro	kua	a		

Table 7. The (usually) monosyllabic old stems

The four stems in Table 7 are the best candidates for stems that were already bound into bipartite postpositions at the time of Proto-Cariban, as modern reflexes are commonly associated with cognate postpositionalizing suffixes, resulting in fairly widespread postpositional word cognates. For example, *kuwa-ka 'into liquid', *kuwa-wə 'in liquid', and *kuwa-je 'along/from liquid' are found as combinations in many languages, with less-documented languages providing most gaps in modern reflexes.[11] Similarly, *ja and *ta frequently co-occur with the same set of three suffixes. In contrast, while *po typically takes the common ablative/perlative suffix *je, it takes no suffix in the static locative function and its allative suffix is generally *-na. Even these combinations cannot be reconstructed with complete security, as there

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11 The Pemón Group is a clear exception to this claim: in the entire group, the reflexes of *kuwa takes distinct allative and ablative suffixes.

are modern languages that show different suffixes with the cognate stems. However, in the search for bipartite postpositions that are reconstructible to Proto-Cariban *as words*, these are the best candidates.

The four stems in Table 8 resemble the stems in Table 7 in that they have no modern nominal cognates, but they differ in that they are a bit less widespread in the family and they co-occur less frequently with cognate suffixes (i.e., as cognate *words*). For example, **əpo-je* 'from/along the top of' and **wena-je* '(from) behind, following' are common cognates, but the same stems do not occur with consistent allative and stative locative suffixes. The stem **uwapo* could be analyzed as the stem **uwa* plus a suffix based on the stem **po* '(on) horizontal surface'; however, this analysis is weak in that the expected allative form with *po* is *-na,* and the form *uwapo-na* (to ahead of) is not attested.

Language	**əpo* 'top'	**uwapo* 'ahead of'	**uwarə* 'in sight of'	**wena* 'posterior'
Wayana	epo	uwap(o)	(u)warə	
Tiriyó	epo	wapo	waarə	wena
De'kwana	eho	owāho		
Ye'kwana	əʔhoi	owaho		
Apalaí			uaro ~ waro	
Werikyana	j-oho[12]			wena
Waiwai	eɸo		wero	
Hixkaryana	j-ohe ~ j-ehe	(j-)waho	jwero	wena
Kari'nja		uwapo	uwaro	wena(h)
Waimiri				
Akawaio	epo			wena
Makushi	j-epo			wena
Panare	j-apa			
Ikpéng				
Kuikuro				

Table 8. The longer Old Stems

Alongside these eight stems of mysterious origins, Douglas (2019: Appendix F) finds 74 New Stems, defined as postpositional stems that show cognates in more than one language and that also have a synchronic cognate somewhere in the family that is a possessed noun. Not surprisingly, most of those that have been reconstructed so far are old body part terms, a cross-linguistically typical source for relator nouns (Starosta 1985; Campbell *et al* 1986; Heine *et al* 1991: 123-147; Heine 1997:35-65). When they are pressed into service as postpositional stems, the semantic value of the noun root shifts metonymically from the concrete denotation of the body part to a location either adjacent to or evocative of the body part. Douglas (2019: 83-93) reconstructs six forms that illustrate this function, reproduced here in Table 9.

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12 The palatal prefix *j-* on several of these modern reflexes is a linking morpheme that marks the head of a phrase when it is preceded by a nominal dependent. Meira *et al* (2010:: 486-489) reconstruct as **j-* 'relational prefix'.

PC Noun	Gloss	Postp. Stem	Gloss
retɨ	'horns, crown of head'	*ret*	'top of'
ənupata	'face'	*empata*	'in front of'
mɨka	'(upper) back'	*mɨka*	'behind'
potɨ	'beak, tip'	*pota*	'front, tip, entrance'
upu	'head'	*upu*	'top of'
mota	'shoulder'	*mota*	'behind, beside, above'

Table 9. Body parts > relational stems

Across the family, these six are illustrative of the most typical stems for bipartite postpositions: a synchronically attested (and readily reconstructible) body part noun serves as a postpositional stem, itself attested in multiple languages with distinct (often independently reconstructible) locative/directional suffixes. Despite the independent reconstructibility of the nouns > postpositional stems and the locative/directional suffixes, most of the bipartite postpositions *as combinations* are not reconstructible to Proto-Cariban. In our reconstruction, the old relator nouns and old postpositions would have been transparent and flexible phrasal combinations in Proto-Cariban. As the phrasal construction was carried down through the daughter languages, the source relator nouns and independent postpositions often disappeared, leaving different combinations of relatively opaque postpositional stems with often equally opaque suffixes.

