

## Obscure cognates and lexical reconstruction: notes on the diachrony of the Xinguan Arawak languages

### Cognatos obscuros e reconstrução lexical: notas sobre a diacronia das línguas arawak xinguanas

Fernando O. de Carvalho

Museu Nacional, Universidade Federal do Rio de Janeiro (MN/UFRJ), Rio de Janeiro, RJ, Brasil

**Abstract:** The present paper discusses evidence supporting the claim that the common Xinguan Arawak noun for 'hand', *\*wiʒiku*, is a shared lexical innovation of this subgroup and that, in addition, a formation for 'finger' derived from a nominal compound with the roots for 'hand' and 'head', *\*kapi-tiwi*, sets Waurá, Mehinaku and Kustenaú apart from other languages of the family, including Yawalapiti. The reconstructed Proto-Arawak etymon for 'hand', *\*kʰapi*, is preserved in the Xinguan Arawak languages only in the form of obscure cognates, instantiating interesting developments in lexical semantics as well as a relatively uncommon sound change in Yawalapiti. The discussion incorporates and addresses the historical linguistic significance of the earliest documentation of the Xinguan Arawak languages, the material gathered by Karl von den Steinen in 1887-1888. The analyses and data discussed highlight serious shortcomings in some of the reconstructed forms and diachronic developments advanced by Payne (1991), such as the postulation of a shift *\*a > i* in Waurá and the reconstruction of syllable-final *\*h* for the Proto-Arawak language, one of the most controversial aspects of his comparative study.

**Keywords:** Xingu. Arawak. Historical linguistics. Sound change. Diachronic Semantics.

**Resumo:** O presente artigo traz evidências em favor da hipótese de que o termo Xinguan para 'mão', *\*wiʒiku*, constitui uma inovação lexical compartilhada pelas línguas deste ramo da família Arawak e, ainda, que formações para 'dedo', envolvendo a composição das raízes nominais para 'mão' e 'cabeça', *\*kapi-tiwi*, colocam o Waurá, o Mehinaku e o Kustenaú à parte de outras línguas da família, incluindo o Yawalapiti. O étimo *\*kʰapi* 'mão', reconstruído para o Proto-Arawak, apresenta cognatos obscuros nas línguas Arawak do Xingu, instanciando desenvolvimentos interessantes na semântica lexical e uma mudança sonora relativamente pouco comum no reflexo atestado em Yawalapiti. O trabalho inclui uma apreciação dos dados das línguas Arawak do Xingu coletados por Karl von den Steinen na sua expedição de 1887-1888. Em nível mais geral, se propõe aqui a modificação ou a rejeição de certas afirmações feitas por Payne (1991) a respeito de desenvolvimentos diacrônicos, como a postulação de uma mudança *\*a > i* em Waurá, e a reconstrução de *\*h* em posição final de sílaba, um dos aspectos mais controversos do seu trabalho de reconstrução comparativa.

**Palavras-chave:** Xingu. Arawak. Linguística histórica. Mudança sonora. Semântica diacrônica.

---

CARVALHO, Fernando O. de. Obscure cognates and lexical reconstruction: notes on the diachrony of the Xinguan Arawak languages. **Boletim do Museu Paraense Emílio Goeldi. Ciências Humanas**, v. 11, n. 1, p. 277-294, jan.-abr. 2016. DOI: <http://dx.doi.org/10.1590/1981.81222016000100014>.

Autor para correspondência: Estrada Washington Luís 609, casa 73, Sapê, Niterói - Rio de Janeiro. CEP: 24315375 (fermaoorphao@gmail.com).

Recebido em 07/12/2015

Aprovado em 30/03/2016



## INTRODUCTION

The goal of this contribution is to discuss some phonological and lexico-semantic developments in the Xingu subgroup of the Arawak language family. The arguments and data featured here bear directly on the historical development of the three extant languages forming this group – Waurá, Mehinaku and Yawalapiti – though I will, on occasion, address issues of significance to the historical linguistics of the Arawak family at large<sup>1</sup>.

After a brief and selective outline of the classification of the Xingu Arawak languages in the next section, I will start off discussing the fact that these languages agree in that they lack a semantically-matched reflex of a Proto-Arawak (henceforth, PA) reconstructed etymon, *\*kʰapɨ* ‘hand’ (see Payne, 1991, p. 407). Next, I show that a form *\*wiʃiku* ‘hand’ can be reconstructed for the Proto-Xingu (PX) language, and this is argued to be a lexical innovation of the Xingu branch, replacing *\*kʰapɨ* in its original function (defined grossly by a particular semantic slot in vocabulary lists). However, in order to backup the claim that this constitutes a Xingu-specific lexical innovation I will first examine and ultimately reject Payne’s (1991) proposed derivation of this innovative form from a different PA etymon and, in doing so, I will suggest improvements to some of the PA reconstructions presented by Payne (1991). PA *\*kʰapɨ* is, however, preserved in the form of (slightly) obscure cognates in the languages of the Xinguan branch. This claim is backed up, in the formal side, by a consideration of general sound changes characteristic of these languages (some of which are discussed in detail in Carvalho, in press) and, in their semantics, by a consideration of parallel shifts attested cross-linguistically. A more encompassing picture of the Xingu Arawak languages will also be provided, as I discuss their earliest attestations in the form of vocabulary data collected by Karl von den Steinen between 1887 and 1888 (published in 1894), of particular relevance for the material on the already extinct Kustenaú language. In a final section I provide a synthesis and discuss some conclusions and implications of the claims presented in the paper.

## THE XINGU SUBGROUP OF THE ARAWAK LANGUAGE FAMILY

Though neither an extensive lexical reconstruction nor a phonological proto-system has been proposed for the Proto-Xingu (PX) language, it is commonly accepted that the extant languages of this branch, Mehinaku, Waurá and Yawalapiti, form a (cladistic) subgroup. Mehinaku and Waurá are basically co-dialects of the same language and it seems that the extinct Kustenaú (Kustenu, Custenu) language fits in this Mehinaku-Waurá cluster as well (see Seki, 1999, p. 419; Corbera Mori, 2012, 2015). At a slightly higher level of phylogenetic inclusiveness, Paresi seems to join the Xingu branch in a Paresi-Xingu subgroup. This proposed internal grouping has been based so far almost exclusively on geographic factors, cultural similarities between these groups and impressionistically-assessed degrees of linguistic proximity, though somewhat more objective (though not necessarily helpful) estimates based on shared lexical retentions have been advanced as well (see Payne, 1991; Urban, 1992; Aikhenvald, 1999, p. 67; Franchetto, 2001). I am currently engaged in a historical-comparative investigation of the (Paresi-)Xingu branch and some evidence stemming from this work, and from the investigations of other researchers as well, suggest lexical and phonological innovations – some of which will

<sup>1</sup> A note is necessary on the sources of data for this study. For Mehinaku I counted on the recent papers by Corbera Mori (2007, 2008, 2009, 2011, 2012). For Waurá, the data comes from Postigo (2011, 2014) and, to a lesser extent, from Richards (1973, 1988). Finally, for Yawalapiti, the consulted sources are Mujica (1992) and Bondim (1976 [see note 11]). The latter consists of two unpublished notebooks with copious fieldwork material. The notebooks are archived at the Centro de Documentação de Línguas Indígenas (CELIN), of the Museu Nacional, Universidade Federal do Rio de Janeiro (MN/UFRJ), under the auspices of Lourdes Cristina, to whom I am thankful.

be discussed here for the first time – that might support the recognition of this internal classification. These are given below in a simplified cladogram and a related character state distribution.

The characters (a) to (d) in Figure 1 are binary characters, each defining a property that is either present '1' or absent '0'. In this very simplified tree constructed for expositional purposes, each stroke in the tree indicates an innovation '0 ⇒ 1' (that is, all characters are assumed to be in state '0' at the root of the tree). Character (a) describes a language having different vowels in second and third person prefixes - \*i and \*ɨ respectively. In Carvalho (in press) I propose tentatively that this may be a shared innovation of the Paresi-Xingu subgroup<sup>2</sup>. Characters (b) and (c) are discussed in the present paper. Character (b) consists in the presence of a form \*wiɣiku for 'hand', which seems to constitute a lexical innovation of the Xingu subgroup, while character (c) refers to the existence of a nominal compound of the roots for 'hand' and 'head' to convey the meaning for 'finger'. Finally, character (d) consists of the development PA \*-tʃi > -i for the Absolute suffix reconstructed by Payne (1991), plus some consequent morphophonemic developments, as discussed in Carvalho (2015).

Figure 1 does not indicate diachronic developments that are restricted to particular terminal taxa. These, though relevant to a complete understanding of the history of these languages, are uninformative as far as internal classification is concerned. In Carvalho (in press) I discuss some of these developments, such as \*p > h and \*ɨ > e in Paresi, the merger of \*ɨ and \*i in Yawalapiti and the lexical innovation of kuɣu for 'head' in Yawalapiti. In the remainder of the paper my attention will be focused on characters (b) and (c), as well as in the Xinguan reflexes of a particular etymon reconstructed for the PA ancestral language by Payne (1991). Data on the extinct Kustenaú language will be addressed sparingly, as only limited data is available (see von den Steinen, 1894, p. 529-530, for the original data and Corbera Mori, 2008, 2015 for some considerations about von den Steinen's material).

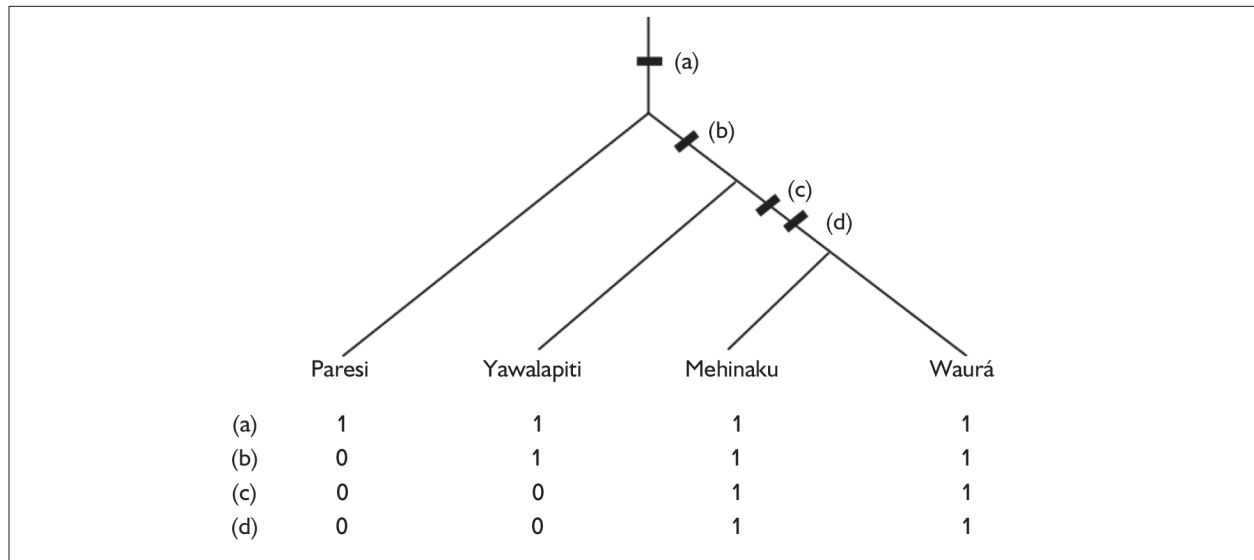


Figure 1. Tree diagram and character-state distribution for the Paresi-Xingu languages.

<sup>2</sup> A more refined classification would include the extinct Saraveka language and Enawenê-Nawê as speech varieties that are especially close to Paresi (Aikhenvald, 1999, p. 67), perhaps with all three having the status of co-dialects of one and the same language.

## OBSCURE COGNATES, LEXICAL SUBSTITUTION AND SEMANTIC SHIFTS

In comparative lists of ‘basic vocabulary’ for Arawak languages, the forms recorded for the Xinguan languages (*i.e.* Waurá, Mehinaku, Kustenaú and Yawalapiti) which appear in the meaning slot for ‘hand’ look utterly unrelated to the form attested in most languages of the family (see for instance Ramirez, 2001a, p. 619, for 100-item Swadesh lists). The widespread, non-Xinguan, forms are analyzed by Payne (1991, p. 407) as the reflexes of a PA etymon *\*k<sup>h</sup>api*. An impression of the overall distribution of the attested forms and the distinct character of those attested for the Xinguan languages is offered by a simple perusal of Table 1 below.

I have included languages from almost every currently accepted or tentatively proposed subgroup of the Arawak family, including extinct languages of the central Amazon and Solimões area whose forms for ‘hand’ can be straightforwardly interpreted as compatible with the proto-form reconstructed by Payne (1991)<sup>3</sup>. The list in table 1 is also the first one to include data from Yawalapiti, the most divergent of the Xinguan Arawak languages.

In the languages showing forms relatable to PA *\*k<sup>h</sup>api* (*i.e.* all languages other than Mehinaku, Waurá, Kustenaú and Yawalapiti), deviations from the postulated proto-form are relatively well-understood, at least in the sense that regular developments explain the important deviations<sup>4</sup>. Thus, debuccalization of *\*k<sup>h</sup>* and *\*p* to *h* are regular developments in Wayuunaiki and in Paresi, respectively. Likewise, *\*p* > *h* regularly applies in Achagua preceding a high vowel (see Payne, 1991, p. 434, 442; Ramirez, 2001a, p. 449 for the evidence). For Baniva, there is independent evidence for the regular loss of PA *\*k/\*k<sup>h</sup>* seen in *-api* ‘hand’. See, for instance, PA *\*k<sup>h</sup>iba* > *íipa* ‘stone’; *\*ka-* ‘attributive’ > *a-* (see Mosonyi, 2000, p. 503, 512 for the Baniva forms, Payne, 1991, p. 377, 419 for the PA reconstructions). Other Arawak languages show forms not plausibly relatable to *\*k<sup>h</sup>api* and for this reason have not been included in table 1 (*e.g.* Yucuna *-játe?ela* (Schauer *et al.*, 2005, p. 217); Iñapari *-mujú* (Parker, 1995, p. 52); Proto-Amuesha-Chamicuro *\*-ti* (Parker, 1991, p. 182). Since this paper is focused on the Xingu branch of the Arawak family, I will have nothing else to add on these languages. I will come back, however, to forms for ‘hand’, ‘arm’ or ‘shoulder’ related to Campa *-Bako/-ako* (Heitzman, 1973), as these feature in one proposal to incorporate the Xingu Arawak items in a family-wide cognate set.

Assembling a number of cognate sets such as the one presented in Table 1 constitutes the natural starting point for a vocabulary-based method of lexical and phonological reconstruction like the comparative method. A crucial property of such cognates sets is their constitution around a common meaning or semantic label (see *e.g.* Wilkins, 1996), producing what Koch and Hercus (2013, p. 34) call ‘s-cognates’, stressing their ‘semantically-matched’ nature. Though reliance on such semantically-matched cognate sets is a natural feature of the beginnings of comparative work on a given linguistic

<sup>3</sup> In the case of the extinct languages, the (plausible) morphological analysis of the forms in terms of a 1sg prefix and a root is found in Martius (1867). In the case of Kustenaú, I follow Corbera Mori (2015) in recognizing the same morpheme, even though this is not explicitly indicated in the von den Steinen (1894) vocabulary. All the body part terms occur in the Kustenaú vocabulary with this prefix, making its identification unequivocal.

<sup>4</sup> There are two categories of exceptions to this claim. The first and most obvious concerns the ‘fragmentary’, poorly attested and extinct languages. Cognacy assessment here cannot plausibly progress beyond an impressionistic judgment. The second issue concerns vowel length, a poorly understood phenomenon in Arawak. This is the case not only synchronically, vocalic duration being of uncertain phonological status in many languages (see *e.g.* the remarks on Achagua in Meléndez Lozano, 2000, p. 626) but also, and perhaps more acutely so, historically (see the discussion in Payne, 1991). For Wapixana *\*p* > *ʔ* the situation is not totally clear. Ramirez (2001a, p. 526) postulates this as ‘an innovation’ of Wapixana *vis-à-vis* Proto-Arawak, though Payne (1991, p. 434) reports *\*p* > *p<sup>h</sup>* as a more frequent outcome in the language. Since the authors disagree on basic descriptive matters concerning Wapixana (see *e.g.* Ramirez, 2001a, p. 450), this issue remains open. Finally, note that Wayuunaiki is called ‘Guajiro’ in Payne (1991), a label nowadays rejected by its speakers, the Wayuu people.

Table 1. Forms for 'hand' in diverse Arawak languages.

