PROTO-SÁLIBAN VERB CLASSES[1]

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Claims regarding the genetic relationship between the Sáliban languages rest solely on a number of lexical comparisons that only identify resemblances between lexical items. In this study, I reconstruct two distinct verb classes for Proto-Sáliban and the consonants in the animate subject person markers for each verb class. The main difference between the two classes is that Class I verbs take prefixes while Class II verbs take suffixes to mark their subjects. Both sets of affixes can be shown to be cognate, and the observed correspondences to be the product of regular sound changes in the languages' lexica and, therefore, reflexes of an older Proto-Sáliban system. This study not only provides uncontroversial morphological evidence for a genetic relationship between the Sáliban languages but contributes to the description of the Mako language, thus far undescribed.

[KEYWORDS: Sáliban language family, Mako, Sáliba, Piaroa/Wotjuja, genetic classification]

1. Introduction. The Sáliban language family was first proposed by Gilij, who mentioned Sáliban as one of the major language groups in the Orinoco basin, which he said included Sáliba, Piaroa, Ature, and Quaqua (Gilij 1965/1782:174). However, Brinton (1891:266) did away completely with the proposal when he claimed that "the Piaroa today speak a language wholly unlike the Saliva" and that "the modern Quaquas speak a dialect of the Arawak." This variability in membership is primarily what characterizes the treatment of the family in subsequent classifications of South American languages: some authors do not acknowledge the Sáliban family as a single independent unit, others acknowledge it as a single and independent unit

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but with varied membership, and still others acknowledge it as a single unit that is part of a larger language grouping.

The evidence on which these claims rest, however, is limited to a number of lexical comparisons that only identify resemblances between lexical items (see Humboldt 1824:155, Koch-Grünberg 1913:469, Rivet 1920, Loukotka 1949, Estrada Ramírez 2008:23–24; 2012, and Hammarström 2011), and none of them has included the three languages that have been generally accepted as members of this family in the language classification literature, i.e., Sáliba (ISO code: slc), Piaroa (ISO code: pid) (also known as Wotjuja), and Mako (ISO code: wpc).[2] Furthermore, no regular sound changes have been proposed nor any reconstruction done to date.

In this study, I use firsthand data from Mako and published data from Sáliba and Piaroa to reconstruct two distinct verb classes for Proto-Sáliban and the consonants in the animate subject markers for each verb class. By comparing the subject-marking system of these three languages, I show that, in each, there are two verb classes and that the main difference between the two classes is that Class I verbs take prefixes while Class II verbs take suffixes to mark their subjects. Additionally, I show that both sets of affixes are cognate and that the sound correspondences observed in their consonants are the product of regular sound changes in the languages' lexica and, therefore, reflexes of an older Proto-Sáliban system.

In what follows, I briefly discuss the geographic distribution of Sáliba, Piaroa, and Mako and summarize the treatment that this South American family has received in the language classification literature (**2**).[3] I then turn to the study, comparison, and reconstruction of the verbal animate subject-marking affixes in all three languages (**3.1–3.4**). In **3.5**, I reconstruct two classes of verbs for Proto-Sáliban based on the animate subject markers previously discussed and the existence of a special marker in the Class II verbs of all three languages. Based on this reconstruction of the Proto-Sáliban verbal animate subject markers and its two verb classes, I conclude that Sáliba, Piaroa, and

[2] These three languages as well as the language family are variably named in the literature and some of the names used have known multiple spellings. For Sáliba, one can find Saliva, Sáliva, Saliba, Salliua. The more widely known name for Piaroa can also be found spelled as Piaróa or Piároa; De'aruwa and Wotiheh are also common names for this group and their language. For Mako, there are a number of different spellings, e.g., Maco, Macu, Maku, Mahku, etc. However, the bigger issue here is not the different spellings of the word Mako but that these names have often been used for groups in the area that are linguistically and culturally distinct (a detailed discussion can be found in Hammarström 2011:1–3 and Campbell 2012:61). Either the word Sáliba, the word Piaroa, or a combination of both has been used for the family. Here, I use the names Sáliba, Piaroa, and Mako for the three languages and adopt Sáliban for the family.

[3] For an in-depth discussion of the different (sub)grouping proposals and the evidence on which they rely, see Rosés Labrada (2015:chap. 1).

TABLE 1
POPULATION IN VENEZUELA

Census	Sáliba	Piaroa	Mako
1992*	79	11,103	345
2001**	265	14,494	1,130
2011***	344	18,905	1,211

* OCEI (1993).
** INE (2003).
*** INE (2013).

TABLE 2
POPULATION IN COLOMBIA

Census	Sáliba	Piaroa	Mako
1993*	1,488	789	–
2005**	3,035	720	–

* DANE (n.d.).
** DANE (2008).

Mako are indeed related languages and should be grouped together as an independent South American language family (**4**).

2. The Sáliban languages and their treatment in the classification literature. The Sáliban language family is believed to include minimally three languages: Sáliba, Piaroa, and Mako (see table 3 and the discussion that follows it for more details, as well as Rosés Labrada 2015:chap. 1). As tables 1 and 2 show, Sáliba is spoken primarily in Colombia with only a small number of speakers living in Venezuela, while the opposite is true of Piaroa, i.e., the majority of those speakers are in Venezuela but a small group live in Colombia. Mako, however, is spoken exclusively in Venezuela.

Generally speaking, the languages are spoken in the Middle Orinoco (which marks the border between Colombia [to the west] and Venezuela [to the east]) and Middle Ventuari (Venezuela) regions. In Colombia, Sáliba is spoken in two municipalities in the Department of Casanare: Orocué and Paz de Ariporo. Additionally, there are also Sáliba in the Puerto Carreño municipality of the Department of Vichada. According to some members of the Venezuelan Sáliba themselves (see Szeplaki 2006), they live in several small communities in Venezuela: Puerto Lucera, Palomo, Pijiguao, and Caicara.

The Piaroa in Venezuela are numerous and their communities are primarily located along the Parguaza, Sipapo, Guayapo, Orinoco, and Ventuari rivers. The Colombian Piaroa live in 13 small communities on the west side of the Orinoco, one in the Department of Guaviare and the other 12 in the Department of Vichada (Arango Ochoa and Sánchez Gutiérrez 2004:419–45).

The Mako communities are distributed between two municipalities of the Venezuelan State of Amazonas, namely, Atabapo and Manapiare, and they are all located along the Ventuari River and some of its tributaries. Some Mako have moved to the municipal and state capitals and now live in either San Fernando de Atabapo and San Juan de Manapiare or Puerto Ayacucho.

The languages are in contact with other indigenous languages of the area and with Spanish. It is contact with the latter that has resulted in a situation of endangerment for Sáliba, which is now spoken by only 537 people in the grandparent generation (DANE 2008). Mako has been reported as being seriously endangered and Piaroa as being safe (see, for example, Mattéi-Müller 2006 and Mosonyi 2003). However, Mako seems to be stable according to my own field observations (see Rosés Labrada 2015:chap. 3).

Descriptive and documentary work on these three languages is scant.[4] It is not surprising then that, as mentioned, almost no historical-comparative work has been carried out to date and that confusion reigns in the literature with respect to the genetic affiliation of these languages—for example, some authors prefer to treat the languages as unclassified (e.g., Mosonyi 2003:103ff.) or as isolates (e.g., Aikhenvald 2012:123), while others give an erroneous classification for them (e.g., Storto and Demolin [2012:333] claim Sáliba is a Guahiboan language). The extent (and possibly the source) of these differing opinions can be easily understood by comparing the plethora of South American language classifications that have been proposed in the literature over the past 100 years or so. Table 3, which has been organized according to Kaufman's (1994:46–47) division of classifications of South American languages into ORIGINAL CLASSIFIERS (i.e., those who provide groupings based on first hand examination of the linguistic data) and DERIVATIVE CLASSIFIERS (i.e., those who do not report the results of personal research but base their classifications on [summaries] of earlier proposals), summarizes the treatment of the Sáliban language family in the language classification literature.

What table 3 shows is that there is general agreement in the language classification literature regarding the existence of a language family that groups minimally Piaroa and Sáliba, with most proposals also agreeing on the inclusion of Mako, either as a dialect of Piaroa or as a separate—yet closely related to Piaroa—Sáliban language.

