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## **Mochica: Grammatical topics and external relations**

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*Chapter 10. Mochica distant relations*



In this chapter, I review previous proposals on distant relationships between Mochica and other languages. In 10.1., I describe the proposed relationship between Mochica and Ecuadorian languages. In 10.2., I present Walter Lehmann's various proposals on distant relations, as described in some of his multiple manuscripts. In 10.3., I present Lehmann's proposed relationship between Mochica and Barbacoan. Section 10.4. inspects Adelaar's proposed relationship of Mochica with Atacameño. In 10.5., I reconsider Stark's proposal on the Mochica relationship with Mayan and offer my own comparison with Proto-Mayan. Finally, section 10.6. offers a short summary and conclusive remarks, following the comparison and re-evaluation of the hypothesis of the relationship between Mochica and Mayan.

### **10.1. Mochica and Ecuadorian languages**

Based on his study of toponyms and anthroponyms and the available grammatical information, Jijón y Caamaño (1919, 1940, 1941, 1943, 1945) prepared a monumental work devoted to the study of the indigenous languages spoken in the Ecuadorian territory before the Spanish Conquest. In an early work, Jijón y Caamaño (1919: 403-406) attributes a Mochica origin to the suffixes <-nga> and <-ng>, present in Ecuadorian toponyms. Moreover, he claims that there is an intimate relationship between Ecuadorian names ending in <-ng> or <-nga> and similar names in Peru, Bolivia and part of Chile (Atacama region). Jijón y Caamaño (1919: 404) believes that the influence of the Mochica speaking civilization may have been beneficial to the Ecuadorian peoples; considering that Puruhá, Cañari, Mochica and Manteño (or Manabita) coexisted in contiguous territories, and they were so narrowly related that they overlapped, Jijón y Caamaño even ventures to claim that all these languages are dialects of the same language (1940: 411). Later on, he establishes a Macro Chibcha phylum (1943: 20), most probably inspired by

Rivet (1924: 651). This author also believes, as well, that Puruhá-Mochica languages constitute a branch of Macro Chibchan, which in turn would be part of a Hokan-Siouan-Macro Chibchan phylum.

According to Jijón y Camaña, the Macro Chibchan phylum was divided as follows:

- A. Paleo-Chibcha languages
- B. Chibcha languages
- C. Timote
- D. Kofane
- E. Murato
- F. Miskito-Xinca languages
- G. Puruhá-Mochica languages
- H. Cholona

The group of Puruhá-Mochica languages, represented in (G), would be subdivided further as follows:

- i. Puruhá
- ii. Cañari
- iii. Manteño
- iv. Guancavilca
- v. Puneño
- vi. Cajamarca
- vii. Ancachs<sup>178</sup> [sic]
- viii. Yunga or Mochica

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<sup>178</sup> The modern spelling of this toponym is Ancash; I tracked Ancachs back to Raimondi (1873).

## ix. Lima

This is how extinct Ecuadorian languages like Cañari or Manteño come into play in terms of relating to Mochica. The group Puruhá-Mochica looks very similar to the linguistic family Rivet (1924: 651) proposes and coins *Atal'an*. Rivet himself explains that he has attributed this name to a linguistic family of extinct tribes of the ancient Ecuadorian kingdom coastal plains that seemed ethnographically related. Rivet's Atal'an linguistic family comprises: Manta, Huankavilka, Puna and Tumbez. There is no linguistic data available on these Ecuadorian languages. Rivet accounts his proposed linguistic families in a very particular way, that is alphabetically; in order to find his reference to Mochica, one almost needs to go through the registered families in order to find the linguistic family *Yunka* at the end of the list. This linguistic family Yunka would have Trujillo as its center village. In this family, he groups the following languages: Morrope, Eten, Tšimu, Motšika, Tšintša and Tšanko (Rivet 1924: 696). He decides to group the other extinct northern Peruvian languages in another linguistic family called *Sek* (Rivet 1924: 678). Rivet explicitly states that the Sek language family is often mistaken with the Yunka family; he puts this family apart, including Colán, Katakao and Setšura. Later on, Rivet (1949: 46-47) claims the existence of a group of speakers of a language related to the Chibchan family in northern Peru, claiming that the influence of the Colombian civilization is evident in that region through archaeological evidence of metallurgy.

Mason (1950: 195-196) proposes a family based on the extinct languages of coastal Ecuador and northern Peru, namely, the Yunca-Puruhá family, shown below.

I Yunca-Puruhá (Yunca-Wancavilca, Puruhá-Mochica)

A. Yuncan

1. North Group (Puruhá- Cañari)

- a. Puruhá
- b. Canyari (Cañari)
- c. Manabita (Mantenya)

2. South Group (Yunca)

- a. Yunga
- b. Morropé
- c. Eten (?)
- d. Chimu
- e. Mochica (Chincha)
- f. Chanco

B. Atalán

1. Wancavilca (Huancavilca)

- a. Manta
- b. Tumbes
- c. Puna
- d. Carake: Apichiki, Cancebi



The existence of several languages presented in this family is questionable because the proposal is based on the names of places and on the poor information of travelers or chroniclers who claimed that the languages differed from one place to the other. There are hypothetical languages that, if existent, probably did not differ much from each other. The languages of Mason's South Group Yunca branch, namely, Yunga, Morropé, Eten, Chimu, Mochica (Chincha) and Chanco, follow exactly Rivet's classification (Rivet 1924: 696). Mason definitely bases his proposal on area names and assumes varieties of which there is no linguistic evidence (Stark 1968: 30-31). Besides these types of proposals which relate Mochica with other languages, there are multiple others. Still, it is relevant to mention the Yunga - Chibchan relationship proposed by Greenberg (1987). According to this proposal, Mochica (Chimu in his terms) would be a family forming part of the Chibchan - