Orthography development in Ashéninka Perené (Arawak): a case study

This paper proposes a practical orthography for Ashéninka Perené (Arawak) by looking at the existing orthographies of the language. Focusing on the SIL-recommended linguistic orthography, native language consultants' ad hoc writing samples, and the alphabet approved by the Ashéninka Perené community of Bajo Marankiari, the study analyzes a few seemingly problematic issues of the representation of palatalization, aspiration, and vowel length, as well as the spelling of the bilabial approximant and the underspecified archiphoneme N. Special attention is given to loans of graphemes from the language of wider communication (Spanish) as well as to orthography depth and consistency in the existing orthographies. My analysis shows that the native orthographies largely converge on a set of writing conventions which ignore contrast in aspiration and vowel length, tendentially mark the archiphoneme N as <n> before oral stops, use a sequence of Ci to mark palatalization of consonants (with a few exceptions), and borrow extensively Spanish characters for native sounds.

por Elena Mihas[1]

1. Introduction

This paper examines a few extant orthographies of Ashéninka Perené [prq], a poorly documented Amazonian Arawak language spoken in the Perené River valley in Chanchamayo and Perené Districts of Junin Province, Peru. Although the language community doesn't have an established writing system, there is a growing awareness of the need to reclaim the local language for the future generation of native speakers through the development of a native system of writing conventions, production of reading materials in the local language, and creating a permanent record of the language.

The findings presented in this paper are a result of fieldwork conducted in the summer of 2009 in the communities of Pampa Michi, Santa Ana, and Bajo Marankiari. The speaker base is estimated at 5,500 (Gordon 2001) but this estimate is suspect for a number of reasons. The results of fieldwork indicate that the language is highly endangered due to the evident language transmission break. In the long-standing situation of intense language contact, older generations continue to speak the mother tongue while younger people in their 20s and 30s have only a passive knowledge of the ancestral language; children are essentially monolingual in Spanish, the language of wider communication. In addition, many community members do not see the practical value of maintaining the language because it "does not sell," as one of them put it, in the market-oriented coffee-, citrus- and banana-growing economy. Finally, despite claims made about the success of the intercultural, bilingual state education policy, in reality bilingual programs in Peru have a very limited scope (indigenous languages are taught only in some primary schools lacking sufficient teaching materials) and have struggled with the training, recruitment, and retention of indigenous language teachers (Chiroque Chunga & Rodríguez Torres 2008: 21, 37-38; Hornberger 2000:179-180). In the context of language decline, the first step is to document the endangered indigenous language and revitalize its usage through native literacy. In the case of Asheninka Perené, since the beginning of the language documentation project in 2009, the speakers have expressed a great deal of interest in the production and dissemination of reading materials in the language. The difficulty is that the language does not have its own writing system. Thus,

---

the task of establishing a native orthography has come to the forefront of the language documentation project.

This study addresses the following questions: (1) What are the general principles of orthography development? (2) What is the phonological system of Ashéninka Perené? (3) What are the existing orthographies of Ashéninka Perené? (4) What are the optimal decisions for the Ashéninka Perené orthography? This paper will proceed as follows: I will provide a summary of the principles of orthography design in §2, then will describe the inventories of consonant and vowel phonemes in §3, followed by a discussion of the existing linguistic and native orthographies in §4; the prospects for the development of a practical orthography in Ashéninka Perené are outlined in §5. The final section summarizes this study's findings.

2. Principles of orthography development

Essential guidelines to orthography development for fieldworkers are found in Grenoble & Whaley (2006:158-9) and Seifart (2006: 279-286). In a nutshell, the process of developing or reforming an orthographic system should take into account the following:

(1)   Who will be the primary users, the proficient speakers or the beginners?
(2)   How deep (or abstract) will be the orthography?
(3)   Are the speakers already familiar with the characters?
(4)   Do the community leaders and other members approve the orthography? Have they provided their input in the orthography design?

In the case of Ashéninka Perené, the level of erosion of the speaker base and overall language decline is a vital consideration in the context of language community revitalization efforts. The targeted age groups are younger speakers, most of whom lack proficiency in the ancestral language. Thus, the main purpose of developing an Ashéninka orthography is to promote vernacular literacy among younger learners through reading in the native language. Linguistic considerations are important as well. The orthography may have more or less 'depth,' that is, a 'shallow' orthography represents allophones to make it easier for the beginner to read and learn the language, while 'deep' orthography, more suitable for fluent speakers and readers, may use one symbol for two phonemes. Since most of the users of Ashéninka Perené orthography are likely to be beginners, the orthography needs to be shallow to present a one-to-one correspondence between a phoneme and a grapheme. Another issue is the speakers' familiarity with the characters. The orthography is easier to learn by relying on the characters of the language of school education. Many Ashéninka Perené speakers are literate in Spanish and modeling of the proposed orthography on the familiar Spanish spelling conventions is likely to increase its learnability. Finally, acceptability of the orthography to the members of the community at large is of utmost importance. If the proposed orthography is approved by the tribal and educational authorities as well as by other members of the native community, it is likely to be adopted by the speakers. Note that at this point, the Ashéninka Perené orthography is still in the design stage and is being discussed and tested by the community. In the next section, I will outline the phonological inventory of Ashéninka Perené, based on my fieldwork data.