Language	Form	Source
Mehinaku	<i>wiʃiku</i>	Corbera Mori (2011, p. 208)
Waurá	<i>wiʃiku</i>	Postigo (2014, p. 235) <sup>5</sup>
Yawalapiti	<i>wiriku</i>	Mujica (1992, p. 21, 38)
Kustenaú	< <i>nuiriko</i> >	von den Steinen (1894, p. 529)
Baniwa	<i>-káapi</i>	Ramirez (2001a, p. 698)
Achagua	<i>-káhi</i>	Meléndez Lozano (2011, p. 101)
Piapoco	<i>-káapi</i>	Klumpp (1995, p. 137)
Wayuunaiki	<i>-hapi</i>	Captain and Captain (2005, p. 76)
Maipure	< <i>càpi</i> >	Zamponi (2003, p. 76)
Wapixana	<i>-kaʔi</i>	Santos (2006, p. 97)
Lokono	<i>-kʰabo</i>	Pet (1987, p. 17)
Paresi	<i>-kahe</i>	Brandão (2014)
Baniva	<i>-apî</i>	Mosonyi (2000, p. 511)
Mariaté	< <i>ghapy</i> >	Martius (1867, p. 267)
Wainuma	< <i>no-gaápi</i> >	Martius (1867, p. 247)
Cauixana	< <i>na-gábi</i> >	Martius (1867, p. 258)

family, the natural progression in our understanding of the historical development of a group of languages calls for the identification of so-called 'obscure cognates' (semantically deviant cognates), for which cognacy can be established or at least plausibly claimed on the basis of formal (phonological, morphological) factors while prompting us at the same time to judge the effects of lexical semantic change. As Koch and Hercus (2013, p. 34) note:

Such reliance on strict synonymous cognates is useful as the first step in language comparison (...) But for the further goals of comparative linguistics – describing the totality of historical changes affecting the languages, working out the genealogical relationship between the languages, and presenting the complete etymological evidence that justifies these historical relations – it is necessary to go beyond the s-cognates.

That lexical semantic change offers potential obstacles to cognate identification has been known for a long time, especially by those who insisted on the advantages of fixed meaning lists (basic vocabulary lists) for carrying out comparative work (cf. Wilkins, 1996, p. 264-265; Koch, 2003, p. 273). A situation such as the one described in table 2 – where one or more daughter languages lack a clear (that is, semantically matched) reflex of a reconstructed etymon – suggests the possibility of finding an obscure cognate elsewhere in these languages (see also Szemerényi, 1977, p. 315; Koch, 2003). In this particular case, a semantically-matched reflex of PA *\*kʰapi* seems to be absent from the Xingu Arawak languages. Moreover, the fact that these languages, otherwise taken to be part of one and the same subgroup, have (apparently) replaced this patrimonial etymon with the 'same form' (i.e. one plausibly derived from a Proto-Xingu form)

<sup>5</sup> Postigo (2014, p. 235) presents a phonetic form [*wiʒi'kuwi*]. The final [i] is the Absolute suffix, preceded by a phonetic, transitional glide homorganic to the root-final vowel. [ʒ] and [ʒ̣] alternate word-medially in Waurá (Postigo, 2014, p. 80).

attaches further interest and relevance to this issue. I will propose here that there are indeed interestingly obscure reflexes of PA *\*k<sup>h</sup>api* in the Xinguan languages and that the innovation of *\*wiʒiku* for 'hand' may be advanced as a plausible shared lexical development of this branch. Before proceeding, however, I will comment on a flawed attempt to derive the form for 'hand' attested in the Xinguan languages from another PA etymon.

### A MISGUIDED ACCOUNT OF WAURÁ *wiʒiku*

Payne (1991, p. 393) includes the Waurá form *wiʒiku* 'hand' in a cognate set for which the gloss 'Arm (Hand, Shoulder)' is provided. In spite of the shortcomings of this proposal, which, as I show below call for the removal of the Waurá form from this cognate set, it is still an important finding that items with a widespread distribution throughout the family, appearing in particular languages with different meanings, likely go back to a single PA etymon. Some of the relevant forms are presented in Table 2.

I list only four forms, as these belong to widely separated Arawak languages, far apart from each other in extant classifications of the family as well as in geographic terms, and in this sense suffices to strongly suggest that a form such as *\*-wako* can be reconstructed for PA<sup>6</sup>. The shift *\*a > o* and the weakening of *\*k* to a glottal or zero are general, context-dependent developments in Terena (and to a certain extent also in Baure and the Mojeño dialects, its closest relatives), though the precise specification of the conditioning factors remains elusive. As for the two back vowels appearing in reflexes of the last syllable, Payne (1991) reconstructs for PA an opposition between *\*o* and *\*u* noting, however, that this opposition was lost in most daughter languages (see Payne, 1991, p. 440-441, 472, 476-478 on these points).

Payne (1991) includes Waurá *wiʒiku* in this cognate set, and reconstructs a PA form *\*-wahku*, where the aspirate's *\*h* only function is that of accounting for the *-ʒi-* syllable of the Waurá reflex (as well as for a syllable final *h* in Chamicuro, though Parker (1991, p. 178) does not reconstruct this glottal aspirate for Proto-Amuesha-Chamicuro). This move, however, creates insurmountable problems. First and foremost, the mapping *\*h > ʒi* is phonetically implausible and can be dismissed unless compelling independent evidence for this hardening process in the history of Waurá could be provided – but this is not the case. Second, the correspondence involving the vowels in the first syllable is equally suspect. Payne (1991, p. 473) lists this form as providing evidence for PA *\*a > i* in Waurá, though the environment for this change is presented by the author as *\*w\_\_hk*, which, in spite of the phonological formulation, is so parochial

Table 2. Proposed cognate set for *wiʒiku* (after Payne, 1991).

Language	Form	Meaning	Source
Apurinã	<i>-wako</i>	'hand'	Facundes (2000, p. 649)
Terena	<i>-woʔu</i>	'hand'	Silva (2013, p. 257)
Palikur	<i>-waku</i>	'hand'	Launey (2003, p. 78)
Nomatsiguenga	<i>-bako</i>	'hand'	Shaver (1996, p. 281)

<sup>6</sup> I have chosen Nomatsiguenga as a representative of the Campa group in this case for it retains a more conservative form of this item, contrasting with other Campa languages/dialects where the root-initial consonant was lost (see Heitzman, 1973, p. 73). Note that there is in this language a seemingly morphologized alternation *b ~ p* in nouns like 'hand', which therefore appears as *-pako* in other contexts (see Shaver, 1996, p. 27). As to the degree of separation between these languages, Nomatsiguenga and Apurinã could be seen as relatively closer, to the extent that one believes in a version of the 'Pre-Andine' hypothesis that would join Campa and Piro-Apurinã-Iñapari in a single higher-level branch. Though I find this proposal worth looking at, there is no published evidence or argumentation on its behalf. See Payne (1991, p. 366) and Michael (2008, p. 212, fn. 1), for comments.

(and lacking in phonetic motivation) that we end up having an item-specific, sporadic development. The other form presented as supporting the postulation of a development *\*a > i* in Waurá is the form for 'brother in law (of male)' for which Payne (1991, p. 397) offers the following cognate set:

(1) Cognate set for 'Brother in Law (of Male)' in Payne (1991)

	a	n	i	[li]	Proto-Arawak
[pih]	i	n	e		Waurá
	a	n	a		Baure
h	a	n	i	(ri)	Piro
	a	n	i		Machiguenga
	a	n	i	(ri)	Ashéninka

I have retained Payne's (1991) presentation of etymologies with vertically aligned segments, designed to 'make explicit what the correspondences are' (Payne, 1991, p. 390) in order to be clear on what I take to be the shortcomings of his proposal. First of all, an alternative account to the postulation of PA *\*a > i* in Waurá would ascribe the diachronic correspondence *\*a > i* in *\*ani > pihine* to the effect of contextual harmony (*\*pihane > pihine*), a process seen in many 'free variants' attested in both Mehinaku and Waurá such as [iniša] ~ [eniša] 'man' and [tinišu] ~ [tenišu] 'woman'. If this is the case, it is hard to see how this form and *\*wahku > wišiku* could be described as supporting or instantiating one and the same development, unless additional, independent hypotheses are invoked, something that would make the burden of proof even heavier for Payne's proposed etymology. Most important, though, is the fact that it is far from clear that Waurá *pihine* fits in (1) as a *bona fide* cognate to forms such as Machiguenga *ani* 'brother in law' and Ashéninka *aniri* 'brother in law', all presumably reflexes of PA *\*ani*. Payne's (1991, p. 473) factoring out of the sequence [pih] in the Waurá form (and in other cases as well) reflects a presumed independent morphemic status for the sequence in question, "even if no information on the primary sources supports this assumption" (see Payne, 1991, p. 390-391). As it happens, this is completely unmotivated in the Waurá case and no justification for this is offered at any point in Payne's text<sup>7</sup>. Wrapping up the discussion, there is no independent support for the *\*a > i* shift required to derive *wišiku* from putative PA *\*wahku*.