However, these same proposals also disagree on (1) whether other languages should be included in the Sáliban family and (2) whether the family is part of a larger genetic unit. Based on an in-depth analysis of this literature, however, I have argued elsewhere for a Sáliban family that—for the time being and until further evidence can be marshalled to support the contrary—stands alone

[4] See discussion in Rosés Labrada (2015:chap. 1).

as a single independent genetic unit and that only includes three member languages: Sáliba, Piaroa, and Mako (see Rosés Labrada 2015:chap. 1).[5]

As previously mentioned, the evidence for the genetic relationship of these three languages, however, is limited to "resemblances" identified in certain lexical items between pairs of languages (see Humboldt 1824:155 for Mako and Sáliba; Oramas 1914, Rivet 1920, and Estrada Ramírez 2008:23–24; 2012 for Sáliba and Piaroa; and Koch-Grünberg 1913:469, Loukotka 1949, and Hammarström 2011 for Mako and Piaroa), but no work has thus far included all three languages. Although the identification of lexical resemblances is a valid first step in demonstrating the genetic relationship that exists among a pair or a group of languages (see Greenberg 2000), only the identification of regular sound changes that allow the reconstruction of a proto-system is usually considered as "proof" of such a relationship. However, no regular sound changes have been identified for the Sáliban languages and no reconstruction has been done to date.[6] This could be attributed to a general lack of documentation for the languages, although in the past 40 years a number of descriptions have been published for both Sáliba and Piaroa and descriptive work on Mako started in 2012.

In **3**, I use these newly available materials to shed some light on the genetic relationship of the Sáliban languages. I provide evidence for this relationship by looking at the subject-marking system of the three languages and show that there are "idiosyncratic, peculiar, arbitrary morphological correspondences. . . , instances so distinctive that they could not be easily explained by borrowing or accident" (Campbell 2008:177) among these three languages.

3. Marking of (human) animate subjects on the Sáliban verb. In what follows, I look at how (human)[7] animate subjects are marked in all three languages using my own Mako fieldwork data and Piaroa and Sáliba data from published sources (**3.1–3.3**) and offer a comparison and a reconstruction of the proto-system (**3.4** and **3.5**).

[5] Further research carried out after the acceptance of this paper and the completion of Rosés Labrada (2015) suggests that Jodï (ISO code: yau) should be grouped with the Sáliban languages Sáliba, Piaroa, and Mako. Jodï, however, does not share the subject-marking system described here for its relatives (see Quatra 2008 for a description of the Jodï verbal system).

[6] In spite of this, Campbell (2012:69) includes Sáliban in his list of "uncontroversial language families."

[7] As is shown in **3.1** below, the subject markers in Mako are used for both human and nonhuman animates. Given that the only available examples from Sáliba and Piaroa have human subjects, it is not possible to say at this point that these are ANIMATE subject markers for all three languages. I therefore use the word "animate" from now on to describe the affixes dealt with in the paper but also include human (between parentheses) when talking about the data for Sáliba and Piaroa.

TABLE 3
TREATMENT OF THE SÁLIBAN LANGUAGE FAMILY IN THE LANGUAGE CLASSIFICATION LITERATURE (FROM ROSÉS LABRADA 2015)

	Treated Languages Comprise a Single Family	Treats Sáliba	Treats Piaroa	Treats Mako as			Other Languages or Groups Included in the Family
				Separate Sáliban Language	Dialect of Piaroa	Not Mentioned	
ORIGINAL CLASSIFIERS:							
Brinton (1891:266–67)	NO	+	+			+	Quevacus, Maritzis, Mayongcong
Chamberlain (1903)	NO	+	+			+	
Chamberlain (1907:200–201)	NO	+	+			+	
Chamberlain (1913:242–43)	NO	+	+			+	
Rivet (1924:677)	YES	+	+	+			
Loukotka (1935:8)	YES	+	+	+			Pamigua†
Loukotka (1942:10)	YES	+	+	+			Pamigua†, Tinigua
Nimuendajú (1981/1944) (map)	YES	+	+	+			
Rivet and Loukotka (1952:1139)	YES	+	+	+			
Swadesh (1959:19)	YES	Does not name members[1]					
Greenberg (1960:794)	YES*	Does not name members					
Loukotka (1968:151–52)	YES	+	+	+			Ature
Kaufman (1986:43–44)	YES	+	+		+		
Greenberg (1987:385)	YES*	+	+	+			
Kaufman (1990:50)	YES	Does not name members					
Kaufman (1994:75)	YES	+	+		+		
Kaufman (2007:77)	YES	+	+	+ (possibly)	+		
DERIVATIVE CLASSIFIERS:							
Hervás y Panduro (1800:208)	YES	+	+			+	Atures, Cuaca?

McGee (1903:925)	NO?	+	+				+		
Mason (1950:254–55)	YES	+	+		+				
McQuown (1955:529, 535, 537)	YES	+†	+		+				Ature (=Adole), Quaqua (=Cuacua, Guagua, Nepoyo)
Steward and Faron (1959:22)	YES*	Does not name members							
Tovar Llorente (1961:157)	YES	+	+			+			
Tax (1960:436)	YES*	+	+		+				Ature, Quaqua
Voegelin and Voegelin (1965:116)	YES	+†	+		+				Duniberrenai
Zisa (1970:11)	YES*	+†	+		+				Dunierrenai
Suárez (1974:108)	YES	+	+		+				
Voegelin and Voegelin (1977:131)	YES	+†	+		+				Duniberrenai
Key (1979:42)	YES*	Does not name members							
Tovar and Larrucea de Tovar (1984:161)	YES	+	+			+			
Migliazza and Campbell (1988:309)	YES	+	+		+		+		Ature (Adole)
Campbell (1997:205)	YES	+	+				+		
Fabre (1998:993)	YES	+	+				+		Ature
Campbell (2012:105)	YES	+	+		+				

[1] "Does not name members" means that the author in question just provided the name for the family in his/her list without mentioning what languages belong to it: for example, Swadesh (1959:19) reads "SE 3. sáliba (20 sm): S.A. b/b."

[2] Kaufman (2007:77) lists Mako as a dialect of Piaroa but suggests that "Piaroa and Mako may be distinct languages with mutual bilingualism" and affirms that further investigation is needed.

* Part of a larger genetic unit (more specifically, Greenberg's Equatorial).

† Listed as extinct.

? The proposal's author casts doubts on the classification or is uncertain about a specific aspect of it.

3.1 Marking of animate subjects on the Mako verb. This section describes person marking in Mako, with a focus on the marking of the S and A arguments on the verb. S and A are defined here as the single argument of an intransitive verb and the more agent-like argument of a transitive verb respectively. In **3.1.1**, I offer an overview of subject marking on the Mako verb and then proceed to describe more in detail the two verb classes and the two sets of subject affixes in **3.1.2**. I conclude with a brief summary in **3.1.3**.

3.1.1. Marking S and A on the Mako Verb. As the examples[8] in (1)–(8) show, an inanimate S is not marked on the Mako verb but an animate S is. In (1) and (2), the inanimate S (the ball) is not marked on the verb *bamatɨ* 'to stop (moving)'. However, if the S is animate (Rosalba/two women), as in (3) and (4), the S is marked on the verb by means of a prefix: *hɨ-* for 3SG.FEM in (3) and *tʰɨ-* for 3PL in (4).

(1) bakʷ–apo pelota–po bamat–obe
one–CL:ROUND ball–CL:ROUND stop–TAM
'One ball stops'.

(2) d<opo>latahi pelota–po bamat–obe
two<CL.ROUND>two ball–CL:ROUND stop–TAM
'Two balls stop'.

(3) Rosalba **hɨ**–bamat–obe
PN **3SG.FEM**–stop–TAM
'Rosalba stops'.

(4) dũhũtaha itS–uhu **tʰi**–bamat–obe
two.ANIM DUMMY_ROOT–CL:FEM **3PL**–stop–TAM
'Two women stop'.

In contrast to verbs like *bamatɨ* 'to stop' stand verbs like *mebɨ* 'to fall', for which the animate S is marked with a suffix. In (5) and (6), the inanimate S

[8] Abbreviations: 1 = first person, 2 = second person, 3 = third person, ABL = ablative, ALL = allative, CL = classifier, CN = noun class (Estrada Ramírez's terminology, often combined with a number or a number and a letter to specify the exact noun class to which the gloss refers), COP = copula, DAT = dative, DEM = demonstrative, DUR = durative, FEM = feminine, FOC= focus, FUT = future, IND = indicative, MASC = masculine, NAS = nasality, NEG = negation, NOM = nominalizer, NON.FIN = non-finite, PL = plural, PROG = progressive, OBJ = object, REAL = realis, SG = singular, TAM = tense-aspect-mood marking, VIRT = virtual mood (Estrada Ramírez's terminology; this probably refers to an irrealis). Combinations of person and number are given as, e.g., 1SG for first-person singular or 1PL for first-person plural. Combinations of person, number, and gender are given as, e.g., 3SG.MASC for third-person singular masculine. A question mark in the Mako data means that, due to the preliminary stages of the description of the language, I am not certain that that this is the best gloss for that given morpheme; a question mark in the Sáliba data means that Estrada Ramírez was uncertain about how to gloss that given morpheme.

(still the ball) is not marked on the verb in either singular (5) or plural (6) but the animate Ss (Rosalba/two women) in (7) and (8) are. However, the marking is not done via a prefix as in (3) and (4) above for *bamatɨ* 'to stop' but rather via a suffix: *-h* for 3SG.FEM in (7) and *-t*^{h} for 3PL in (8).

(5) bak^{w}–apo pelota–po me–obe
one–CL:ROUND ball–CL:ROUND fall–TAM
'One ball falls'.

(6) d<opo>latahi pelota–po me–obe
two<CL.ROUND>two ball–CL:ROUND fall–TAM
'Two balls fall'.

(7) Rosalba me–**h**–obe
PN fall–**3SG.FEM**–TAM
'Rosalba falls'.

(8) dũhũtaha tsãdɨ me–**t**^{h}–obe
two.ANIM women fall–**3PL**–TAM
'Two women fall'.

Based on the marking of animate S arguments, two classes of verbs can be identified: Class I comprises verbs like 'to stop' which take a prefix (examples 3 and 4) and Class II verbs like 'to fall' which take a suffix (7 and 8). The same is true for the marking of A arguments, as shown in (9)–(12).

(9) bena–ma ile **hɨ**–bɨl–in–obe
here–TOP? manioc **3SG.FEM**–turn_over–PST–TAM
'Here she was turning over the cassava'.

(10) bena–ma ile **t**^{h}**ɨ**–bɨl–in–obe
here–TOP? manioc **3PL**–turn_over–PST–TAM
'Here they were turning over the cassava'.

(11) bena–ma ile p^{h}õ–**h**–eb–in–obe lu^{ʔ}dupa–nɨ
here–TOP? manioc sift–**3SG.FEM**–?–PST–TAM sieve–NON.SUBJ
'Here she was sifting the manioc with the sieve'.

(12) bena–ma ile p^{h}õ–**t**^{h}–eb–in–obe lu^{ʔ}dupa–nɨ
here–TOP? manioc sift–**3PL**–?–PST–TAM sieve–NON.SUBJ
'Here they were sifting the manioc with the sieve'.

In (9) and (10), the verb *bɨlɨ* 'to turn over' has a 3SG.FEM and a 3PL A argument, respectively, and a direct object (manioc/cassava in both cases) and it takes the same prefixes as *bamatɨ* 'to stop' in (3) and (4). In (11) and (12), however, the verb *p*^{h}*õbebɨ* 'to sift' with the same A and O arguments as the

verb 'to turn over' in (9) and (10) takes a suffix—the same suffixes as *mebɨ* 'to fall', in (7) and (8).

Thus far, the referents for all the S and A arguments in the preceding examples were human and animate. The affixes with which they are encoded in the verb, however, can also be used with non-human animate nouns, as in (13), where *lubɨ* 'to hunt/chase' has a non-human S argument (the dogs) and it takes a suffix—in this case the 3PL suffix *-tʰ* that we saw in (8) with *mebɨ* 'to fall' and in (12) with *pʰõbebɨ* 'to sift'.

(13) ãwĩɾĩ–dɨ lu–**tʰ**–a
dog–PL+NAS hunt–**3PL**–TAM
'The dogs hunt'.

To sum up, the above examples show that both animate S and A arguments are coded using the same set of affixes,[9] which for some verbs can be a prefix (Class I verbs) and for others a suffix (Class II verbs). Membership in one or the other class is phonologically (rather than syntactically—e.g., transitive vs. intransitive—or semantically—e.g., active vs. stative) conditioned, as I show in the next section.

3.1.2. The Mako Class I and Class II verbs. Thus far, the Class I verbs (i.e., verbs that take a subject prefix) shown above are *bamatɨ* 'to stop' and *bɨlɨ* 'to turn over' and the Class II verbs (i.e., verbs that take a subject suffix) are *mebɨ* 'to fall', *pʰõbebɨ* 'to sift', and *lubɨ* 'to hunt'. What all the Class I verbs have in common is that their roots end in a consonant whereas what all the Class II verbs have in common is that their roots end in a vowel, as the process of formation of non-finite forms described below reveals.

Non-finite forms are formed by adding the suffix *-ɨ* NON.FIN. For Class I verbs, the non-finite suffix attaches directly to the root (14); for Class II verbs, it attaches to a *-b* suffix (15).

[9] This provides evidence for a subject category and support for a classification of Mako's main clause grammar as nominative-accusative. That these are markers exclusively used for subjects (arguments S and A of the verb) is shown in (*i*) below, where the subject is marked with a suffix that immediately follows the root and the object, with a suffix that follows the TAM morphology. The whole paradigm of object markers is as follows: *-tʰɨ* for 1SG, *-kʷɨ* for 2SG, *-nɨ* for 3SG.MASC, *-hɨ* for 3SG.FEM, *-dɨtʰɨ* for 1PL, *-adu* . . . *-kʷɨ* for 2PL, and *-dɨnɨ* for 3PL.

(*i*) itS–uhu$_i$ ʔdo–h$_i$–obe–hi$_j$
DUMMY_ROOT–CL:FEM$_A$ hit–3SG.FEM$_A$–TAM–3SG.FEM$_O$
'the woman$_i$ hits her$_j$'

The other two aspects of alignment, i.e., word order and morphological marking on the argument NPs, can be succinctly described as follows: word order is relatively free but there is a preference for SV and AOV. O arguments can (but need not) be marked with a *-nɨ* suffix; on the other hand, S and A arguments are never marked for their grammatical function (in fact, it is the impossibility of taking the *-nɨ* suffix, in conjunction with the verb agreement, that identifies them as S or A).

(14)

ROOT		NON-FINITE	
bamat-	'to stop'	*bamat-ɨ*	ROOT-NON.FIN
bɨl-	'to turn over'	*bɨl-ɨ*	ROOT-NON.FIN
deh-	'to light'	*deh-ɨ*	ROOT-NON.FIN
t^{h}its-	'to bake'	*t^{h}its-ɨ*	ROOT-NON.FIN
kɨkɨd-	'to dry in the sun'	*kɨkɨd-ɨ*	ROOT-NON.FIN

(15)

ROOT		NON-FINITE	
me-	'to fall'	*me-**b**-ɨ*	ROOT-**B**-NON.FIN
lu-	'to hunt'	*lu-**b**-ɨ*	ROOT-**B**-NON.FIN
di-	'to scrape'	*di-**b**-ɨ*	ROOT-**B**-NON.FIN
wahi-	'to ignore'	*wahi-**b**-ɨ*	ROOT-**B**-NON.FIN

Evidence for not including the /b/ sound present in the non-finite forms in (15) as part of the non-finite suffix comes from the fact that the *-b* and the *-ɨ* can be separated by other morphemes (16); while evidence for not including it as part of the verb root comes from the fact that this /b/ is not present in finite forms, as shown above in (5)–(8) for the verb 'to fall', in (11) and (12) for the verb 'to sift', and in (13) for the verb 'to hunt'. As those and the additional examples in (17) show, the *-b* is "substituted" in the finite form by the subject marker.

(16)

ROOT		NON-FINITE	
p^{h}õ-	'to sift'	*p^{h}õ-**b**-eb-ɨ*	ROOT-**B**-?-NON.FIN
ka-	'to finish'	*ka-**b**-at-ɨ*	ROOT-**B**-?-NON.FIN

(17)

NON-FINITE	FINITE		
*ka-**b**-at-ɨ*	ROOT-**B**-?-NON.FIN	'to finish'	*ka-**h**-at-obe* ROOT-**3SG.FEM**-?-TAM
*di-**b**-ɨ*	ROOT-**B**-NON.FIN	'to scrape'	*di-**h**-obe* ROOT-**3SG.FEM**-TAM
*wahi-**b**-ɨ*	ROOT-**B**-NON.FIN	'to ignore'	*wahi-**h**-a* ROOT-**3SG.FEM** -TAM

To sum up, Class I verbs are those whose roots end in a consonant such as *bamat-* 'stop' and *bɨl-* 'turn over' and Class II verbs are those whose roots end in a vowel such as *me-* 'fall', *lu-* 'hunt', or *p^{h}õ-* 'sift'. Below, I discuss the subject person-marking paradigms for Class I (**3.1.2.1**) and Class II (**3.1.2.2**) verbs.

3.1.2.1. Mako Class I verbs. As shown in **3.1**, Class I verbs take a prefix. A full paradigm is given in (18) for *hãmatɨ* 'to stand up':

(18)

***ʧ̃ɨ̃**-hãmat-obe*	**1SG**-ROOT-TAM	***dɨ̃**-hãmat-obe* **1PL**-ROOT-TAM
***k^{w}ɨ̃**-hãmat-obe*	**2SG**-ROOT-TAM	***k^{w}ɨ̃**-hãmat-**adu**-obe* **2PL**-ROOT-**2PL**-TAM
***ɨ̃**-hãmat-obe*	**3SG.MASC**-ROOT-TAM	***t^{h}ɨ̃**-hãmat-obe* **3PL**-ROOT-TAM
***hɨ̃**-hãmat-obe*	**3SG.FEM**-ROOT-TAM	

In all persons both singular and plural, the animate subject is marked by a prefix; 2PL additionally takes a suffix *-adu* that distinguishes it from 2SG. Except for 3SG.MASC, all of the prefixes have an initial consonant that is followed by a vowel. The vowel in the prefix set is underspecified, harmonizing in nasality and in vowel quality[10] with the first vowel of the verb root (19).

(19)

NON-FINITE		FINITE	
tumat-ɨ	'to close'	***hu**-tumat-obe*	**3SG.FEM**-ROOT-TAM
deh-ɨ	'to light'	***hi**-deh-obe*	**3SG.FEM**-ROOT-TAM
tʰitʂ-ɨ	'to bake'	***hi**-tʰitʂ-obe*	**3SG.FEM**-ROOT-TAM
kõkõd-ɨ	'to bring back inside'	***hõ**-kõkõd-obe*	**3SG.FEM**-ROOT-TAM
kɨkɨd-ɨ	'to dry in the sun'	***hɨ**-kɨkɨd-obe*	**3SG.FEM**-ROOT-TAM

If the verb root starts with a vowel, however, the vowel in the prefixes does not occur, as shown in (20):

(20)

NON-FINITE		FINITE	
ed-ɨ	'to see'	***h**-ed-obe*	**3SG.FEM**-ROOT-TAM
amat-ɨ	'to squeeze'	***h**-amat-obe*	**3SG.FEM**-ROOT-TAM

This set of prefixes is also used to mark nominal possession. A full paradigm for the inalienably possessed noun for 'son/child' is given in (21).

(21)

SINGULAR	PLURAL	
1	***ʧ**-ĩtʰĩ*	***d**-ĩtʰĩ*
2	***kʷ**-ĩtʰĩ*	***kʷ**-ĩtʰĩ-**dui***
3.FEM	***h**-ĩtʰĩ*	***tʰ**-ĩtʰĩ*
3.MASC	*ĩtʰĩ*	

There is, however, a difference between the person marking as shown with Class I verbs in (18) and the nominal possession marking in (21): the 2PL form of the verb takes the suffix *-adu*, while the 2PL form of the possessed noun takes a suffix *-dui*. The examples in (22) show that the vowel in the prefixes used to mark possession is also underspecified and harmonizes with the first vowel of the noun root.

(22) ***ʧɨ-**bahale* 'my eye'
***ʧi**-we?o* 'my bone'
***ʧũ**-lũmẽ?ã* 'my neck'

[10] A /u/ in the first syllable of the root will trigger a /u/ in the prefixes; /i/ and /e/ in the first syllable of the root will trigger an /i/ in the prefixes; an /o/ in the first syllable of the root will trigger a /o/ in the prefixes; and /a/ and /ɨ/ will trigger an /ɨ/ in the prefix. If the vowel in the first syllable of the root is nasal, then the vowel in the prefixes will be nasal too.

3.1.2.2. Mako Class II verbs. As shown in **3.1**, Class II verbs do not make use of the set of prefixes discussed above; instead, they take suffixes. This is exemplified in (23) for *mebɨ* 'to fall':

(23)

*me-**t**-obe*	ROOT-**1SG**-TAM	*me-**d**-obe* ROOT-**1PL**-TAM
*me-**kɨb**-obe*	ROOT-**2SG**-TAM	*me-**kɨb-adu**-obe* ROOT-**2PL**-**2PL**-TAM
*me-**Ø**-obe*	ROOT-**3SG.MASC**-TAM	*me-**t^{h}**-obe* ROOT-**3PL**-TAM
*me-**h**-obe*	ROOT-**3SG.FEM**-TAM	

There is some variation as to how second person is marked. In (23), a suffix *-kɨb* is used; in the examples in (24), however, either /k/ or /k^{w}/ is used to mark second person in the verb *labebɨ* 'to exit'. This difference could be dialectal[11] or it could be phonologically conditioned; more research is needed here so, for the purposes of this paper, I include both suffix forms.

(24)

*la-**k$^{(w)}$**-eb-obe*	ROOT-**2SG**-ʔ-TAM
*la- **k$^{(w)}$**-eb-**adu**-obe*	ROOT-**2PL**-ʔ-**2PL**-TAM

A comparison of the forms of the prefixes in (18)–(22) with the form of the suffixes in (23) and (24) reveals that, except for the first-person singular, where the prefix consonant is a voiceless affricate stop /ʧ/ and the suffix consonant is a voiceless alveo-dental stop /t/, the Class II verbal suffixes are clearly related to the prefixes used for Class I verbs and possessed nouns.

3.1.3. Summary. Inanimate subjects in Mako are not cross-referenced on the verb, while animate subjects are. This cross-referencing is accomplished via two sets of affixes: a set of prefixes for Class I verbs (i.e., verbs with roots ending in a consonant) and a set of suffixes for Class II verbs (i.e., verbs with roots ending in a vowel). The two sets of affixes are clearly related to each other, as evidenced by the similarity in their phonological form (i.e., same consonant for all of them except for 1SG). Additionally, the set of prefixes can be used to mark the possessor on a possessed noun. All the Mako subject affixes are given in table 4.

Although the fact that possessor marking is accomplished by the same set of affixes that are used to encode (one of the) core arguments of a verb is cross-linguistically common (see Siewierska 1998)—and especially so in Amazonia (Dixon and Aikhenvald 1999:9)—the Mako system is apparently unique in having two distinct sets of verbal subject affixes whose use is determined by the class membership of the verb. In the sections that follow,

[11] The forms in (23) come from a speaker of Porvenir II on the Ventuari River and the forms in (24) come from a speaker of Arena Blanca on the Guapuchí River.

TABLE 4
MAKO CLASS I AND CLASS II VERBAL SUBJECT MARKERS

	Singular		Plural	
Person	Prefix Set	Suffix Set	Prefix Set	Suffix Set
1	*ʧ*(V)-	*-t*	*d*(V)-	*-d*
2	*kʷ*(V)-	*-ɨb*/*-kʷ*	*kʷ*(V)-. . .*-adu*	*-ɨb*/*-kʷ*. . .*-adu*
3.MASC	(V)-	*-Ø*		
3.FEM	*h*(V)-	*-h*	*tʰ*(V)-	*-tʰ*

I show that Mako shares this peculiar system with Piaroa (**3.2**) and Sáliba (**3.3**) and that both the subject-marking system and the two verb classes are reconstructible and have, therefore, been inherited from Proto-Sáliban (**3.4** and **3.5**).

3.2. Marking of (human) animate subjects on the Piaroa verb. Mosonyi (2000:662–63), who closely follows Remiro (1988), describes person-marking morphology in the Piaroa future tense as being "mucho más complicada y hasta irregular [much more complicated and even irregular]" than for other tenses because it can be accomplished by using (1) a set of prefixes "muy similar a los que se usan con los sustantivos poseídos [very similar to those used with possessed nouns]" used with vowel-initial verb roots, as in (25)[12] for *aditɨ* 'to work' and (2) a set of "infixes" when the verb roots start with a consonant, as in (26) for *pæʔɨ* 'to say':

(25)

PERSON	FORM	TRANSLATION
1SG.MASC	***ʧ****-ãdĩt-æˈkʷã-sæ̃*	'I (male) will work'
2SG.MASC	***kw****-ãdĩt-ækʷãˈhæ̃*	'you (male) [SG] will work'
3SG.MASC	*ãdĩt-æˈkʷã*	'he will work'
3SG.FEM	***kʰ****-adit-æˈkʷã-hu*	'she will work'
1PL	***t****-adit-ækʷotɨhæ̃*	'we will work'
2PL	***kʷ****-adit-ækʷotɨhæ̃*	'you [PL] will work'
3PL	***tʰ****-adit-ækʷotɨ*	'they will work'

(Mosonyi 2000:662–63)

(26)

PERSON	FORM	TRANSLATION
1SG.MASC	*pæ̃-**d**-æ̃ˈkʷã-sæ̃*	'I (male) will say'
2SG.MASC	*pæ̃-**kʷ**-æ̃kʷãˈhæ̃*	'you (male) [SG] will say'
3SG.MASC	*pæ̃-**ʔ**-æ̃kʷã*	'he (male) will say'
3SG.FEM	*pæ-**h**-æˈkʷa-hu*	'she will say'
1PL	*pæ-**t**-ækʷoˈtɨhæ̃*	'we will say'
2PL	*pæ-**kʷ**-ækʷoˈtɨhæ̃*	'you [PL] will say'
3PL	*pæ-**tʰ**-ækʷotɨ*	'they will say'

(Mosonyi 2000:663)

[12] The examples given by Mosonyi (2000) are not glossed and I therefore do not offer glosses here, but the relevant affixes are in boldface.

There are a few differences between the Piaroa and the Mako systems. First, what gets "substituted" in the Piaroa non-finite form of the verb 'to say' is *-ʔ* and not *-b* as in Mako: both *aditɨ* and *pæʔɨ* employ an *-ɨ* suffix, cognate with the Mako non-finite suffix, which allows the root for 'to say' to be glossed as *pæ-ʔ-ɨ* ROOT-ʔ-NON.FIN 'to say'. If the root for 'to say' ends in a vowel, then affix selection (and hence verb class membership) could also be analyzed as following the same pattern as in Mako, depending on whether a root ends with a consonant (the root for 'to work' ends in a consonant and takes a prefix) or a vowel (the root for 'to say' ends in a vowel and takes a suffix).[13] Second, the subject affixes are only used in future tense in Piaroa, while they have a wider distribution in Mako (present, past, and future).[14] Third, the first-person markers in the suffix set seem to be "swapped": Mako 1SG is marked with a *-t*, while Piaroa 1SG is marked with a *-d*, and Mako 1PL is marked with a *-d* and the Piaroa 1PL marker is a *-t*. The difference in the 1PL forms of the prefix set is also a voicing contrast, i.e., Mako *d-* vs. Piaroa *t-*. Fourth, 3SG.MASC in the suffix set is marked by a glottal stop in Piaroa but it is the absence of any marking that characterizes the Mako 3SG.MASC form in the suffix set. And last, the Piaroa data provided by Mosonyi differs from the Mako data in that there is no *-adu* marker for 2PL. In Piaroa, the verb ends with *-otɨhɑ̃*, but this is also true of 1PL and a shorter form *-otɨ* is present in 3PL.

The set of prefixes in the paradigm in (25) is also used to mark possession, as shown in the examples in (27) for the noun 'son/child'. This function of the prefixes is also present in Mako (see 18 and 21 above).

(27)

	SINGULAR	PLURAL
1	***ʧ***-$\tilde{\imath}t^h\tilde{\imath}$	***t***-$\tilde{\imath}t^h\tilde{\imath}$
2	***k***^{w}-$\tilde{\imath}t^h\tilde{\imath}$	***k***^{w}-$\tilde{\imath}t^h\tilde{\imath}$
3.FEM	***h***-$\tilde{\imath}t^h\tilde{\imath}$	***t***^{h}-$\tilde{\imath}t^h\tilde{\imath}$
3.MASC	$\tilde{\imath}t^h\tilde{\imath}$	

(Mosonyi 2000:661)

As mentioned earlier, Mosonyi (2000) indicates that the verbal prefixes are only used for vowel-initial verb roots and hence their phonological form is C-; this differs from the Mako data in (18) and (19), where the prefixes are used with roots that start with consonants and their phonological form is CV-. However, when used in nominal possession, the Piaroa prefixes may occur on consonant-initial roots, where they have a CV form. The vowel of this allomorph harmonizes with the first vowel of the stem, just like in (18) for the Mako Class I verbs and in (21) for the Mako possessed nouns:

[13] More conjugated examples are needed to confirm this hypothesis.

[14] In fact, they occur in all TAM combinations except for the habitual present, which comes from an old copula construction and has the form ROOT-CL-COP. In these verb forms, person is indicated by the old copular suffix (see Rosés Labrada 2015).

TABLE 5
PIAROA FUTURE TENSE PERSON MARKERS ACCORDING TO MOSONYI (2000)

	Singular		Plural	
Person	Prefix Set	Suffix Set	Prefix Set	Suffix Set
1	*ʧ-*	*-d*	*t-*	*-t*
2	*k^w-*	*-k^w*	*k^w-*	*-k^w*
3.MASC	*∅-*	*-ʔ*		
3.FEM	*h-*	*-h*	*t^h-*	*-t^h*

(28) *rẽhẽ* 'land' ***ʧi-****rẽhã̀* 'my land'
kurodæ 'machete' ***ʧu-****kurɤdæ* 'my machete'
nawɤdæ 'knife' ***ʧi-****nawɤdæ*[15] 'my knife'
(Mosonyi 2000:661)

To sum up, Piaroa shares with Mako the fact that there are two sets of affixes that code the (human) animate subject of a verb and can occur immediately before or after the verb root. Additionally, the Piaroa prefixes, like the Mako ones, are used to mark the possessor on the possessed noun. The forms of the verbal affixes provided by Mosonyi (2000) for Piaroa can be summarized as shown in table 5.

3.3. Marking of (human) animate subjects on the Sáliba verb. This section describes the Sáliba subject-marking system and compares it to the Mako and Piaroa ones. A reanalysis (see Rosés Labrada 2015:chap. 10) of the discrepancies between the three existing descriptions of the Sáliba subject-marking system (i.e., Estrada Ramírez 1996; 2000 and Morse and Frank 1997) shows that some of the discrepancies might be due to dialectal differences between the two varieties described[16] or to misanalysis of some forms; and that some discrepancies deserve further research to understand the distribution of some of the markers. This reanalysis of a system that at first sight looks more irregular and complex than the system I have described for Mako (**3.1**) and that Mosonyi (2000) describes for Piaroa (discussed here in **3.2**) proposes—pending further research—a modified person-marking system for Sáliba, shown here in table 6.

[15] Notice that this is unlike Mako harmony, where a stem whose first vowel is /a/ will take an /ɨ/ in the prefix. See (19) and the explanation of vowel harmony in n. 10.

[16] From 1993 to 2000, Estrada Ramírez worked with speakers from the Colombian Sáliba communities "Paravare, El Duya, y San Juanito (Municipio Orocué) [Paravare, El Duya, and San Juanito (Orocué Municipality)]" near the Meta River (Estrada Ramírez, 2005:601), while Nancy Morse and, before her, Taik Benaissa worked in Morichito, which is in the Hato Corozal Muncipality (Colombia). The differences between the speech of the different Orocué communities and the Morichito community are primarily phonetic/phonological but can also be lexical. See Estrada Ramírez (2005) for discussion of some of these differences.

TABLE 6
SUBJECT MARKERS IN SÁLIBA (MODIFIED)

	Singular		Plural	
Person	Prefix Set	Suffix Set	Prefix Set	Suffix Set
1	*c- ~ ʧ-*	*-d*	*t-*	*-t*
2	*kʷ-/k-*	*-kʷ*	*kʷ-/k-. . .-do*	*-kʷ. . .-do*
3.FEM	*Ø-*	*-Ø*		
3.MASC	*x-*	*-x*	*h-*	*-h*

No full verb paradigm is available for Sáliba in Estrada Ramírez (1996; 2000) or Morse and Frank (1997), but the use of the different markers in table 6 is exemplified below. The order of presentation is 1SG, 1PL, 2SG, 2PL, 3SG.MASC, 3SG.FEM, and finally 3PL.

In Sáliba, 1SG can be marked with a palatal voiceless stop /c/[17] as a prefix with vowel-initial verb roots (29)[18] and with a voiced alveolar stop /d/ as a suffix with monosyllabic consonant-initial verb roots (30) (Estrada Ramírez 1996:29).

(29) **c**–om–a
1SG–come–REAL
'I come'. (Estrada Ramírez 2000:695)

(30) gu–**d**–a
walk–**1SG**–REAL
'I walk'; 'I go'. (Estrada Ramírez 2000:695)

For 1PL, the verb is marked with a prefix *-t* (31) or a suffix *t-* (32).

(31) ũku–gi hĩsi–gi **t**–ikʷ–a
2SG–SOC 1SG–SOC **1PL**–eat–REAL
'You and I eat'. (Estrada Ramírez 1996:120)

(32) deo–**t**–in–a
fat–**1PL**–DUR–REAL
'We are getting fat'. (Estrada Ramírez 1996:147)

Second person is marked by a (sometimes labialized) voiceless velar stop that can occur as both a prefix (33) or a suffix (34) (Estrada Ramírez

[17] For Morse and Frank (1997), the /c/ is in fact an affricate /ʧ/. An affricate, and not a palatal stop, is also in the phoneme inventory in Benaissa (1979).