3. Ashéninka Perené phonology

Charts of the vowel and consonant inventories of Ashéninka Perené are provided in Table 1 and Table 2 respectively. The corresponding IPA symbols are provided in square brackets when transliteration and IPA values differ.

	Front	Central	Back/Rounded
High	i, i:		
Mid	e, e:		o, o:
Low		a, a:	

Table 1. Ashéninka Perené vowel phonemes

	bilabial	velar	alveolar	palatal	glottal
Voiceless stops	p	k	t		
palatalized	py [pʲ]	ky [kʲ]	ty [tʲ]		
Voiceless affricates					
aspirated			ts [tsʰ]	ch [tʃ]	
unaspirated			tz [ts]		
Voiceless fricatives			s	sh[ʃ]	h
Liquids			r[ɾ]	ry [ɾʲ]	
Nasals	m		n	ny [ɲ]	
Semivowels	w [w/β̞]			y [j]	
Archiphoneme	N				

Table 2. Ashéninka Perené consonant phonemes

These charts show that (1) vowel length is phonemic in Ashéninka Perené; (2) there is an opposition between aspirated and unaspirated voiceless affricates; (3) the series of voiceless oral stops contrast with their palatalized counterparts, which are interpreted as single consonants; (4) palatalization applies to all stops and all alveolar phonemes (except for the semivowels) for all manners of articulation such as affricates, fricatives, liquids, and nasals; (5) there is a contrast between nasal consonants /m/, /n/, and /ɲ/, and a nasal consonant which is underspecified for place of articulation, /N/.

4. Existing orthographies
Ashéninka Perené has never been the subject of a dedicated investigation by linguists, hence the lack of the writing system specifically representing the language's phonemic inventory. Nevertheless, both linguistic and native sets of writing conventions have been in circulation in the community. Section 4.1 will address the SIL linguistic orthography, followed by a discussion of language consultants' naïve orthographies in section 4.2.

4.1. The linguistic orthography
The first linguistic orthography, recommended by SIL linguists to Ashéninka bilingual teachers in 1987, was based on Ashéninka Pichis, an adjacent language variety (Payne 1987; Anderson 1987). The pedagogical grammar of Ashéninka Pichis and Ashéninka Perené (Payne 1989) reproduces this earlier 29-grapheme writing system.
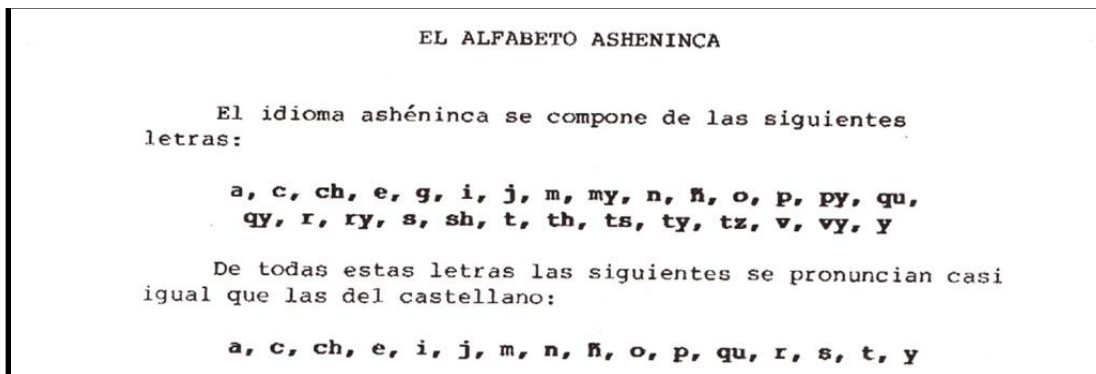
```
                    EL ALFABETO ASHENINCA

        El idioma ashéninca se compone de las siguientes
    letras:

        a, c, ch, e, g, i, j, m, my, n, ñ, o, p, py, qu,
           qy, r, ry, s, sh, t, th, ts, ty, tz, v, vy, y

        De todas estas letras las siguientes se pronuncian casi
    igual que las del castellano:

        a, c, ch, e, i, j, m, n, ñ, o, p, qu, r, s, t, y
```

Figure 1. Ashéninka Pichis alphabet

The proposed system is largely based on Spanish orthography; for example, the velar stop /k/ is written *<c>* before non-front vowels /a/ and /o/, and *<qu>* before front vowels /i/ and /e/*;* the glottal fricative /h/ is written *<j>*; the alveo-palatal /ɲ/ is *<ñ>;* the semivowel /w/ is written *<v>*. Other Spanish graphemes, familiar to Ashéninka Perené speakers, are *<ch>* /ʧ/ and *<y>* /j/.

The strong point of the SIL writing system is that it considers two main parameters, consistency and similarity of the orthography to the orthography of the dominant language. In particular, a distinction is made between the aspirated and unaspirated alveolar consonants and affricates by assigning digraphs *<th>* to the aspirated stop /tʰ/, *<ts>* to the aspirated affricate /tsʰ/ and *<tz>* to its unaspirated counterpart /ts/. In addition, the palatalized counterparts of stops /p/ ,/t/, /k/, fricatives /s/, /h/, /v/, affricates /tsʰ/, /ts/ and sonorants /n/, /m/,/ɾ/ are also included, being encoded either by the sequence *<Cy>* such as *<py>*, *<ty>*, *<qy>*, *<jy>*, *<my>*,*< ry>*, *<vy>*, by the digraph *<sh>,* or by symbols already familiar to Ashéninkas such as *<ch>* and *<ñ>*. The alphabet does not seem to differentiate long and short vowels, listing graphemes only for the short ones: *<a>*, *< e>*, *< i>*, *< o>*. However, Ashéninka pedagogical grammar (Payne 1989), dictionary (Payne 1980), and texts (Anderson 1985; 1986) double a symbol to indicate vowel length.