I conclude, therefore, that Payne's (1991) postulation of a development *\*a > i* in Waurá and, more generally, his claim that Waurá *wišiku* goes back to PA *\*wahku*, are untenable, as the latter claim, in particular, demands the acceptance of phonetically implausible and *ad hoc* developments. Two implications of broader interest to the historical linguistics of the Arawak family follow from this. The first is that the PA etymon Payne (1991, p. 393) gives as 'Arm2 (Hand, Shoulder)' is better reconstructed as *\*waku*, thus eliminating one instance of the controversial syllable-final *\*h* he attributes to PA (see Payne, 1991, p. 455). An additional consequence is that, once we recognize that *wišiku* is not a reflex of a patrimonial, PA etymon, it may be considered an innovation characteristic of the Xingu subgroup. This is the topic of the next section.

<sup>7</sup> I would suggest *-tāi* 'son' as a much more plausible reflex of PA *\*ani* in the Xinguan languages. The loss of nasal stops with subsequent vowel nasalization is a general development in Waurá (Payne, 1991, p. 449, 457; Carvalho, 2015). Elsewhere in the family a form likely derivable from *\*ani* also occurs meaning 'son/daughter' (e.g. Maipure *-āni*; Zamponi, 2003, p. 78; Baniva *-tāni*; Álvarez and Socorro, 2002, p. 120). The initial *t* in the Waurá and Baniva calls for an explanation, though.

### ON PROTO-XINGUAN *\*wiʒiku*

Of the three extant members of the Xingu branch of the Arawak family, only Waurá was sampled in Payne's (1991) comparative study. Though data on Mehinaku has appeared elsewhere (see Ramirez, 2001a, p. 619) no data on Yawalapiti has so far been considered, therefore precluding any systematic comparative study. Nevertheless, given the forms Waurá/Mehinaku *wiʒiku* and Yawalapiti *wiriku*, it is possible to reconstruct a Proto-Xingu (PX) form that is virtually identical to the form used by Payne (1991). As noted in Carvalho (in press), Yawalapiti innovated by merging *\*ɨ* and *\*i* as *i*, and the association of rhotic consonants with some degree of frication is a synchronic implementation rule in Yawalapiti, aside from being a recurrent feature of Arawak languages (see e.g. Santos, 2006 on Wapixana; Meléndez Lozano, 2011, p. 3 on Achagua and Captain and Captain, 2005, p. 8 for Wayuunaiki). Comparative data also support the equation of the Yawalapiti rhotic with a fricative in the other languages, as in M (ehinaku) *keʒi* : Y (awalapiti) *kiri* 'moon'; M *matukɨʒi*: Y *matukiri* 'father-in-law'<sup>8</sup>. The evidence for this merger in Yawalapiti and, therefore, for the derived character of the high front vowels in *wiriku* is made clear by the existence of two regular segmental correspondences (Tables 3 and 4)<sup>9</sup>.

Based on the correspondences in tables 3 and 4, reconstructing a merger in Yawalapiti is the reasonable implication, as no pattern of complementary distribution in Mehinaku/Waurá calls for the postulation of a split in these languages. Therefore, a form such as *\*wiʒiku*, with high central vowels as in Mehinaku/Waurá, is the probable reconstruction for the PX ancestral language.

The Kustenaú form *<nuiriko>* (cf. von den Steinen, 1894, p. 529) was plausibly analyzed in Corbera Mori (2015) as *<n-uiriko>*, *<n->* standing for the 1sg prefix indicating possession. One might quibble that the consonantal

Table 3. Correspondence *i* : *ɨ*.

	Yawalapiti	Mehinaku/Waurá
'fish'	<i>kupati</i>	<i>kupati</i>
'sun'	<i>kami</i>	<i>kami</i>
'stone'	<i>tɨpa</i>	<i>tɨpa</i>
'blood'	<i>iʒa</i>	<i>ɨʒi</i>

Table 4. Correspondence *i* : *ɨ*.

	Yawalapiti	Mehinaku/Waurá
'cloud'	<i>ijipi</i>	<i>ijepe</i>
'snake'	<i>ui</i>	<i>uwi</i>
'feather'	<i>mapi</i>	<i>mapi</i>
'nose'	<i>tʒiʒi</i>	<i>kiri</i>

<sup>8</sup> In the data on the Xinguan Arawak languages collected by Karl von den Steinen in 1887-1888 one finds evidence of this fluctuation between fricative and rhotic pronunciations, as in *<keʒi, kerɨ>* 'moon' for Waurá, *<enira, eniza>* 'man' for Kustenaú, *<repi, zepi>* 'bench' and *<unekira, unekiza>* 'port' for Mehinaku, *<nukuru, nukurʒu>* 'head' (actually, 'my head') and *<tezo, tero>* 'you (sg.)' for Yawalapiti (von den Steinen, 1894, p. 527-534).

<sup>9</sup> A thorough discussion of other patterns in the cognate sets in Tables 3 and 4 is to be found in Carvalho (in press). For instance, evidence shows that the word-final *ɨ* in the Mehinaku/Waurá form for 'blood' is the result of a recent innovation. Likewise, the forms for 'cloud' can be accounted for under the general change *\*e > i* that took place in Yawalapiti after the merger *\*ɨ, \*i > i*.



variant of person-number prefixes in Arawak languages, which normally have a CV- form, is usually selected in the context of vowel-initial roots only, so that a better approximation of the Kustenaú form would be something like <nu-uiriko>, the sequence of a back round vowel and a homorganic glide being suppressed in von den Steinen's transcription. Moving on to a more substantive issue, the vowels in <nuiriko> could suggest a change \*i > i in this language as well, similar to the merger that operated in Yawalapiti. Though Corbera Mori (2008, p. 33-34, 2015) assigns the value [i] to the symbol <ö> and [i] to <i> of the von den Steinen transcription system, on the basis of a comparison of the Kustenaú forms to modern Mehinaku/Waurá cognates, it is clear that the same kind of evidence shows that von den Steinen's transcription was not so systematic. Pairs like K (ustenaú) <n-utitai> : M (ehinaku) *n-utitai* 'my eye', K <nu-kapitíu> : M *nu-kapitiwi* 'my finger', K <kami>: M *kami* 'sun' and K <enira, eniza> : M *enisa* 'man', all show that <i> correspond at times to [i], not [i], in Mehinaku forms. More to the point, a comparison of Mehinaku forms assembled by von den Steinen (1894, p. 527-528) in the same expedition and modern Mehinaku forms demonstrates in a cogent manner the ambiguous phonetic value of his grapheme <i>: side by side with von den Steinen's Mehinaku <itsá> 'canoe' and <nukiri> 'nose' (cf. modern Mehinaku *itsa* and *nu-kiri*, respectively), one finds <kupati> 'fish' and <kerži> 'moon' (cf. modern Mehinaku *kupati* and *keši* 'moon'). I assume, therefore, that it is very hard to advance any definite statements concerning phonetic/phonological detail on the Kustenaú form for 'hand', except that it is obviously closer to \*wišiku than to the forms derivable from PA \*k<sup>h</sup>api.

The discussion so far has established that a form like \*wišiku can be reconstructed for the PX ancestral language and, given the comparative evidence presented in preceding sections, one may suggest that it has replaced the PA form \*k<sup>h</sup>api as the lexemic realization of the meaning 'hand'. This would constitute evidence for a lexical innovation characteristic of this branch, though a more systematic investigation is necessary to eliminate the possibility that cognates of PX \*wišiku are not found in other languages of the family, with a shifted or changed meaning/function. This would require careful bottom-up reconstruction within other branches of the Arawak family, something that is, for most branches, at best a near future prospect. Equally fruitful for this undertaking is an examination of the limited data available on already extinct languages, though the inherently limited and restricted nature of these materials places a rather strong constraint on evaluations of this hypothesis. In the meantime, I note Apolista <-pisi> (actually attested as <nipisi> 'my hand'; Payne, 2005, p. 243) as a possible cognate of the PX form<sup>10</sup>. Note that further research may justify analyzing the PX form as coming ultimately from \*wišik-ku, as many body part terms, both in the reconstructed PA language and in daughter languages, occur with a suffix having a form -ku/-ko, including, perhaps, the form \*waku discussed in this section (see Payne, 1991, p. 393, 398, 401, 404 for examples such as 'arm2 (hand, shoulder)', 'chest (abdomen)', 'ear', 'flesh, meat'). Until more is known on the morphology of PA and other intermediate proto-languages within the family, I submit the plausible hypothesis that \*wišiku constitutes a shared lexical innovation of the Xingu Arawak languages.