[18] I have reglossed Estrada Ramírez's examples and added an English translation. In all cases, I have done my best to stay close to the original gloss and translation given by this author.

1996:29–30). The difference between SG and PL is the absence vs. presence of the suffix *-do* (cf. 33 to 35 and 34 to 36).

(33) **k**–om–a–ga
2SG–come–?–VIRT
'You [SG] will come'.

(34) gu–**k^{w}**–in–a
walk–**2SG**–DUR–REAL
'You [SG] were walking'.

(35) **k**–om–a–gã–**do**
2PL–come–?–VIRT–**2PL**
'You [PL] will come'.

(36) gu–**k^{w}**–in–ã–**do**
walk–**2PL**–DUR–REAL–**2PL**
'You [PL] are walking'. (Estrada Ramírez 1996:29–30)

In Estrada Ramírez's data (2000), 3SG.MASC is marked with a ∅ as a prefix with vowel-initial verb roots (37) and as a suffix with monosyllabic consonant-initial verb roots (38).

(37) baba kaɲ–o **∅**–omadiã–xa nẽẽ–di
dad hat–CN.18 **3SG.MASC**–buy–3SG.FEM child–DAT
'My dad bought the girl a hat'. (Estrada Ramírez 2000:689)

(38) hũã gu–**∅**–a duɲa–da suk^{w}a–nabeda
Juan walk–**3SG.MASC**–REAL Duya–ABL town–ALL
'Juan walks from Duya to Orocué'. (Estrada Ramírez 2000:690)

For Estrada Ramírez (1996; 2000), the 3SG.FEM subject is marked with either a *x-* prefix (39) or a *-x* suffix (40). Morse and Frank (1997), however, give an *h* as well as an *x* for 3SG.FEM. They explain that this is a phonologically conditioned allophonic variation due to the impossibility of /x/ ever occurring word-initially, where it is pronounced as [h] (Morse and Frank 1997:45, n. 30).

(39) malia suk^{w}a–da **x**–om–in–a
María town–ABL **3SG.FEM**–come–DUR–REAL
'María comes from town'. (Estrada Ramírez 2000:690)

(40) malia hũã–di po–**x**–ã–di
María Juan–DAT hit–**3SG.FEM**–REAL–3SG.MASC
'María hit Juan'. (Estrada Ramírez 1996:93)

Estrada Ramírez (2000) gives a prefix *h-* and a suffix *-h* as markers for 3PL, which is in agreement with Morse and Frank's (1997) description. Both affixes are exemplified in (41) and (42).

(41) hi–tu koha rĩ–**h**–a
DEM–CN.3a song sing–**3PL**–REAL
'They sing'. (Estrada Ramírez 2000:694)

(42) **h**–ikʷ–in–ã́
3PL–eat–PROG–IND
'They are eating'. (Morse and Frank 1997:31)

(43)–(47) show that the Sáliba prefixes serve the function of marking nominal possession, just like they do in Mako (in 21 and 22) and Piaroa (in 24 and 25).

(43) **c**–ac–u
1SG–sister–CN.2a
'my older sister' (Estrada Ramírez 1996:58)

(44) **k**ʷ–a–e
2SG–father–CN.1a
'your [SG] father' (Estrada Ramírez 1996:85)

(45) **k**–o–xu
2SG–mother–CN.2a
'your [SG] mother' (Estrada Ramírez 1996:85)

(46) **x**–o–xu
3SG.FEM–mother–CN.2a
'her mother' (Estrada Ramírez 1996:85)

(47) **t**–i–ɟu
1PL–head–CN.18
'our heads' (Estrada Ramírez 1996:88)

Additional paradigmatic examples for the word 'wife' come from Morse and Frank (1997:65) and are shown in (48).

(48)

	SINGULAR	PLURAL
1	***ʧ***-*ẽxã́xu*	***t***-*ẽxã́xu*
2	***k***ʷ-*ẽxã́xu*	***k***ʷ-*ẽxã́xu*-***ʔdo***
3.MASC	*ẽxã́xu*	***h***-*ẽxã́xu*
3.FEM	—	

3.4. Comparison and reconstruction of the Sáliban subject markers. Thus far, I have shown the existence of two distinct strategies for marking animate subjects on the verb in all of the three generally accepted Sáliban languages (i.e., Sáliba, Piaroa, and Mako): one strategy consists of adding a prefix immediately before the verb root and a second strategy consists of adding a suffix immediately after the verb root. I turn now to the comparison

TABLE 7
MARKING OF (HUMAN) ANIMATE SUBJECTS ON THE SÁLIBAN VERBS: PREFIX SETS

	Prefix Set				Sound Correspondence
	Mako	Piaroa	Sáliba	Proto-Sáliban	
1SG	*ɟ*(V)-	*ɟ*-	*c*- ~ *ɟ*-	* *ɟ*-	*ɟ* : *ɟ*ː*c* ~ *ɟ*
2SG	k^w(V)-	k^w-	k^w-/*k*-	*k^w-	k^w : k^w ː k^w/*k*
3SG.MASC	(V)-	∅-	∅-	*∅-	∅ : ∅ : ∅
3SG.FEM	*h*(V)-	k^h-	*x*-	*k^h-	*h* : k^h : *x*
1PL	*d*(V)-	*t*-	*t*-	**t*-	*d* : *t* : *t*
2PL	k^w(V)-. . .-*adu*	k^w-	k^w-/*k*-. . .-*do*	*k^w-	k^w : k^w : k^w/*k*
3PL	t^h(V)-	t^h-	*h*-	*t^h-	t^h : t^h : *h*

TABLE 8
MARKING OF HUMAN ANIMATE SUBJECTS ON THE SÁLIBAN VERBS: SUFFIX SETS

	Suffix Set				Sound Correspondence
	Mako	Piaroa	Sáliba	Proto-Sáliban	
1SG	-*t*	-*d*	-*d*	*-*d*	*t* : *d* : *d*
2SG	-$k^{(w)}$/-*kɨb*	-k^w	-k^w	*-k^w	$k^{(w)}$/*k* : k^w : k^w
3SG.MASC	-∅	-*ʔ*	-∅	*-∅	∅ : *ʔ* : ∅
3SG.FEM	-*h*	-*h*	-*x*	*-k^h	*h* : *h* : *x*
1PL	-*d*	-*t*	-*t*	*-*t*	*d* : *t* : *t*
2PL	-$k^{(w)}$/-*kɨb*. . .-*adu*	-k^w	-k^w. . .-*do*	*-k^w	$k^{(w)}$/*k* : k^w : k^w
3PL	-t^h	-t^h	-*h*	*-t^h	t^h : t^h : *h*

of these strategies across Mako, Piaroa, and Sáliba as well as to the reconstruction of the Proto-Sáliban system.

Tables 7 and 8 present the two sets of markers across languages as well as provide reconstructed proto-forms (penultimate column) for the consonants in each of the subject-marking affixes; these are based on the observed sound correspondences (last column) and the lexical data presented below but remain tentative until further comparative work is carried out.

I explore next some of the sound correspondences observed and show that they are in fact the result of regular sound changes,[19] thus allowing the

[19] The cognate lexical sets offered in this section come primarily from a comparison of the Swadesh list data in Estrada Ramírez (2000) and Mosonyi (2000) and a similar Swadesh list collected from a Mako speaker by me in June 2012. To a lesser extent, I have supplemented this comparison with data in Suárez (1977) and Benaissa (1991). A more systematic comparison of more materials is likely to yield better results, but I trust the number of cognates given here will convince the skeptical comparativist. Some of the cognates were identified using the software RefLex: <https://sites.google.com/site/referencelexicon/>.

verification of the tentatively reconstructed Proto-Sáliban forms offered above for both sets of affixes.

For the correspondence *ʧ* : *ʧ* : *c* ~ *ʧ* (1SG, prefix set), the only difference lies in the possibility of the Sáliba marker being a plain stop /c/, as Estrada Ramírez (1996; 2000) describes it. However, this sound is described as an affricate by both Benaissa (1979) and Morse and Frank (1997). A phonetic study will be needed to settle this question, but I think it safe to say that the 1SG prefixes are cognate.

Except for the plural markers *-adu* in Mako and *-do* in Sáliba (which are not the object of the comparison and reconstruction offered here), the markers for 2SG and 2PL in the prefix set are not only cognate but they are almost identical, as shown by the consonant sound correspondence k^w : k^w : k^w/*k*, and the same goes for the suffixes whose consonant sound correspondence is $k^{(w)}$/*k* : k^w : k^w/*k*.