To complete our exposition of this historical scenario, we need to make one last component explicit: body part and other relational nouns in Cariban are obligatorily possessed, with full NP possessors immediately preceding the possessed noun or else with possessive prefixes indicating person of the possessor (Gildea 1998: 105-116). This is precisely the same grammar that characterizes the relationship between dependent objects and their postpositions, including in all grammatical descriptions so far, that postpositional person prefixes are identical to possessive prefixes. This overlap in grammatical properties at times can lead to indeterminacy of analysis synchronically, for example in Tiriyó (8a-c). In the sequence [N *reh-tə*], does the morpheme *reh* 'horns, crown of head' represent a noun possessed by the preceding N, with that possessed noun NP serving as the object of a postposition (8a) or does it represent the stem of a bipartite postposition with a preceding nominal object (8b)? There are potential clues in the semantics of the construction, in that *reh* in (8a) has the concrete denotation 'on (the crown of) my head' whereas in (8b) *reh* has the metonymic denotation 'on top of'. Only when it is preceded by an unpossessed noun, as in the sequence *Kuwamara=po* 'in Kuwamara' (8c) can one be certain of the analysis of a postposition *cum* suffix; in such a case, it can only be a postposition and the preceding noun its object.

(8)   Different analyses of postpositional phrases
                [[PSSR-N]~NP~-P]~PP~
        a.   [[*ji-reh*]-*tə*]=*n-ai*   *tonoro*
                1-crown-LOC =3SA.COP   bird
                'The bird is [on [my head]]' (Meira 1999: 408) (alt. '[[on top of] me]'?)

                                        [OBJ=[STEM-SUFFIX]]~PP~
        b.   *təpu-pisi*=*n-ai*   [*kariwa*[=*rehtə*]]
                stone-DIM=3SA-COP   gourd=on.top.of
                'The (little) stone is [[on top of] the gourd]' (lit. '[on [the gourd's head]]'?)

                [[N]~NP~ =P]~PP~
        c.   [[*Kuwamara*]=*po*]=*n-ai*
                Kuwamara=LOC=3SA-COP
                'S/he is in (the village of) Kuwamara.' (Meira 1999: 388)

        This process of reanalysis that we propose is summarized in Figure 6, in which the change from relational/body part N to postpositional stem is generally characterized semantically by a metonymic shift from denotation of a concrete object to a readily inferred location associated with that concrete object.

              PPC   PC   Modern languages
        **[[PSSR-N]=P]~PP~   >   *[[PSSR-N]~NP~=P]~PP~   >   ([[PSSR-N]=P]~PP~)

                                  (*[OBJ-[STEM-SUFFIX]~P~]~PP~)   [OBJ-[STEM-SUFFIX]~P~]~PP~
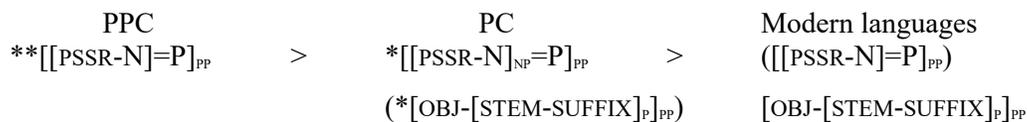
Figure 6. Evolution of bipartite postpositions: possessors > objects of PP

        This process of grammaticalization explains the origins of most modern Cariban bipartite postpositions in that postpositional stems come from nouns and postpositionalizing suffixes come from older free postpositions. It also explains why these bipartite postpositions have the prefixal forms they do. As for why even the oldest monomorphemic postpositions take the same prefixes as possessed nouns, this invites the hypothesis that the entire category of postposition comes etymologically from nouns. While we see no way to test this particular hypothesis, we can find some evidence that even the oldest stems come etymologically from nouns, which are attested today only as formatives. Presented by Meira (1999: 584-586) in his grammar of Tiriyó, "formatives" are form-meaning correspondences that are "too weak to deserve the status of 'morphemes' without, at the same time, looking like coincidences either." In a sense, Meira's formatives are like internally reconstructed near-morphemes, and it is the case that these form-meaning correspondences are widespread throughout the family. He provides a list of 24 formatives, of which two are relevant to the stems in Table 7 (above). First, there is the formative *ku* 'liquid', which is found in nouns *etaku* 'saliva' (PC *ə*taku), *suku* 'urine', *eeku* 'tree sap', *piyaku* 'gray matter', *enpijuku* 'tears', and *i-ku-tupə* 'lake'; and of course the same formative reconstructs as the initial syllable of *kuwa* 'LIQUID'.Then, there is the formative *ta* 'opening', which is found in nouns *mita* 'mouth' (PC *mita), *etaku* 'saliva' (PC *ə*taku); and the postpositional stem *ta* 'OPEN AREA'. Of course neither of these formatives is a noun root *per se*, but both of them occur in nouns, suggesting that the original postpositional stem likely originated in an older noun that contained (in the case of *kuwa) or consisted of (in the case of *ta) the formative. However, there are several modern phenomena that this tale of grammaticalization does not explain, including some unexpected sources of modern postpositional stems.
        Given that a common source of new stems is nouns, especially body part nouns, one might imagine that this would lead to a relatively consistent set of stems across the languages, with cognate nouns pressed into service as stems with similar semantic values. Such widespread stem cognates do exist, but it

is remarkable also how many unique postpositional stems are attested in individual languages. After a brief discussion of these presumably independent innovations, we turn to two additional innovations, in which two languages have begun to create postpositional stems from verbs and one language from adverbs.

Beginning with the incongruity of stems between languages, Douglas (2019: 145-151) reports that most languages have multiple stems that are not shared by any other Cariban language, even including the most closely-related languages in the same subgrouping, an in the most extreme case, between mutually intelligible dialects Ye'kwana and De'kwana. In Table 10, we give Douglas's counts for each language. Nearly every language has at least five such idiosyncratic stems, four have 17-18 such stems, and Kari'nja has fully 30 stems that have no identified cognates in other languages. It is not a coincidence that of the five languages with the greatest number of idiosyncratic stems, three (Akawaio, Apalaí, Kari'nja) have dictionaries and another (Ye'kwana) was the subject of a special study on directionals. It is certainly also not a coincidence that the languages with the lowest attested number of idiosyncratic stems are also languages with relatively little documentation of the inventory of postpositions. That said, a couple of the better-documented languages, notably Hixkaryana and Tiriyó, show relatively few such idiosyncratic stems, so the difference is not entirely attributable to degree of documentation. Even so, rather than turning up the "missing" cognates and decreasing the number of idiosyncratic stems, we suspect that more complete documentation of postpositions in individual languages will instead identify more new idiosyncratic stems in each language.

Language	Idiosyncratic stems	Language	Idiosyncratic stems
Kari'nja	30	Ikpéng	1
Apalaí	18	Panare	3
Ye'kwana	18	Kuikuro	5
Akawaio	17	De'kwana	5
Wayana	17	Makushi	8
Waiwai	14	Werikyana	9
Hixkaryana	11		
Tiriyó	10		

Table 10. Number of idiosyncratic stems attested per language

Turning to other innovations, while nouns are the predominant source of postpositional stems, both Tiriyó and Kari'nja have begun to utilize verbs as a source of postpositional stems. For Tiriyó, the verb stem *notomï* 'to block vision of' takes the suffix combinations -*nao* 'LOC' and -*naka/-nakïi* 'ALL', yielding the postpositions *noton-nao* 'behind, invisible' and *noton-naka/noton-nakïi* 'to behind' (Meira 2006: 319). In three languages there is an apparently cognate postpositional stem *nota*, which differs from the Tiriyó stem in both the final vowel and the absence of the final nasal syllable *mï*: Apalaí *nota-ka* 'be hidden among' (Koehn & Koehn 1995: 31), Kari'nja *nota* '(hidden) behind', more clearly cognate to Pemón and Apalaí *nota-u* (Courtz 2008: 326). These apparent cognates take the stem **nota* plus either **-ka* or **-wə*, and in the absence of an attested verbal source in these three languages, we are left to speculate whether they are, in fact, cognate.[13]

Kari'nja has another postposition stem that comes more clearly from a verb, in The form *ene-ke* 'looking similar to'. This is transparently from *ene* 'to see' and -*ke* 'instrumental/similative'. As indicated in §3, **ke* reconstructs — and is still found in almost every modern language — as a monomorphemic

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13 Variation in verb stems between forms that end in a nasal, like *notomï*, and verbs that end in *a,* like *nota*, is attested in various languages across the family, cf. the alternation in Werikyana *ahonmï/ahona* 'jump' in *k-ahonmï-wï* 'I jumped' and *k-ahona-asï* 'I jump/am jumping'.

instrumental postposition. However, it has become a suffix in several languages and in Kari'nja, the suffix *-ke* functions as a similarative (Douglas 2019: 54).

Finally, in Kari'nja there are numerous apparent cases of locative adverbial stems bearing the postpositionalizing suffix *-naka* 'ALL' but rather than becoming postpositions, they become directional adverbs, as illustrated with the forms in (9), from (Courtz 2008: 72). These forms do not belong to the postposition category because they lack an object, and thus do not bear personal prefixes or the collective suffix. Instead, they show that stacking of postpositions can be extended to other adverbials, highlighting that although postpositions and adverbs are two distinct parts of speech, they are still related, as subgroups of the larger *adverbial* part of speech.