<sup>10</sup> Payne (2005, p. 243) proposes that Apolista <-pisi> is a reflex of PA \*k<sup>h</sup>api. As in the case of his proposed derivation of Waurá *wišiku* from a putative PA \*wahu, I remain unconvinced and for similar reasons. His hypothesis concerning Apolista depends on assigning complex morphological structure to the form in question, which becomes then <pi-si>, where only the first morph would be a reflex of the PA etymon. This is an analysis brought up only by parochial convenience, as no independent evidence exists for this. The putative morpheme -si cannot be analyzed, for instance, as the Apolista reflex of the Absolute suffix \*-tʃi which, as shown by Payne (2005, p. 244), is -shi. Regardless of this, the presence of this suffix would be unexpected here, as the form for 'hand' is attested in a possessive construction as <nipisi> 'my hand'.

## REFLEXES OF PA *\*k<sup>h</sup>api* IN XINGUAN ARAWAK

As already pointed out, general theoretical expectations on lexical change force us to consider the possibility of finding reflexes of PA *\*k<sup>h</sup>api* elsewhere in the Xingu languages, most likely in derivative forms (see e.g. Szemerényi, 1977, p. 315). As a matter of fact, Payne (1991, p. 407) did include a form *-kapi-* for Waurá, indicating with dashes that it occurs in morphologically complex or derived forms, but without offering any additional comments. The qualifications necessary to identify this bound form in Waurá and other Xingu languages – as well as some unforeseen implications of these findings – are the subject of the present section.

### ‘HAND’, ‘FINGER’

The particular reflex of the PA etymon is found preserved in the form for ‘finger’, which is, in both Mehinaku and Waurá, a derived noun that alternates between *kapitiwi* and *kapitiwi* (see Corbera Mori, 2011, p. 209). This is a morphologically conditioned alternation, *kapitiwi* being the Absolute (non-possessed) form and *-kapitiwi* occurring where an overt possessor is present. As shown by Carvalho (2015), the etymological form, the one reconstructible to Pre-Waurá/Mehinaku is *\*kapitiwi*, the fronting of *i* to *i* being a result of the diachronic absorption of the Absolute marker *-\*tʃi* reconstructed for PA (plus regressive vowel harmony, see Carvalho, 2015, p. 128-130 for details). Finally, the form can be morphologically parsed as a compound of *\*-kapi* and *\*-tiwi* ‘head’.

The preservation of *\*k<sup>h</sup>api* as a (relatively) obscure cognate is also attested in Yawalapiti, though here we have evidence for the application of an interesting sound change. The Yawalapiti form for ‘finger’ is *karitsipu* (<*nukaritsobu*> in von den Steinen, 1894, p. 533). The form can be plausibly analyzed as *kari-tsipu*, with *kari* standing for the Yawalapiti reflex of *\*k<sup>h</sup>api* and *-tsipu* being a compounded nominal root or a classifier, following the general pattern attested in Arawak languages for the derivation of terms for ‘finger’ (see the following section for additional discussion). I have been unable so far to ascertain the meaning/function of *-tsipu*, the analyses and data in Mujica (1992) and Bondim (1976)<sup>11</sup> being of little help in this regard<sup>12</sup>.

The equation of PA *\*k<sup>h</sup>api* and Yawalapiti *-kari-* might seem far-fetched due to its implication of a diachronic correspondence *\*p > r*, one involving a major articulatory discontinuity, a change in labial to coronal place of articulation. Though von den Steinen (1894, p. 532) made no particular comments on the form for ‘finger’, he noticed that in many cases a labial stop *p* in Mehinaku, Waurá and Kustenaú corresponded to a coronal consonant, either *t* or *r*, in Yawalapiti: “Es sei auf die interessante Fälle von Lautwandel in Verhältnis zu Mehinakú etc. aufmerksam gemacht. Meh. *p* erscheint mehrfach als *t* und *r*” [‘One may note the interesting cases of sound change with regard to Mehinaku revealed by a comparison of the Yawalapiti data. Mehinaku *p* appears frequently as *t* and *r*; my translation]. A comparison of the data used by von den Steinen (1894) to back up this claim is given in the Table 5 (the corresponding segments appear in underlined).

The most notable aspect of the correspondence noted by von den Steinen (1894) is that it occurs in the context of a following front vowel, which may be present only in the Mehinaku and Kustenaú cognates (cf. ‘Blue’). As I argue in Carvalho

<sup>11</sup> BONDIM, Renata G. *Língua Yawalapití (Aruák)*: dados coletados na aldeia Yawalapiti (Xingu). Rio de Janeiro: CNPq/CEPG/UFRJ, 1976. 2 v. [Manuscript report on fieldwork activities archived at the CELIN, Museu Nacional, Universidade Federal do Rio de Janeiro - MN/UFRJ].

<sup>12</sup> A comparative perspective suggests interesting directions for further investigation and potential elucidation. In Paresi, a classifier with the form *-tse* has a diminutive function and seems to occur crystallized in other classifiers (*-natse*, *-katse*) which denote stick-like, cylindrical and rigid objects (note that Yawalapiti has been subject to a change *\*e > i*). Some of these classifiers also seem to have been reanalyzed as part of the root for many body-part terms (see Brandão, 2014, p. 184-189). A classifier *-po* is found in Baure (Danielsen, 2007, p. 145) meaning ‘tiny’.

Table 5. Items in von den Steinen (1894).

	Yawalapiti	Mehinaku	Kustenaú
Cotton thread	<kuyari>	<kuyapi>	-
Strainer	<tuari>	<tuapi>	-
Fish sp.	<vari>	<uvapi>	-
White clay	<irhitziki>	<epitsiri>	-
Manioc bread	<ularzi, ulari>	<uläpe>	<uläpe>
Drinking bowl	<tidza>	<pitsa>	<pitsa>
You	<tezo, tero>	<petsü>	<pitsü>
Blue	<tsirulá, dzirulá>	<ipiulá>	<ipiulá, pülatirzo>

(in press), von den Steinen was correct in his suggestion of a sound change (*Lautwandel*) whose effect was to change *p* into a coronal stop in Yawalapiti, a change that I describe as the telescoped result of a palatalization of Pre-Yawalapiti *\*p* to *\*pʲ*, the palatalized allophone eventually merging with the reflexes of the rhotic *\*r*. Though somewhat unusual, this change – or, better said, a diachronic correspondence mapping a labial stop to a coronal segment in a palatalizing context – is cross-linguistically attested in diverse language families, notable cases including Southern Bantu and the isogloss separating *petak/tetak* Czech dialects (cf. e.g. Ohala, 1978; Thomason, 1986). More tellingly, we find synchronic evidence for its action preserved in modern Yawalapiti morphophonemic alternations, copiously attested in Bondim (1976), such as *puti* ~ *ruti* 'thigh', *pina* ~ *rina* 'house', *paka* ~ *raka* 'to sing' and *pihi* ~ *rihi* 'penis', in all cases triggered by the prefixation of a person/number prefix with a front high (or palatal) vowel *i*. The preservation of these morphophonemic alternations in the modern language allows one to internally reconstruct the course of these changes and then validate and improve the proposed developments with the aid of comparative evidence (see Carvalho, in press for details).

Overall then, the existence of a change of diachronic coronalization of *\*p* in Yawalapiti, revealed both by comparative data, such as that amassed by von den Steinen (1894), and by the existence of a synchronic alternation *p* ~ *r*, supports the claim that a reflex of PA *\*kʰapi* is to be found in the root *kari-*, part of the form *karitsipu* 'finger'. Note that the change in question was fed by the already discussed merger of *\*j* and *\*i* as *i*. Only after this change was a form *\*kapi* (< *\*kʰapi*) produced and this was in turn changed to *kari* by the 'palatalization' of *\*p* to *r* in the context of a following palatal vowel. Both the data and the explicit recognition of a segmental correspondence involving forms from the Xinguan Arawak languages constitute an important contribution of von den Steinen (1894), showing that the German explorer went beyond the 'mere' collection of vocabulary data and actually provided some insight on important issues.

### 'FINGER' = 'HAND' + 'HEAD': A WAURÁ-MEHINAKU INNOVATION?

I will briefly consider here the hypothesis that the particular formation of a form for 'finger' attested in Waurá, Mehinaku and possibly in Kustenaú as well constitutes a shared innovation.

The formation of the word for 'finger' derived from 'hand' is likely grounded on a lexical semantic metonymic relation between the two concepts, and is cross-linguistically recurrent (cf. Wilkins, 1996, p. 278). Though this is also the case within Arawak, the use of a nominal compound with the roots for 'hand' and 'head', as seen in Waurá and Mehinaku is, as far as I know, unattested elsewhere in the family. The form for 'finger' in Kustenaú, given in von den Steinen (1894, p. 529) is suggestive of a similar formation, and is included for this reason in the comparisons below.