The forms for 3SG.MASC are also almost identical too: The prefix sets show the correspondence ∅ : ∅ : ∅, while the suffix sets show the correspondence ∅ : ʔ : ∅. I suspect the glottal stop in the Piaroa 3SG.MASC suffix might be a transcription error, but further research is needed here and possibly some acoustic data to clarify the question.

As for the 3PL markers in both the prefix and the suffix sets, the only difference in the sound correspondence—i.e., Piaroa and Mako /t^h/ vs. Sáliba /h/—requires further research since the Piaroa and Mako /t^h/ seem to occur in a very small number of lexical items outside of the verb system, e.g., only six times in the Piaroa Swadesh list offered by Mosonyi (2000), and none of the words that contain them have cognates in Sáliba according to the list in Estrada Ramírez (2000).[20] However, a change from Proto-Sáliban /t^h/ to Sáliban /h/ would not be unlikely; there are a number of cross-linguistic examples for debuccalization of aspirated stops.[21]

[20] The chart below shows the six items from Mosonyi (2000) that include an aspirated voiceless alveolar stop and the Sáliba items that share their meaning provided by Estrada Ramírez (2000). (Translations of the glosses into English for both Mosonyi's and Estrada's data are mine.) As can be seen, there are no cognates for any of the six items between Sáliba and Piaroa. In the last column, I present the corresponding data elicited by me for Mako. The only correspondence is for the form for 'I' between Mako and Piaroa.

SÁLIBA (Estrada 2000)		PIAROA (Mosonyi 2000)		MAKO	
9	/ameta/	8	[-aʔat^{h}i]	—	'because'
84	/ameha/	75	[t^{h}ãʔãni]	[daik^{w}i]	'how'
38	/hĩsi/	78	[t^{h}i]	[it^{h}i]	'I'
90	—	80	[-t^{h}imæ]	—	'if'
102	/ododе/	91	[ʧat^{h}ijæ]	[ok^{w}eheba]	'liver'
123	/hoho/	111	[t^{h}ʧhã ĩsã]	[hoho]	'person'
—	—	132	[t^{h}iʔi]	[nibi]	'sew'

[21] Including the debuccalization of Proto-Sáliban /k^h/ to present-day Mako /h/. See examples in (49) below.

The biggest differences are in the 3SG.FEM affixes (sound correspondence *h* : *kʰ* : *x* for the prefixes and *h* : *h* : *x* for the suffixes) and in the 1SG suffixes and the 1PL prefixes and suffixes (*t* : *d* : *d* and *d* : *t*: *t* respectively). There is, however, evidence that these differences are the result of regular sound changes in the languages' lexica. For the first set of sound correspondences, there is:

(49) *h* : *kʰ* : *x* (3SG.FEM, prefix set)

MAKO	PIAROA	SÁLIBA	
[**h̲**ãmatɨ]	[**k̲ʰ**ãmadɨ̃]	—	'to stand up'
[**h̲**ãnɨ] [22]	[**k̲ʰ**ɨ̃]	—	'to live'
[**h̲**ãwõ]	[**k̲ʰ**æ̃wã]	/**h̲**ohote/	'sun'
[**h̲**ibebɨ]	[**k̲ʰ**iʔopu]	—	'to push'
[**h̲**alawɨ] [23]	[**k̲ʰ**æɾɨ]	—	'to turn around'

(fieldwork; Mosonyi 2000:666–68; and Estrada Ramírez 2000:700–702)

[**h̲**ana]	[**k̲ʰ**ana]	<*j̲ana*>	'pineapple'

(fieldwork; fieldwork; and Benaissa 1991:81)

If we then look for the sound correspondence between the suffixes, namely, *h* : *h* : *x*, the next set of words could be used as supporting cognates:

(50) *h* : *h* : *x* (3SG.FEM, suffix set)

MAKO	PIAROA	SÁLIBA	
[mɨ̃lẽ**h̲**ẽ]	[moɾõ**h̲**ã̃]	/sẽ**x̲**ẽ/	'sky' [24]
[itsu**h̲**u]	[isa**h̲**u]	/ɲa**x̲**u/	'woman' [25]

(fieldwork; Mosonyi 2000:667; and Estrada Ramírez 2000:700–702)

Additionally, there is evidence for the prefix *x*- and the suffix -*x* in Sáliba having been a velar stop-like sound at some point in the language's history. The eighteenth-century grammar published in Suárez (1977) shows the following forms for 3SG.FEM in the paradigms of the verbs 'to carry or take' and 'to want', both with a prefix *K*- (51); and in the paradigms of the verbs 'to do or to make' and 'to say', both with a suffix -*K* (52):

(51) ***K**empa* 'she carries/takes'
***K**omua* 'she wants'

(Suárez 1977:33, 37)

(52) *pa**K**á* 'she says'
*quere **K**á* 'she does/makes'

(Suárez 1977:27, 43)

[22] The /-an/ in this form is a suffix: compare *edɨ* 'to see' and *edanɨ* 'to watch'.

[23] The /-aw/ in this form is a suffix: compare *diʃɨ* 'to wash' and *diʃawɨ* 'to wash oneself'.

[24] The Mako and Piaroa words are composite: e.g, in Mako *mɨ̃* 'high' + *lẽhẽ* 'soil, ground' and see the Piaroa word for 'land' in (28) (**3.2**). The word *sẽxẽ* in Sáliba also means 'soil, ground' according to Estrada Ramírez (2012:542).

[25] The Sáliba form seems to not be cognate with the Piaroa and Mako form, but the focus here is on the *hu* : *hu* : *xu*, a cognate suffix in all three languages that is used to indicate 'feminine'.

Furthermore, this <*K*> could be argued to be aspirated or at least somehow different from a plain (unaspirated) voiceless velar since the orthography employed by the author of this grammar already uses the Spanish spelling for a voiceless velar stop <*c*> or <*qu*>[26] in other lexical items; for example, in the first syllable of the verb 'to do/make' in (52). Synchronic variation in Piaroa lends support to the idea of fricativization of the Proto-Sáliban aspirated voiceless velar stop: this consonant is allophonically "released with an especially noisy quality, occasionally approaching a voiceless velar affricated stop [kˣ] or, in allegro speech, a voiceless velar fricative [x]" (Krute 1989:44).

A reconstructed **kʰ* for Proto-Sáliban and the fact that its Mako reflex is *h* help to explain the fact that in Piaroa the 3SG.FEM prefix is *kʰ*- but the suffix is *-h*. This could be the result of a language internal sound change (that Mako took a step further and applied to word-initial contexts as well).

For the sound correspondences *t* : *d* : *d* (1SG, suffix set) and *d* : *t* : *t* (1PL, prefix set and suffix set), the lexical evidence in the word lists examined is more robust, as shown in (53) and (54).

(53) *t* : *d* : *d* (1SG, suffix set)

MAKO	PIAROA	SÁLIBA	
[t̲ebo]	[d̲eʔa]	—	'woods'
[t̲ubi]	[d̲uaʔa]	/d̲ua/	'hot' [27]
[t̲ijua]	[d̲ijawaʔa]	/d̲ia/	'cold'
[t̲i]	[d̲i]	/ãd̲iha/	'who?'
[t̲ahi]	[d̲æhe]	/ãd̲aha/	'what?'
[t̲owi]	[d̲au]	—	'tree'
[it̲ebia]	[ʧid̲epæ]	/d̲ea/	'meat'
[bit̲e]	[pid̲e]	/pid̲i/	'this'
[omukʷat̲i]	[amukʷæd̲i]	—	'to think'
[ot̲iwaɲõ]	[ad̲iwaʔa]	—	'good'
[ɲĩt̲e]	[jɤd̲ɤ]	—	'night'
[hãmat̲i]	[kʰãmad̲ĩ]	—	'to stand up'
[ot̲idɨ]	[ad̲itɨ]	—	'to work'
[et̲ekʷawɨ]	[ed̲ẽku]	—	'to vomit'

(fieldwork; Mosonyi 2000:666–68; and Estrada Ramírez 2000:700–702)

[26] The data in the eighteenth-century grammar reproduced in Suárez (1977) follows Spanish spelling conventions. For readers unfamiliar with Spanish consonant spelling conventions, the sequences <ca>, <co>, <cu> and <que>, <qui> and <ga>, <go>, <gu> and <gue>, <gui> represent the Spanish voiceless and voiced velars (respectively) plus a vowel; a <j> is always used for the glottal voiceless fricative /h/; and a <ch> is used for the voiceless affricate /ʧ/. Here, then, the <cu> possibly represents a /kʷ/ or a sequence /kw/.

[27] Possibly [duwobe] vs. [tũãʔã] vs. /dua/ 'red (yellow)' and [dẽwĩ] vs. [teaʔa] vs. /dea/ 'white' as well.