As already noted, the 1987 SIL set of graphemes corresponds directly to the phonemes of Ashéninka Pichis, including letters for the phonemes that do not exist in Ashéninka Perené such as *<g>* /g/, *<my>* /mʲ/, *<th>*/tʰ/, *<vy>* /ßʲ/. This mismatch makes the alphabet only partially suitable for the purposes of the orthography development in Ashéninka Perené.

4.2 Native orthography
Arguably, the SIL linguistic orthography has not gained many users in the Ashéninka Perené native communities due to the fact that it has only been taught in a handful of local elementary schools. However, literate Ashéninka Perené speakers have been creating ad hoc orthographies whenever occasions arise. For example, Raul Martin Bernata (see Figure 2), a paramedic in the native community of Pampa Michi, made this welcoming announcement in front of his house in Spanish and Ashéninka Perené.

Figure 2. Raul Martin Bernata standing in front of the sign outside his house

The sign says 'restaurant for tourists' in Spanish and 'you are welcome here' (literally, 'come here') in Ashéninka. Sr. Martin, a language consultant for this documentation project, has turned down an offer to provide his writing sample because he doubts that his spelling is 'correct.' Curiously, during his lifetime, he has collected many Ashéninka legends, all of them written down in Spanish. Other language consultants who agreed to experiment with writing conventions in their native language have shown a certain degree of variation in their writing. Nevertheless, their writing samples indicate that most of these naïve orthographies converge on a common set of conventions. The discussion of these native orthographies is provided below.

4.2.1 Language consultants' orthographies

The writing samples presented in this paper were obtained during the author's individual meetings with the language consultants in the summer of 2009. One of the routine tasks assigned to the consultants during these meetings was to listen to the recording of a narrative or conversation in Ashéninka Perené and write down the text. One of the consultants, Gregorio Santos Pérez, a college-trained bilingual high school teacher, is seen at work in Figure 3. His writing sample is provided in Figure 4.

Figure 3. Gregorio Santos Pérez is photographed while writing down a story recorded by his mother
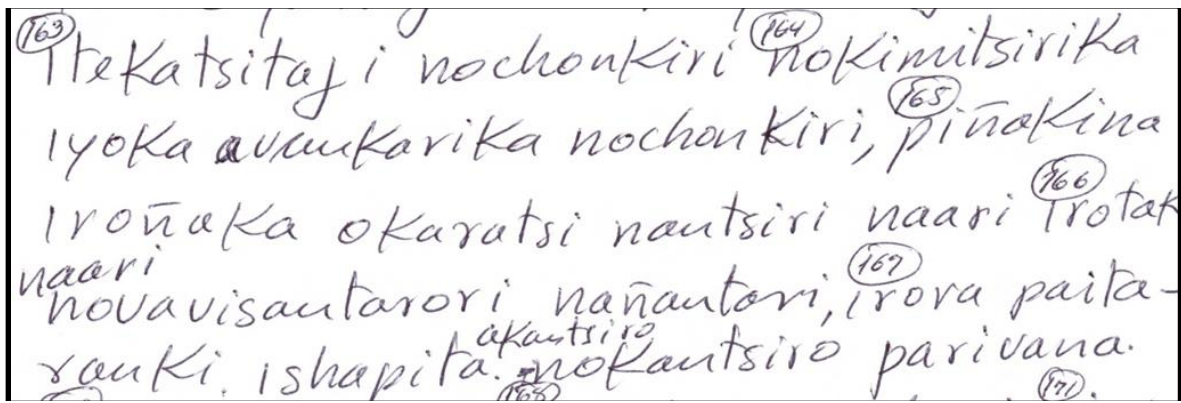
Figure 4. Writing sample of Gregorio Santos Pérez

The sample contains his mother's explanations about how she healed her husband: "There is no sickness [because] I make steam baths for him; it's similar to what I do to this youngster, I bathe him in steam; you've seen now all that I do; this is how my life passed, this, whachamacalit, we called her, I called her Parivana." A summary of Sr. Santos's writing conventions is provided in Table 3.

Phoneme	Grapheme	Example	Comments
/ɲ/	<ñ>	*iro**ñ**aka* 'now'	borrows Spanish <ñ>
/h/	<j>	*itekatsita**j**i* 'there isn't'	borrows Spanish <j>
/w/	<v>	*pari**v**ana* 'person's name'	borrows Spanish <v>
/tʲ/	<ch>	*no**ch**onkiri* ' I bathe him'	contrast between /tʲ/ and /ʧ/ is not observed
/tsʰ/	<ts>	*okara**ts**i* 'this is all'	contrast in aspiration is not observed
/k/	<k>	*nochon**k**iri* ' I bathe him'	replaces Spanish <qu> with <k>
/a:/	<a>	*iroñ**a**ka* 'now'	contrastive vowel length is ignored

Table 3. A summary of the writing conventions of Gregorio Santos Pérez

Sr. Santos's choices of familiar Spanish characters, in addition to the simplified coding of complex consonants and long vowels, indicate his preference for simplicity and orthographic depth in the orthography design. A similar system is seen in the writing of Delia Rosas Rodriguez, a homemaker who spent a year in college in Lima after graduating from high school (see Figures 5-6).