Most Arawak languages seem to employ the root for 'hand' plus a classifier, usually a reflex of the PA *\*-pi/\*-api* denoting elongated, thin or thread-like objects, or some other compound (Table 6).

The Wapixana form contains a classifier that Santos (2006) describes as denoting 'hard objects' and also 'flower'. The form for 'finger' in Baure is anomalous both synchronically (Danielsen, 2007, p. 153 calls it an 'inverse compound') as well as comparatively, for inverting the head-modifier relation typically seen in Arawak languages. The form *wohis(o)*, with morphophonemic final vowel loss, is described as meaning both 'hand' and 'finger' (Danielsen, 2007, p. 154, fn. 129), though a (supposedly) unambiguous form for 'finger' may be derived as in Table 6, using a classifier denoting the 'pointed end' of objects.

For other languages, such as Palikur, we find a similar mechanism for deriving 'finger' from a root for 'hand' plus the modifying action of some form-based classifier for 'slender' or 'pointed' objects, though this is realized not by suffixation or composition with the root for 'hand', but in the classifier agreement system. Thus, a root *-wak(u)* is polysemic, meaning either 'hand' or 'finger'. Where it expresses the former meaning it triggers the appearance of a classifier *-k/-ka/-bu* (for flat, two-dimensional objects), for instance, in an agreeing numeral expression. If the same modifying numeral is marked instead with a suffixed classifier for 'three-dimensional, slender objects', whose marking is *-t/-ta*, then *-wak(u)* is understood as denoting 'finger' instead (Launey, 2003, p. 118-119)<sup>13</sup>. Likewise, in Baniwa (Ramirez, 2001b, p. 298), the suffixation of a form-based classifier for 'pointed objects', *-hiwi*, to a numeral that modifies a form such as *pa-káapi* 'somebody's hand', derives the notion of 'finger'.

The data in Table 6, which includes languages from all major branches of the Arawak family, suggests that there is something exceptional in the way Waurá and Mehinaku derive the form for 'finger'. Since it is currently accepted that a classifier of the form *\*-pi/\*-api* whose reflexes are attested in the Paresi, Iñapari and plausibly in the Lokono and Baniwa forms in Table 6 as well – can be reconstructed for the PA language (cf. Payne, 1991, p. 384), I propose that the use of the root for 'hand' instead of this classifier in Waurá and Mehinaku for the purpose of deriving the form for 'finger' constitutes a plausible shared innovation. As Waurá and Mehinaku are independently known to be

Table 6. Derivation of nouns for 'finger' in diverse Arawak languages.

Language	Form	Gloss	Source
Mehinaku	<i>kapi-tiwi</i>	'hand' - 'head'	Corbera Mori (2011, p. 209)
Waurá	<i>kapi-tiwi</i>	'hand' - 'head'	Postigo (2011, p. 41)
Kustenaú	< <i>nu-kapi-tiu</i> >	'1sg-hand-head' (?)	von den Steinen (1894, p. 529)
Paresi	<i>kahe-hi</i>	'hand' - 'long, slender'	Brandão (2014, p. 63)
Iñapari	<i>mujú-pi</i>	'hand' - 'thin, snake-like'	Parker (1995, p. 189)
Lokono	<i>k'abo-ibira</i>	'hand' - 'thin, small'	Patte (2011, p. 100)
Maipure	< <i>capi-virrupenà</i> >	'hand' - 'crack'	Zamponi (2003, p. 76)
Wapixana	<i>kaɽi-fiu</i>	'hand' - 'hard'	Santos (2006, p. 97)
Baure	<i>-finie-wohis(o)</i>	'pointed.end' - 'hand'	Danielsen (2007, p. 154)
Nomatsiguenga	<i>-batsa-pako</i>	'meat, body' - 'hand'	Shaver (1996, p. 248)
Baniwa	<i>-hiwi ... -káapi</i>	'pointed' ... 'hand'	Ramirez (2001b, p. 298)
Palikur	<i>-t/-ta ... -wak(u)</i>	'slender' ... 'hand'	Launey (2003, p. 119)

<sup>13</sup> See Aikhenvald and Green (1998, p. 444) who note the existence of a numeral classifier *-wok* derived from the root for 'hand'.

very closely related, being perhaps co-dialects of the same language, this proposal is not impressive as far as internal classification is concerned, though it does advance our understanding of the diachrony of these languages.

### 'HAND', 'FIGHT'

If the Yawalapiti form for 'finger', and the bound root *kari*, illustrate a rather uncommon sound change that makes the reflex of PA *\*kʰapi* slightly harder to identify, an arguably more drastic semantic shift involving this inherited form is attested in all Xingu languages. The noun denoting the *huka-huka*, a wrestling-like fight of ritual importance in the Upper Xingu area (see Basso, 1973, p. 143; Agostinho, 1974; Carneiro, 1993, p. 422) is *kapi* in Waurá/Mehinaku (Corbera Mori, 2012, p. 149) and *kari* in Yawalapiti (Mujica, 1992, p. 15). I propose that this is a semantically-shifted reflex of PA *\*kʰapi*, and I account for the formal and semantic deviations in what follows.

Starting with the Waurá/Mehinaku form, *kapi*, it is necessary to account for the change *\*i > i*, as in these languages no merger of the high central and high front vowels of the sort attested in Yawalapiti occurred. The explanation for this change lies in the account proposed in Carvalho (2015) for a separate set of patterns and comparative data. As the noun changed its category from a dependent, inalienable noun denoting a body part ('hand') to an independent, absolute noun ('*huka-huka* fight'), the occurrence of the noun in question with an Absolute marker is a plausible consequence. One would have, then, at a Pre-Waurá/Mehinaku stage either a form *\*kapi-tʃi* or *\*kapi* (< *\*kapi-i*), the latter if the semantic shift occurred after the changes that consisted in the loss of the affricate in the PA suffix *\*-tʃi* (or some other, weakened reflex of this affricate) and the 'absorption' of the suffixal high front vowel, as discussed in Carvalho (2015). The change of *\*kapi* to *kapi* in Waurá/Mehinaku is, therefore, plausibly explained by its functional/semantic shift, its morphosyntactic consequences and the morphophonological developments involving the PA Absolute suffix *\*-tʃi* (see Carvalho, 2015 for details).

For Yawalapiti, Mujica (1992) does not discuss the existence of Absolute morphology. In the data presented in Bondim (1976)<sup>14</sup> one does find what seem like remnants of an Absolute marking system that has been eroded, even more so than it was the case in Waurá and Mehinaku. Though a comprehensive account of the diachrony of the Yawalapiti Absolute-marking system will await for better (and badly needed) data on this language, one can note at this point that in all the paradigms involving dependent nouns attested in Bondim (1976), a general pattern consists in having the 'free form' showing word-final main stress, while possessed forms have penultimate main stress (a). A few other forms show either morphophonemic alternations (b) or some extra segmental material in the absolute forms (c). Examples include the following (for conciseness I present only 1sg possessive forms):

(2) Remnants of an Absolute-marking system in Yawalapiti:

- (a) Stress shift:  
*ku'su* 'head'  
*nu-'kuʃu* 'my head'
- (b) Morphophonemic alternation:  
*kaŋa'tsi* 'mouth'  
*nu-ka'nati* 'my mouth'

<sup>14</sup> BONDIM, Renata G. *Língua Yawalapití (Aruák)*: dados coletados na aldeia Yawalapiti (Xingu). Rio de Janeiro: CNPq/CEPG/UFRJ, 1976. 2 v. [Manuscript report on fieldwork activities archived at the CELIN, Museu Nacional, Universidade Federal do Rio de Janeiro - MN/UFRJ].

(c) Extra segmental (morphemic?) material:

*tʃiʒa'li* 'foot'  
*nu-tʃi'ʒa* 'my foot'

The pattern in (a) is identical to the one found in Waurá/Mehinaku nouns. As the languages in question have a regular pattern of main stress assignment to the penultimate syllable in the word, this can be accounted for by invoking the past presence of an additional syllable, the Absolute suffix, as discussed in Carvalho (2015)<sup>15</sup>.


Just like Absolute nouns (that is, dependent nouns employed without overt possessors), the Yawalapiti noun *ka'ri* 'huka-huka fight' has word-final stress, something that is consistent with the hypothesis that it derives from a pre-Yawalapiti form with an added Absolute suffix, as proposed above for pre-Waurá/Mehinaku: preceding the loss of the Absolute marker, a form resembling \**ka'ri-tʃi*, with default penultimate stress, occurred. The stress-bearing syllable remained the same after the loss of the Absolute marker, yielding the typical, yet (synchronically) marked pattern of word-final stress that characterizes Absolute nouns.