(54) *d* : *t* : *t* (1PL, prefix set and suffix set)

MAKO	PIAROA	SÁLIBA	
[d̲ena]	[t̲ɤ]	/t̲enaha/	'where?'
[id̲i]	[hʷat̲i]	—	'they'
[id̲i]	[ɤt̲ɤ]	/ot̲o/	'far'
[otid̲i]	[adit̲i]	—	'to work'

(fieldwork; Mosonyi 2000:666–68; and Estrada Ramírez 2000:700–702)

[d̲uwo]	[t̲uwa]	—	'paca (*Cuniculus paca*)'

(fieldwork; Zent n.d.:2; and —)

As shown in **3.1–3.3** above, all three Sáliban languages employ both prefixes and suffixes to mark the animate subject of a verb, which allows the division of the verbs in each of the languages into two verb classes (Class I for verbs that take prefixes and Class II for those that take suffixes). Additionally, and as shown in this section, the subject markers are all cognate and, therefore, the reflex of an older system, i.e., the Proto-Sáliban system. These two facts allow positing that these two verb classes were already present in Proto-Sáliban, but further evidence needs to be marshaled to support this claim. I hypothesize that if the Class II verbs were already present in the proto-language, the *-b* suffix in the Mako non-finite form of the verbs should also be reconstructible. I proceed to the reconstruction of this marker and two verb classes for Proto-Sáliban in the next section.

3.5. Reconstruction of the Proto-Sáliban verb classes. As shown in **3.1**, the Mako Class II verbs take a *-b* suffix in the non-finite form and this suffix is "substituted" in the finite forms with the animate subject suffixes. In Piaroa, however, what gets "substituted" in the non-finite form is the glottal stop (see discussion in **3.2** regarding the non-finite form of 'to say' *pæʔɨ*). Mosonyi (2000:666–68) offers a few other verbs with an intervocalic glottal stop in their non-finite form as part of his elicited Swadesh list. I show in (55) the Mako cognates for four of them—all of which show the correspondence *b* : *ʔ*—and show with the last two etyma that the corresponding sound in Sáliba is a *p*.

(55) Cognate verbs

MAKO	PIAROA	SÁLIBA	
[kɨb̲ɨ]	[kɤʔ̲i]	—	'to fly'
[ab̲ɨ]	[æʔ̲i]	—	'to sleep'
[hib̲ebɨ]	[kʰiʔ̲opu]	—	'to push'
[pʰub̲ɨ]	[pʰuʔ̲u]	/hupe/	'to blow'
[tsub̲ɨ]	—	/supe/	'to spit'

(fieldwork; Mosonyi 2000:666–67; and Estrada Ramírez 2000:700–702)

There is also lexical evidence for this correspondence outside of the verb system; said evidence supports the claim that *p* is the corresponding Sáliba sound of Mako intervocalic *b* and Piaroa *ʔ* (56):

(56) *b* : *ʔ* : *p* (word-medially)

MAKO	PIAROA		SÁLIBA
[tʰi**b̲**ahale]	[ʧĩ**ʔ̲**æhæɾe]	/**p̲**ahute/	‘eye’
[te**b̲**o]	[de**ʔ̲**a]	—	‘woods’
[ĩn̥ã**b̲**ũ]	[æ**ʔ̲**u]	/seba**p̲**u/	‘flower.CL’ [28]

(fieldwork; Mosonyi 2000:666–68; and Estrada Ramírez 2000:700–702)

[ki**b̲**o]	[ku**ʔ̲**a]	/ku**p̲**o/	‘alligator’

(fieldwork; fieldwork; and Estrada Ramírez 2000:683)

The question remains whether the *p* in the Sáliba verb forms in (55) can be shown to be a separate morpheme and, if so, whether such a morpheme adds a non-finite meaning to the verb form in which it occurs. The non-finite form of the Sáliba verb has not been investigated in depth (Estrada Ramírez, personal communication, 2013). However, Morse and Frank (1997) give a few examples of non-finite verb forms with a *p* marker that they call “sustantivizador” [nominalizer].

(57) ɸé–**p**–ad–o
sweep–**NOM**–sweep–FEM

‘she who sweeps’ (Morse and Frank 1997:37)

(58) ɸé–**p**–ad–e
sweep–**NOM**–sweep–MASC

‘he who sweeps’ (Morse and Frank 1997:37)

(59) ɸé–**p**–ad–aʔdu
sweep–**NOM**–sweep–PL

‘they who sweep’ (Morse and Frank 1997:37)

This evidence supports the existence of a suffix in the non-finite form of the Proto-Sáliban Class II verbs, whose form I posit to be **-p*. The evidence in support of the voiceless bilabial stop as the proto-form for this suffix comes from the regular sound correspondence between the three languages and from the voicing contrast in the correspondences *t* : *d* : *d* and *d* : *t* : *t* discussed and exemplified above.

The regular sound correspondence for the Class II non-finite verb form marker in the present-day Sáliban languages is *b* : *ʔ* : *p*, but this does not hold word-initially. As the following examples show, the correspondence is *b* : *p* : *p* word-initially.

(60) *b* : *p* : *p* (word-initially)

MAKO	PIAROA	SÁLIBA	
[**b̲**ãĩ]	[**p̲**ʏĩ]	/**p̲**ahĩdi/	‘fish’

[28] The first part of these forms seems not to be cognate, but the focus here is on the *bu* : *ʔu* : *pu*, a cognate classifier in all three languages.

[**b̲**ena] [**p̲**ene] /**p̲**ena/ ‘here’
[**b̲**ite] [**p̲**ide] /**p̲**idi/ ‘this’
(fieldwork; Mosonyi 2000:666–68; and Estrada Ramírez 2000:700–702)

If the correspondences *t* : *d* : *d* and *d* : *t* : *t* in (53) and (54) above are considered alongside the *b* : *p* : *p* correspondence in (60), a **p* seems to be justified as the proto-form for the Class II non-finite form ‘placeholder’ suffix.[29]

4. Conclusions. As discussed in **2**, the Sáliban languages have been variably classified in the literature, but there seems to be a consensus for the inclusion of three languages in the family: Sáliba, Piaroa, and Mako. This consensus rests on the evidence supplied by Rivet (1920), Loutkotka (1949), and Estrada Ramírez (2008; 2012) and perhaps to a lesser extent on Humboldt (1824), Koch-Grünberg (1913), and Hammarström (2011). All these authors, however, have only pointed out resemblances among items in short word lists, and no regular sound changes have been identified nor has any reconstruction (lexical or grammatical) been done to date, which arguably has led some to not recognize the genetic link between these languages (e.g., Mosonyi [2003:103ff.] says the languages are unclassified and Aikhenvald [2012:123] treats Sáliba and Piaroa as isolates).

However, the investigation of the subject-marking system of these languages presented here, based on recently published sources for Sáliba and Piaroa and on fieldwork data for Mako, shows that there are two distinct classes of verbs (Class I and Class II) in all three languages and that these classes can be distinguished based on the existence of two distinct slots for marking a (human) animate subject: one prefixal (Class I), the other one suffixal (Class II). Additionally, the prefix set of markers can also be used to mark nominal possession in all three languages. To this, we need to add the fact that both sets of affixes show clear sound correspondences in their initial consonants and that these correspondences are the product of regular sound changes and, therefore, reflexes of an older system, i.e., the system of a common ancestor to Sáliba, Piaroa, and Mako (=Proto-Sáliban).

The existence of these two distinct animate subject marker sets in Proto-Sáliban and the reconstruction of a proto-suffix for the non-finite forms of Class II verbs, i.e., **-p*, show that the two verb classes were also part of Proto-Sáliban.

[29] More research is needed here, but I hypothesize that Mako underwent a voicing sound change that affected all of its voiceless stops including the glottalic ones (except for /k/), whereby Proto-Sáliban /p/ > /b/, /t/ > /d/, /p’/ > /ᵑb/, /t’/ > /ᵑd/, and /ʧ’/ > /ᵑʤ/. This in turn must have affected the former voiced stops /b/ and /d/, which then turned into /p/ and /t/ to preserve their “distinctiveness.” A systematic lexical comparison between the three languages will shed light on this hypothesis.

The facts that (1) complete paradigms, and especially person paradigms, are among the least likely grammatical phenomena to be borrowed cross-linguistically—thus constituting one of "the surest indicators of a genetic relationship" (Dixon 1997:22)—and (2) the system of verbal animate subject markers reconstructed here is idiosyncratic enough to not be easily explainable as the product of borrowing/diffusion provide undeniable support for the "relatedness" of the Sáliban languages.

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