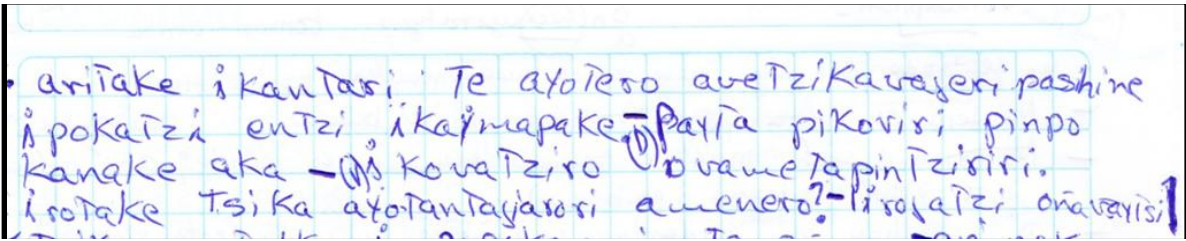Figure 5. Delia Rosas Rodriguez is photographed at her home while transcribing a recorded text

Figure 6. The writing sample of Delia Rosas Rodriguez

The translation of the sample provided in Figure 6, an excerpt of the recorded conversation between Sra. Delia and her sister Victorina, is as follows: "That's it. We don't know how to fix it any more. A child came; he is calling [someone]. —What do you want? Come in. —He is looking for his teacher. How do you know if it is recording? –Yes, it is recording."

Phoneme	Grapheme	Example		Comments
/w/	<v>	*ikovatziro* 'he wants her'		borrows Spanish <v>
/h/	<j>	*ayotantajiarori* 'that we'll know it'		borrows Spanish <j>
/ɲ/	<ñ>	*oñavaytsi* 'it is looking'		borrows Spanish <ñ>
/k/	<k>	*aritake* 'that's right'		replaces Spanish <qu> with <k>
/Cʲ/	<Ci>	*ayotantajiarori* 'that we'll know it'		uses <Ci> rather than <Cy>
/tsʰ/	<tz>~<ts>	*ipokatzi* 'he came' *oñavaytsi* 'it is looking'		alternates two graphemes to code one phoneme, the unaspirated affricate /ts/
/ai/	<ay>	*payta* 'question word'		reflects the way people speak
/e:/	<e>	*entsi* 'child'		contrastive vowel length is ignored

Table 4. A summary of the writing conventions of Delia Rosas Rodriguez

This orthography favors familiar Spanish characters and also shows tension between representing the way people speak casually (e.g. *payta* 'WH-word', *entsi* 'child') and reflecting a phonemic distinction e.g. between aspirated /tsʰ/ and unaspirated /ts/.

Another set of conventions emerges from the writing samples of Daniel Bernales Quillatupa (Aroshi), a college-educated specialist in bilingual education in the local department of education. His proposed orthography is illustrated in Figure 7.
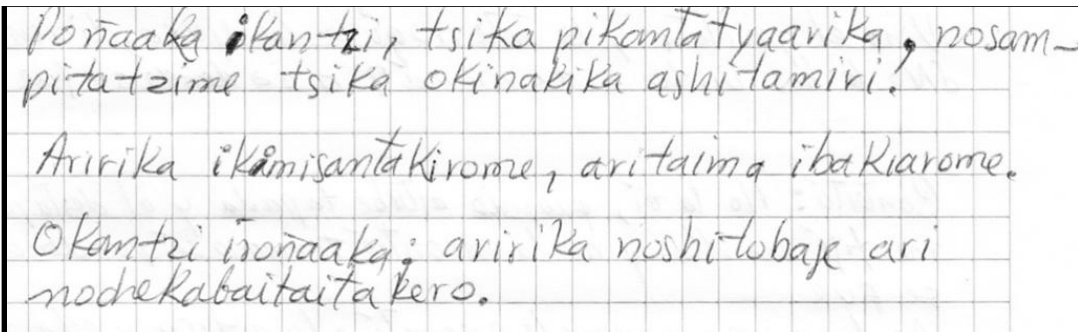

Figure 7. The writing sample of Daniel Bernales Quillatupa

The sample provides a passage from a traditional story as told by Sr. Bernales: "Now she said, 'I am asking you, where did your mother go?' Had he paid attention to her [words],

he could have eaten the mother. She said [to herself], 'When I leave, I'll cut it up.'" A summary of Sr. Bernales's orthography is given in Table 5.

Phoneme	Grapheme	Example	Comments
/h/	\<j\>	*noshitobaje* 'I'll run'	borrowing of Spanish \<j\>
/k/	\<k\>	*poñaaka 'afterwards'*	replacement of Spanish \<c\> with \<k\>
/w/	\<b\>	*noshito**b**aje* 'I'll run'	borrowing of Spanish \<b\>
/C^j/	\<Ci\>	*iba**kia**rome* 'he could eat her'	using \<Ci\> rather than \<Cy\>
/ts/	\<tz\>	*ikan**tz**i* 'he said'	contrast in aspiration of affricates is observed
/ts^h/	/ts/	***ts**ika* 'where'	contrast in aspiration of affricates is observed
/a:/	\<aa\>	*poñ**aa**ka* 'afterwards'	contrastive vowel length is indicated

Table 5. A summary of the writing conventions of Daniel Bernales Quillatupa

Sr. Bernales's user-friendly orthography makes a phonemic distinction between aspirated and unaspirated alveolar affricates/ts^h/ and /ts/ and between long and short vowels /a/ and /a:/. The representation of /k/ as \<k\>, /h/ as \<j\> and /w/ as \<b\> is an example of a compromise between the desire to rely on familiar Spanish characters such as \<j\> and \<b\>, and to simplify the system by replacing the Spanish graphemes \<c\> and \<qu\> with \<k\>.