On the semantic association between 'hand' and 'fight', there is plenty of evidence for its plausibility. A fairly traditional move consists in first placing the proposed change into one of the classical categories of diachronic semantics (cf. e.g. Geeraerts, 2010, p. 25-35). In our case, the association can be mediated through a metonymic relation: from 'hand-fight' or 'fight with/using the hand', the lexical item for 'hand' may end up being used to denote 'fight' (a semasiological change, *sensu* Geeraerts, 2010, p. 26), especially so, one supposes, once the inherited form for 'hand' has been replaced in its original function by a different word, as I claim was the case with PA \**kʰapi* and PX \**wiʒiku*.

Interesting parallels to the proposed change are attested in other language groups. In the well-trodden path of Indo-European historical linguistics, for instance, one finds in Latin the case of forms such as *pūgnus* 'fist' and *pūgna* 'fight' (also *pugil* 'fist-fighter'), with cognates elsewhere such as Greek *pūgme*: (πυγμα) 'fist, fist-fight' (see de Vaan, 2008, p. 499; Beekes and van Beek, 2010, p. 1254). According to Beekes and van Beek (2010, p. 1254), *pug-* 'fist' could be a noun originally, with Latin *pūgna* 'fight' / *pugnāre* 'to fight' being secondary derivations from the *n-* formation *pūgnus*. If this is the case, it provides a striking parallel to the proposed 'hand' > 'fight' shift proposed here for Xinguan Arawak<sup>16</sup>.

Similar changes involving what Wilkins (1996, p. 278) calls 'interfield metonymic changes', such as 'to slap' > 'palm of hand', can be shown, on the basis of comparative databases of semantic lexical change from diverse genetic groups, to be natural developments. I assume that lexical semantic change involves an intermediate stage of polysemy (cf. Wilkins, 1996, p. 268-271), so that a Pre-Proto-Xingu stage in which \**kapi-tʃi* (where \**-tʃi* stands for the Absolute marker) would mean both 'hand (unpossessed)' and 'huka-huka fight', the latter perhaps in particular syntactic constructions, is a plausible inference. With this much in mind, Wilkins (1996, p. 272) notes a similar pattern of polysemy involving a body-part noun and an action involving this noun, as in 'skin (noun)' and 'to flay', found in Dravidian, Indo-European, Bantu and Tibeto-Burman.

<sup>15</sup> Early observations by von den Steinen (1894, p. 527, 529, 531, 532) underscore the fact that all Xinguan Arawak languages had an identical distribution of main stress. In his Mehinaku, Waurá, Yawalapiti and Kustenaú vocabularies he remarks that "Wo der Accent nicht angegeben ist, wird die vorletzte Silbe betont" ["Where accent is not indicated, the penultimate syllable bears stress"; my translation]. This is in agreement with the general finding of a default stress placement in the penultimate syllable of the word in Xinguan Arawak.

<sup>16</sup> A reviewer has brought to my attention the interesting case of Japanese *karate*, from *kara* 'empty' and *te* 'hand'. One might also add the Brazilian Portuguese expression *sair na mão* meaning 'to fight, brawl!'.  


I conclude that it is possible to plausibly account for the semantic and formal deviations implied by the hypothesis that Waurá/Mehinaku *kapi* and Yawalapiti *kari*, both nouns denoting the '*huka-huka* fight', constitute semantically-shifted reflexes of the PA etymon *\*kʰapi* 'hand'.

## SYNTHESIS AND CONCLUSIONS

This paper has advanced contributions to our understanding of the historical development of one particular group of languages – those usually grouped in the Xinguan branch of the large Arawak family – by focusing on phonological, morphological and lexico-semantic changes in items denoting 'hand', 'finger' and related concepts. The argumentation supports the hypothesis that Proto-Arawak *\*kʰapi* 'hand' has been replaced in the ancestral Proto-Xingu language by *\*wiʃiku* in the expression of this particular lexical concept, but is preserved in these languages as a component of morphologically-complex forms denoting 'finger' and in a metonymically-related noun for a wrestling-like fight of central ritual importance for the peoples of the Upper Xingu cultural area.

I have attempted to build on past and ongoing research on these languages, stressing how the hypotheses proposed here build progressively on independent work on Arawak historical linguistics. More importantly, I have stressed the more or less tentative character of many of these claims, suggesting further directions for research that may eventually lead to the strengthening of their evidential basis or to their rejection.

## ACKNOWLEDGMENTS

The research reported here was made possible by a Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro (FAPERJ) Post-Doctoral grant (E-26/101.323/2014). I am grateful to two anonymous reviewers for their observations.

## REFERENCES

- AGOSTINHO, Pedro. *Kwarup: mito e ritual no Alto Xingu*. São Paulo: EDUSP, 1974.
- AIKHENVALD, Alexandra. The Arawak language family. In: DIXON, Robert M. W.; AIKHENVALD, Alexandra (Eds.). *The Amazonian languages*. Cambridge: Cambridge University Press, 1999. p. 65-106.
- AIKHENVALD, Alexandra; GREEN, Diana. Palikur and the typology of classifiers. *Anthropological Linguistics*, v. 40, n. 3, p. 429-480, 1998.
- ÁLVAREZ, José; SOCORRO, Marlene. Restricciones semánticas y fonológicas en los sufijos de posesión Baniva. *Opción*, n. 37, p. 112-138, 2002.
- BASSO, Ellen B. *The Kalapalo indians of central Brazil*. New York: Holt, Rinehart and Winston, 1973.
- BEEKES, Robert; VAN BEEK, Lucian. *Etymological dictionary of Greek*. Leiden: Brill, 2010.
- BRANDÃO, Ana Paula. *A reference grammar of Paresi-Haliti (Arawak)*. 2014. Thesis (PhD in Linguistics) – University of Texas at Austin, Austin, 2014.
- CAPTAIN, David; CAPTAIN, Linda. *Diccionario básico ilustrado Wayuunaiki-Español, Español-Wayuunaiki*. Bogotá: Editorial Buena Semilla, 2005.
- CARNEIRO, Robert. Quarup: a festa dos mortos no alto Xingu. In: COELHO, Vera Penteadó (Ed.). *Karl von den Steinen: um século de antropologia no Xingu*. São Paulo: EDUSP, 1993. p. 405-429.
- CARVALHO, Fernando O. de. Internal and comparative reconstruction in Yawalapiti: palatalization and rule telescoping. *International Journal of American Linguistics*. (In Press).