(9)	*kawo*	'high'	*kawo-naka*	'upwards'
	mapo	'on shore'	*mapo-naka*	'to the shore'
	koròna	'underwater'	*koròna-ka*	'(to) under water'

Together, these languages show an exciting new development of the postpositional system, and they hint at the kinds of variations we might find as the postpositional systems of the other languages are more thoroughly documented.

6 Conclusion

We began this paper with the question of why there are so few full-word cognates for postpositions across the Cariban family. To that question, we can now add the question of why each language seems to have so many idiosyncratic postpositional stems, stems which lack cognates in the attested inventories of stems in the other languages. While the variation in the number of noncognate stems is largely correlated with levels of documentation, it still seems remarkable that so many modern noncognate stems should exist to begin with. Both questions point to the same answer: the antecedent to the dominant pattern of bipartite stems in modern postpositional systems, that is, the postpositional system in Proto-Cariban, was not a set of morphologically fixed words, but was a syntactic construction with fairly interchangeable parts. Even though there are strong arguments that modern bipartite postpositions are morphological words, the system seems to have retained much of the productivity that would ordinarily be associated with a phrasal construction: modern languages have expanded the inventory of suffixes by stacking them up in novel ways and each language apparently continues to expand the inventory of stems that can be combined with the postpositional suffixes, to the point that speakers of at least two languages have begun to recruit verbs and adverbs to serve as innovative stems.

When we began this particular comparative project, we expected to be able to reconstruct a larger set of postpositions, including bipartite postpositions, to words in Proto-Cariban. Instead, after reconstructing a small number of monomorphemic postpositionals, we have arrived at the reconstruction of a semi-productive system of erstwhile nominal stems followed by locative and directional postpositions. This source construction gave rise to the modern bipartite postpositions, which, in a later development, have become lexicalized in individual languages. The system is still semi-productive in modern languages, as shown by ongoing innovation in the forms of suffixes and expansions in the class of stems. The extreme variation in word-level bipartite postpositions, found even in the oldest and apparently most conservative stems (§4), is most readily explained as a reflection of a productively combinatory phrasal structure. Such a system would have enabled the development of various near-synonyms, some by swapping in near-synonym nouns as innovative stems, others by swapping in near-synonym postpositions. If this is accurate, then the varied modern bipartite postpositions would represent not bimorphemic Proto-Cariban

words, but two separate monomorphemic words, collocated in Proto-Cariban as postpositional phrases. In different languages, different collocations would have survived to descend as the distinct modern words, and innovative collocations have continued to arise even since the most recent splits of sister languages.

In addition to challenging our assumptions about the nature of lexical reconstruction, this research highlights the importance of dictionaries and of specialized elicitation protocols as part of creating a rich and useful documentary record. While there is no denying the importance of grammatical descriptions, for the purposes of lexical reconstruction — even of so limited (and grammatical) a closed class of words as postpositions — reference grammars simply do not contain the requisite detail to support building complete cognate sets. Bilingual dictionaries contain many more forms that can be added to the cognate sets, however for understanding the semantics of these forms, the dictionaries have the limitation that they simply present translational equivalents into one or another contact language. It has been well-understood for decades that cross-linguistic translations are not actually equivalent, a problem that has motivated the development of elicitation stimuli to provide more accurate parallels (cf. Levison *et al* 2003; Vuillermet & Kopecka 2019). Such elicitation stimuli have been used to explore and document postpositional systems in only two Cariban languages to date, Tiriyó (Meira 2006) and Ye'kwana (Cáceres Arandia 2021). With more use of such tools, the future documentary record will surely support much richer future comparative conclusions.

7 Acknowledgments

8 Abbreviations

The following morpheme glossing conventions are used in this article: 1+2 'first person dual inclusive', 2 'second person', 3 'third person', ABL 'ablative', ALL 'allative', COLL 'collective', COP 'copula', DAT 'dative', DESID 'desiderative', DETR 'detransitivizer', DIM 'diminutive', DIR 'directional', DIST.PST 'distant past', ERG 'ergative', ESS 'essive', FUT 'future', GEN 'generic prefix', IMPER 'imperative', INSTR 'instrumental', LOC 'locative', NEG 'negative', NZR 'nominalizer', PERL 'perlative', PLN 'plural nouns', PRIV 'privative', PRO 'pronoun', PRTCPL 'participle', PSD 'possessed', PSSR 'possessor', REFL 'reflexive', S_A, 'subject of intransitive S_A verb', SUPR 'superessive', TPR 'tense present', VZR 'verbalizer'.

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