The influence from Spanish is evident in the writing of another consultant, Pablo Jacinto, a local farmer, who is seen in Figure 8. His writing sample is shown in Figure 9.

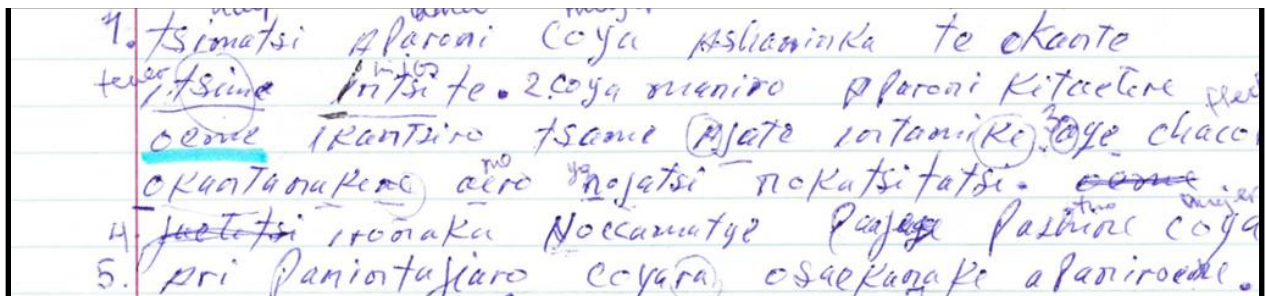Figure 8. Pablo Jacinto is photographed while writing down his story

Figure 9. Writing sample of Pablo Jacinto

The sample is a quote from a traditional story, narrated by Sr. Jacinto: "There was an Ashaninka woman who couldn't have children. One day her husband said to her, 'Come on, we are going to the woods, we'll take arrows.' She responded, 'I won't go, I am sick, I'll be dying; take another woman, you pursue this woman.' She stayed alone [afterwards]." A set of Sr. Jacinto's conventions is given in Table 6.

Phoneme	Grapheme	Example	Comments
/h/	<j>	*noj atsi* 'I am going'	borrows Spanish <j>
/ɲ/	<ñ>	*iroñaka* 'now'	borrows Spanish <ñ>
/k/	<c>	*coya* 'woman'	borrows Spanish <c>
/ts/	<ts>	*tsimatsi* 'there is'	contrast in aspiration is not observed
/Cʲ/	<Ci>	*pinintaj iaro* 'you will want her'	uses <Ci> rather than <Cy>
/ai/, /oi/	<ae> , <oe>	*kitaetere* 'day', *oeme* 'her spouse'	reflects the way he speaks
/aː/, /oː/	<a>, <o>	*iroñaka* 'now', *coya* 'woman'	contrastive vowel length is ignored
/eː/	<e>	*entsite* 'her child'	

Table 6. A set of writing conventions adopted by Pablo Jacinto

As Table 6 shows, the orthography heavily draws on Spanish graphemes; even the Spanish character <c> is used to code /k/. In addition, the orthography reflects the speaker's way of articulating high front vowels and vowel sequences. In his speech, high front vowels tend to be replaced with mid-open vowels (e.g. *osaekanake apaniroene* 'she stayed alone').

   A brief comment is due on the coding of the archiphoneme N by the consultants. Syllable-finally, the nasal segmental unit /N/ assimilates homorganically to a following plosive as in *opempe* [o.pe**m.p**e] 'tucan (*Ramphastos cuvieri*)', *kasanto* [ka.sa**n.t**o] 'macaw sp. (*Ara caninde*)', *katonko* [ka.to**ŋ.k**o] 'upriver'. /N/, a nasal phoneme underspecified for place of articulation, is distinct from other nasals in that it only occurs following a vowel and assimilates to a following obstruent. The spelling habits of the language consultants have revealed that syllable-final nasals tend to be represented by <n> e.g. *nanpitsi* 'village', *iyenpita* 'his ear', *nonkitsate* ' I'll dress myself', *pinkante* 'speak', *nontashitake* 'I'll roast [it]'. The only exception is Daniel Bernales Quillatupa's spelling which utilizes <m> before <p> and <n> before other consonants. I suppose that the basis of this contrast lies in the linguistic training that Sr. Bernales has received as a bilingual specialist in education and his exposure to professional development literature on bilingual education issues during his long career with the local department of education.