- CARVALHO, Fernando O. de. On the realization of nominal possession in Mehinaku: a diachronic account. **International Journal of American Linguistics**, v. 81, n. 1, p. 119-132, 2015.
- CORBERA MORI, Angel. Una aplicación del método restitutivo en la interpretación fonético-fonológica de la lengua Kustenaú (Arawak). In: CONGRESO DE LA DELEGACIÓN ARGENTINA DE LA ASOCIACIÓN DE LINGÜÍSTICA Y FILOLOGÍA DE AMÉRICA LATINA, 2., 2015. **Anais... Argentina: Universidad Nacional de La Plata**, 2015. p. 1-8.
- CORBERA MORI, Angel. Waurá e Mehinaku: um breve estudo comparativo. **Estudos Linguísticos**, v. 41, n. 1, p. 196-205, 2012.
- CORBERA MORI, Angel. Aspectos da morfofonologia e da morfologia nominal Mehinaku (Arawak). In: FRANCHETTO, Bruna (Org.). **Alto Xingu: uma sociedade multilíngüe**. Rio de Janeiro: Museu do Índio/FUNAI, 2011. p. 193-216.
- CORBERA MORI, Angel. Sobre a nasalidade de vogais em Mehináku (Arawák). **Estudos Linguísticos**, v. 38, n. 1, p. 213-222, 2009.
- CORBERA MORI, Angel. Una aproximación a las lenguas Arahuacas del Brasil central. In: MESSINEO, Cristina; MALVESTITTI, Marisa; BEIN, Roberto (Eds.). **Estudios en lingüística y antropología**. Homenaje a Ana Gerzenstein. Buenos Aires: Editorial Facultad de Filosofía y Letras/Universidad de Buenos Aires, 2008. p. 27-38.
- CORBERA MORI, Angel. Aspectos da estrutura nominal em Mehináku (Aruák). **Estudos Linguísticos**, v. 36, n. 1, p. 249-257, 2007.
- DANIELSEN, Swintha. **Baure: an Arawak language of Bolivia**. Leiden: CNWS Publications, 2007. (Indigenous Languages of Latin America – ILLA, 6).
- DE VAAN, Michiel. **Etymological dictionary of latin and the other italic languages**. Leiden: Brill, 2008.
- FACUNDES, Sidney. **The language of the Apurinã people of Brazil (Maipure/Arawak)**. 2000. Thesis (PhD in Linguistics) – State University of New York, Buffalo, 2000.
- FRANCHETTO, Bruna. Línguas e histórias no alto Xingu. In: FRANCHETTO, Bruna; HECKENBERGER, Michael (Eds.). **Os povos do alto Xingu: história e cultura**. Rio de Janeiro: UFRJ, 2001. p. 111-156.
- GEERAERTS, Dirk. **Theories of lexical semantics**. Oxford: Oxford University Press, 2010.
- HEITZMAN, Allene. **Reflexes of some proto-Campa consonants in modern Campan languages and dialects**. 1973. MA Thesis, University of Kansas, Lawrence, 1973.
- KLUMPP, Deloris A. **Vocabulario Piapoco-Español**. Santafé de Bogotá: Instituto Lingüístico de Verano (ILV), 1995.
- KOCH, Harold. Morphological reconstruction as an etymological method. In: BLAKE, Barry; BURRIDGE, Kate (Eds.). **Historical linguistics 2001**. Amsterdam/Philadelphia: John Benjamins, 2003. (Current Issues in Linguistic Theory 237). p. 271-291.
- KOCH, Harold; HERCUS, Luise. Obscure vs. transparent cognates in linguistic reconstruction. In: MAILHAMMER, Robert (Ed.). **Lexical and structural etymology: beyond word histories**. Boston/Berlin: Mouton de Gruyter, 2013. p. 33-52.
- LAUNEY, Michel. **Awna parikwaki: introduction à la langue Palikur de Guyane et de l'Amapá**. Paris: IRD Éditions, 2003.
- MARTIUS, Karl Friedrich Philip von. **Beiträge zur Ethnographie und Sprachenkunde Amerikas zumal Brasiliens, II**. Glossaria Linguarum Brasiliensium. Leipzig: Friedrich Fleischer, 1867.
- MELÉNDEZ LOZANO, Miguel Ángel. **Diccionario Achagua-Español/Español-Achagua**. Bogotá: CESO-CCELA, Universidad de los Andes, 2011.
- MELÉNDEZ LOZANO, Miguel Ángel. Esbozo gramatical del Achagua. In: GONZÁLEZ DE PEREZ, María Stella; RODRÍGUEZ DE MONTES, María L. (Eds.). **Lenguas indígenas de Colombia: una visión descriptiva**. Bogotá: Instituto Caro y Cuervo, 2000. p. 625-639.
- MICHAEL, Lev. **Nanti evidential practice: language, knowledge and social practice in an Amazonian society**. 2008. Thesis (PhD in Linguistics) – University of Texas at Austin, Austin, 2008.



- MOSONYI, Esteban E. Introducción al idioma Baniva. In: GONZALEZ DE PEREZ, María S.; RODRIGUEZ DE MONTES, María E. (Eds.). **Lenguas indígenas de Colombia: una visión descriptiva**. Santafé de Bogotá: Instituto Caro y Cuervo, 2000. p. 499-513.
- MUJICA, Mitzila I. O. **Aspectos fonológicos e gramaticais da língua Yawalapiti (Aruak)**. 1992. M.A. Thesis (Linguistics) – Universidade Estadual de Campinas, Campinas, 1992.
- OHALA, John. Southern Bantu vs. the world: the case of palatalization of labials. In: ANNUAL MEETING OF THE BERKELEY LINGUISTICS SOCIETY, 4., 1978. **Proceedings...** Berkeley: Linguistic Society of America, 1978. p. 370-386.
- PARKER, Stephen. **Datos de la lengua Iñapari**. Lima: Summer Institute of Linguistics (SIL), 1995. (Documento de Trabajo 27).
- PARKER, Stephen. **Estudios sobre la fonología del Chamicuro**. Lima: Summer Institute of Linguistics (SIL), 1991.
- PATTE, Marie-France. **La langue Arawak de Guyane**. Marseille: IRD Éditions, 2011.
- PAYNE, David. Apolista (Lapachu) as a Maipuran Arawakan language. **Revista Latinoamericana de Estudios Etnolingüísticos**, n. 10, p. 239-250, 2005.
- PAYNE, David. A classification of Maipuran (Arawakan) languages based on shared lexical retentions. In: DERBYSHIRE, Desmond; PULLUM, Geoffrey K. (Eds.). **Handbook of Amazonian languages**. Berlin: Mouton de Gruyter, 1991. v. 3, p. 355-499.
- PET, Willem. **A grammar sketch and lexicon of Arawak (Lokono Dian)**. Summer Institute of Linguistics (SIL). 1987. (SIL Ebook 30). Available at: <[http://www-01.sil.org/silepubs/Pubs/928474543236/e-Books\\_30\\_Pet\\_Arawak\\_Suriname.pdf](http://www-01.sil.org/silepubs/Pubs/928474543236/e-Books_30_Pet_Arawak_Suriname.pdf)>. Access on: Apr. 4, 2016.
- POSTIGO, Adriana. **Língua Wauja (Arawak): uma descrição fonológica e morfossintática**. 2014. Thesis (PhD in Linguistics and Portuguese Language) – Universidade Estadual Paulista “Júlio de Mesquita Filho”, Araraquara, 2014.
- POSTIGO, Adriana. Uma análise fonológica das listas de palavras Wauja (Arawák). In: CONGRESSO INTERNACIONAL DA ABRALIN, 7., 2011. **Anais...** Curitiba: Universidade Federal Fluminense, 2011. p. 31-43.
- RAMIREZ, Henri. **Línguas Arawak da Amazônia setentrional: comparação e descrição**. Manaus: Editora de Universidade do Amazonas, 2001a.
- RAMIREZ, Henri. **Uma gramática do Baniwa do Içana**. Manaus: Universidade Federal do Amazonas, 2001b.
- RICHARDS, J. A estrutura verbal em Waurá. **Série Lingüística**, v. 9, p. 192-218, 1988.
- RICHARDS, J. Dificuldades na análise da posseção nominal na língua Waurá. **Série Lingüística**, v. 1, p. 11-29, 1973.
- SANTOS, Manuel. **Uma gramática do Wapixana (Aruak): aspectos da fonologia, da morfologia e da sintaxe**. 2006. Thesis (PhD in Linguistics) – Universidade Estadual de Campinas, Campinas, 2006.
- SCHAUER, Stanley; SCHAUER, Junia; YUCUNA, Eladio; YUCUNA, Walter. **Diccionario bilingüe Yucuna-Español, Español-Yucuna**. Bogotá: Editorial Fundación para el Desarrollo de los Pueblos Marginados, 2005.
- SEKI, Lucy. The upper Xingu as an incipient linguistic area. In: DIXON, Robert M. W.; AIKHENVALD, Alexandra (Eds.). **The Amazonian languages**. Cambridge: Cambridge University Press, 1999. p. 417-430.
- SHAVER, Harold. **Diccionario Nomatsiguenga**. Peru: Ministerio de la Educación/Instituto Lingüístico de Verano (ILV), 1996.
- SILVA, Denise. **Estudo lexicográfico da língua Terena: proposta de um dicionário bilingüe terena português**. 2013. Thesis (PhD in Linguistics and Portuguese Language) – Universidade Estadual Paulista “Júlio de Mesquita Filho”, Araraquara, 2013.
- SZEMERÉNYI, Oswald. Principles of etymological research in the Indo-European languages. In: SCHMITT, Rüdiger (Ed.). **Etymologie**. Darmstadt: Wissenschaftliche Buchgesellschaft, 1977. p. 286-346.
- THOMASON, Sarah G. On changes from palatalized labials to apical affricates. **International Journal of American Linguistics**, v. 52, n. 2, p. 182-185, 1986.

URBAN, Greg. A história da cultura brasileira segundo as línguas nativas. In: CARNEIRO DA CUNHA, Manuela (Ed.). **História dos índios no Brasil**. São Paulo: Companhia das Letras, 1992. p. 87-102.

VON DEN STEINEN, Karl. **Unter den Naturvölkern Zentral-Brasiliens**: Reiseschilderung und Ergebnisse der zweiten Schingú-Expedition (1887-1888). Berlin: Hoefer & Vohsen, 1894.

WILKINS, David P. Natural tendencies of semantic change and the search for cognates. In: DURIE, Mark; ROSS, Malcom (Eds.). **The comparative method reviewed**: regularity and irregularity in language change. Oxford: Oxford University Press, 1996. p. 264-304.

ZAMPONI, Raoul. **Maipure**. München: LINCOM Europa, 2003.