   Summarizing the above findings, it can be stated that the language consultants' orthographic systems show a clear preference for simplicity and economy. A clear case of simplification is the replacement of the Spanish graphemes <c> and <qu> with <k>. When asked about this unified way of marking /k/, consultants nearly unanimously cited their dislike of cumbersome and senseless digraphs; e.g. in *quinquitsarentsi* vs. *kinkitsarentsi* 'story', the second version is more economical and easier to decode than the less user-friendly version with the digraph <qu>. In addition, the Ashéninka Perené naïve orthographies maximize the use of the familiar symbols of the language of wider communication to code native sounds which are close to those of their Spanish counterparts. As already noted, familiar Spanish characters such as <j>, <ñ>, <v> or <b> are used to represent native sounds which are similar to Spanish. Moreover, the coding of Ashéninka Perené palatalized consonants appears to be modeled on the Spanish convention of combining a consonant and a high front vowel. Spanish examples—I

hypothesize—such as ***ti***empo 'time', ***ri***ada 'flash flood', *muje**ri**ego* 'womanizer', ***vi***ajar 'travel', ***di***ez 'ten', ***pie***dra 'stone', *trata**mie**nto* 'treatment', ***ci***ego 'blind' might have served as a graphical template for representing palatalized elements in Ashéninka Perené.

There is also a pronounced tendency to simplify the conventions by not indicating the vowel length or the contrast in aspiration, which perhaps indicates a low functional load of these distinctions for the speakers. The consultants seem to share an intuitive assumption that deep orthography is simpler; the slight discrepancy concerns the degree of orthographic depth, ranging from more to less abstract representation. Additionally, the rationale for the speakers' decisions may be found in the limited nature of the linguistic and educational resources available to them, restricted to the Spanish language. When native sounds such as long vowels or aspirated affricates lack Spanish equivalents, the speakers resolve the tension by reusing the same Spanish character to code different native sounds. Considering that deep native orthographies such as Ashéninka Perené naïve writing systems present challenges to even proficient readers, it should be pointed out that beginning readers may need a great deal of guidance. Ideally, orthographic conventions should have a one-to-one correspondence, one character per each phoneme. Notwithstanding that, the practical orthography proposed by two college-educated individuals from the community of Bajo Marankiari reveals the minimalist approach demonstrated by the writing samples of the language consultants. An account of these recently introduced orthographies is presented in section 4.2.2.

4.2.2 Practical orthography

Within the last five years, there has been a growing concern about the promotion of vernacular literacy in the community of Bajo Marankiari. In response to this concern, a practical orthography has been developed by two college-educated native speakers, Edwin Jacinto Santos, a linguist with a Bachelor's degree from San Marcos University in Lima, and Daniel Bernales Quillatupa, a specialist in bilingual intercultural education (EIB), employed by the local department of education (UGEL) in Chanchamayo District. Their alphabet, developed for the Colegio Bilingüe Eben-Ezer, a private Adventist high school in Bajo Marankiari (Jacinto Santos 2004), was supported by the tribal governance unit (Area de Educación, Comunicación y Turismo de Comunidad Indígena Asháninka Marankiari Bajo (CIAMB)). The alphabet is shown in Figure 10.
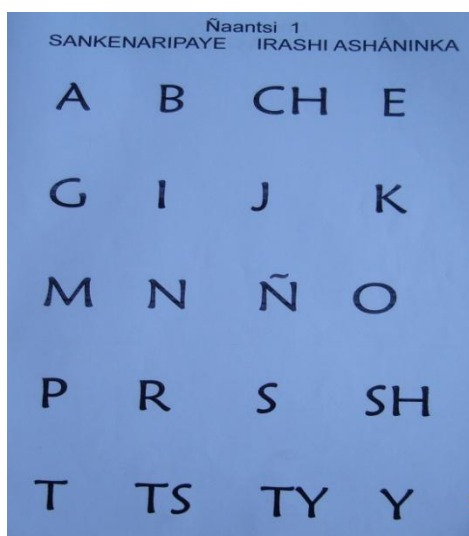

Figure 10. The alphabet proposed by Jacinto & Bernales (2007)

The proposed alphabet includes 20 graphemes. This streamlined system disposes of *<tz>* and *<th>,* evidently reflecting the accelerating loss of contrast between aspirated and unaspirated alveolar stop /t^h/ vs. /t/, and aspirated and unaspirated alveolar affricate /ts^h/ vs. /ts/[2]. It does away with a number of other digraphs which encode palatalized consonants in the SIL alphabet such as *<py>,<qy>,< ry>.* The palatalized phonemes, now represented by *<Ci>* sequences *<pi>,< ri>, <ki>,* are not included in the alphabet, although the digraphs are found in a few Ashéninka texts in the learner's book, designed by Jacinto and Bernales. The Spanish graphemes *<c>* and *<qu>* are replaced with *<k>.* This writing system encodes the bilabial approximant as *<b>* and retains the grapheme *<g>.*

A more recent Asháninka-based alphabet (which is a slightly revised version of Jacinto & Bernales 2007) eliminates *<g>* while keeping the rest of the graphemes intact (Cushimariano Romano & Sebastián Q. 2008). The proposed orthography, used in the preliminary version of the Asháninka-Castellano dictionary, was placed online to solicit public input on its design and content. Summarizing this section, it can be suggested that these two sets of practical orthographic conventions are similar to the language consultants' intuitive orthographies, signaling a growing consensus in the community about the future shape of the orthographic system. In the next section, I will discuss possible solutions for the Ashéninka Perené orthography.

4.3 The proposed practical orthography

In accordance with the principles of consistency in the representation of phonology and user-friendliness, the following solutions are proposed for Ashéninka Perené. These practical orthographic conventions make a compromise between the SIL linguistic orthography and the native orthographies developed by speakers of the language. Table 7 shows the four writing systems, which have been developed for Ashéninka since 1980s. Changes to the proposed letters are given in bold.

Phoneme	Payne 1987, 1989	Jacinto, Bernales 2007	Romano, Sebastián 2008	This research project
i	i	i	i	i
e		e	e	e
a	a	a	a	a
o	o	o	o	o
p	p	p	p	p
p^j	py	pi	pi	**py**
t	t	t	t	t
t^j	ty	ty	ty	ty
k	c, qu	k	k	k
k^j	qy	ki	ki	**ky**
g	g	g		

---

[2]Note that the unaspirated *tz* /ts/ is predominantly realized in the westerly speech variety, represented by the community of Pampa Michi. Some speakers of the Ashéninka Perené easterly speech variety (e.g. from Bajo Marankiari) do not distinguish between the two, using only the aspirated affricate *ts* /ts^h/. Akin to the loss of the distinction between the alveolar affricates *ts* and *tz* (they are both pronounced with some degree of aspiration), there seems to be a similar blending process underway involving the palatalized alveolar stop /t^i/ and the palato-alveolar affricate /tʃ/. The two are converging perhaps due to the natural tendency in the articulation of a palatalized stop to produce some degree of air turbulence and friction (i.e. affrication) (Clark, Yallop, & Gletcher 2007:63-4).

s	s	s	s	s
ʃ	sh	sh	sh	sh
ʧ	ch	ch	ch	ch
tsʰ	ts	ts	ts	ts
ts	tz	ts, t	ts, t	**tz**
h	j	j	j	j
m	m	m	m	m
n	n	n	n	n
ɲ	ñ	ñ	ñ	ñ
ɾ	r	r	r	r
ɾʲ	ry	ri	ri	**ry**
w	**v**	b	b	**w** (or **v**)
j	y	y	y	y
N				**n, m** (or **n**)

Table 7. Ashéninka writing systems developed from the 1980s to date

As Table 7 shows, the problematic issues concern representation of palatalization and aspiration, of the bilabial approximant, and of the archiphoneme N. To indicate orthographically palatalization, realized on stops, fricatives, a nasal, and a liquid, two choices are available. The first option is to use a sequence *<Cy>* e.g. **py**arentsi 'plantain', **ty**aapa 'chicken', =**ky**a 'emphasis', **ny**aantsi 'word', nona**ry**aka 'I lay prostrate'. Given the importance of using familiar symbols in the orthography design for better learnability, perhaps the speakers will consider utilizing the Spanish grapheme *<ñ>* to mark the palatal nasal /ɲ/ while coding the rest of the palatalized consonants with the sequence of *<Cy>* .

The second option is to use the sequence *<Cy>* with the alveolar stop /t/, the sequence *<Ci>* with stops /p/, / k/ and liquid /ɾ/, and utilize the Spanish grapheme *<ñ>* to mark the palatal nasal /ɲ/ e.g. **pi**arentsi 'plantain', =**ki**a 'emphasis', **ñ**aantsi 'word', nona**ri**aka 'I lay prostrate'[3]. The first approach enables consistency in the representation of palatalization and an adequate expression of words whereas the second approach is inconsistent (we apply *<Cy>* with the alveolar stop but use *<Ci>* with bilabial and velar stops; to mark palatalization of the nasal stop, a separate symbol is used) and does not represent the words effectively. Admittedly, representation of palatalization on the basis of the linguistic principle of consistency may not be favored by the native speakers who will ultimately make their decision on this complex issue.

Aspiration could be marked on the alveolar affricate by using different digraphs, *<ts>* for aspirated affricate and *<tz>* for unaspirated one e.g. otsi**tz**i 'dog', **tz**imatsi 'there is'. Alternatively, the same digraph *<ts>* can be used for both e.g. otsi**ts**i 'dog', **ts**imatsi 'there is'. The third option is to use the grapheme *<t>* for the unaspirated affricate e.g otsi**t**i 'dog', **t**imatsi 'there is'. Considering the available options for marking aspiration, the first solution seems more attractive, since it avoids ambiguity by assigning different

---

[3]Some SIL-recommended orthographies of Kampan languages such as Asháninka (Kindberg 1980), Machiguenga (Snell 1998), Nomatsiguenga (Shaver 1996) utilize digraphs *Ci* to represent palatalized segments, in spite of the evidence that these segments are unitary palatalized elements. I think that the SIL linguists' choices concerning representation of palatalization might have been motivated by the need to draw on the familiar conventions of Spanish to make the proposed orthographies more acceptable to the native communities. Indeed, building on the literacy skills that already exist in the community facilitates learning of the vernacular language.

digraphs to different phonemes. The second and third solutions, although simpler, are likely to confuse a non-fluent reader and writer, and do not adequately represent the words.

The proposed orthography uses <w> to write [w] and [ß]. Unlike other proposals that use <b> to represent the semivowel /w/, this study's recommended <w> essentially represents the sound produced by native speakers. As regards representation of the archiphoneme N, two solutions are plausible.   The first option will be to follow the language consultants' prevalent spelling of representing the three nasals [n], [m], [ŋ] as <n>. Alternatively, instructions may be provided to use <m> before <p> and <n> as a default in other environments.

Ultimately, these problems have to be worked out with the community and with the community's needs in mind for the practical orthography to function effectively.

5. Conclusions

We have seen that some segments from the Asheninka Perené phoneme inventory—aspirated and unaspirated voiceless alveolar affricates /ts^h/ and /ts/, palatalized stops and liquid consonants /p^j/, /k^j/,/ɾ^j/, bilabial approximant[w/ß̞] archiphoneme /N/, and long vowels—have presented difficulties with their representation. Aimed at shedding light at the principles underlying the design of the existing native orthographies of Ashéninka Perené (Arawak) speakers, this study has revealed that naïve writing systems largely draw on the speakers' familiarity with the characters and conventions of Spanish as the language of wider communication and, to a lesser degree, with the 1987 SIL-recommended linguistic orthography. Specifically, familiar Spanish characters such as <j>, <ñ>, <v> or <b> are used to represent native sounds close to their Spanish counterparts. Spelling of the Ashéninka Perené palatalized consonants /p^j/, /k^j/, /ɾ^j/ as <pi>, <ki>, <ri>, respectively, also seems to be modeled on the Spanish convention of combining a consonant and a high front vowel. When facing a gap in the grapheme inventory of Spanish, speakers tend to reuse a familiar symbol to code distinctive indigenous sounds. For example, both aspirated and unaspirated alveolar affricates /ts^h/ and /ts/ are spelled as <ts>; the phonetic forms [n], [m], [ŋ] of the archiphoneme N are represented by <n>. Presumably, limited access that the speakers have to linguistic and educational resources in the language of speakers' school education may account for their preferences in the design of native spelling systems.   The resultant vernacular orthographies turn out to be deep and may present challenges for the beginning readers. In contrast, this orthography development project draws on the principles of user-friendliness and consistency in the representation of Ashéninka Perené phonology, which might make it more accessible to the beginners.

One is left wondering which set of graphemes will be eventually selected by the native community to better suit its needs. Note that one of the outcomes of the language documentation project will be the publication and dissemination of the collected texts. Many native speakers have expressed interest in the publication of a book of stories and conversations recorded by the members of the community. The next step will be to decide on the common set of writing conventions to be used in the story book. Perhaps, as more Ashéninka Perené speakers become familiar with the proposed writing conventions, the problematic issues of representation of native sounds will be resolved through writing workshops and informal discussions within the community.

References

Anderson, Ronald. 1987. *Quinquitharentsi (Cuentos). Asheninca*. Segunda edición. La Merced, Peru: Instituto Lingüístico de Verano.

Chiroque Chunga, Sigfredo & Alfredo Rodríguez Torres. 2008. *Los pueblos indígenas y el derecho a la educación, dentro del Programa de Formación de Maestros Interculturales Bilingües de la Amazonía Peruana (FORMABIAP).* Serie ensayos & investigaciones Nº 26. Buenos Aires: Laboratorio de Políticas Públicas.

Clark, John, Colin Yallop, & Janet Fletcher. 2007. *An introduction to phonetics and Phonology.* 3rd edn. Malden, MA/Oxford, UK: Blackwell.

Cushimariano Romano, Rubén & Richer C. Sebastián Q. 2008. *Ñaantsipeta asháninkaki birakochaki. Diccionario Asháninka-Castellano.* Versión preliminar. http://www.lengamer.org/publicaciones/diccionarios/Dic_Prelim_Ashaninka.pdf (January 20, 2010.)

Grenoble, Lenore & Lindsay Whaley. 2006. *Saving languages: An introduction to language revitalization*. Cambridge: Cambridge University Press.

Gordon, Raymond, Jr (ed.). 2001. *Ethnologue; Languages of the World.* 14th edn. Dallas: SIL International.

Hornberger, Nancy. 2000. Education policy and Practice in the Andes: Ideological Paradox and Intercultural Possibility. *Anthropology and Education Quarterly*, 31(2). 173-201.

Jacinto Santos, Edwin & Daniel Bernales Quillatupa. 2007. *Sankinarentsi.* La Merced, Peru: CIAMB.

Jacinto Santos, Edwin. 2004. *Gramática asháninka basica*. La Merced, Peru: CIDEARP.

Kindberg, Lee. 1980. *Diccionario asháninca.* Documento de trabajo No 19. Yarinacocha, Pucallpa, Peru: Instituto Lingüístico de Verano.

Payne, Judith. 1989. *Lecciones para el apredizaje del idioma ashéninka*. Serie Lingüistica Peruana No 28. Primera edición. Lima, Peru: Instituto Lingüístico de Verano.

Payne, Judith. 1987. *Introdución al alphabet ashéninca*. Colleción literaria y cultural. Primera edición. Lima, Peru: Instituto Lingüístico de Verano.

Seifart, Frank. 2006. Orthography development. In Gippert, Jost, Nikolaus Himmelmann & Ulrike Mosel (eds.). *Essentials of language documentation.* 275-300. New York: Mouton de Gruyter.

Shaver, Harold. 1996. *Diccionario nomatsiguenga-castellano*. Documento de trabajo No 41. Lima, Peru: Instituto Lingüístico de Verano.

Snell, Betty. 1998. *Pequeño diccionario machiguenga-castellano*. Documento de trabajo No 32. Lima, Peru: Instituto Lingüístico de Verano.

Errata
Added on October 7, 2010

p.12, 1st paragraph and 2nd paragraph
- The translation of *pyarentsi* as 'plantain' is incorrect. The correct translation of *pyarentsi* is 'manioc beer'.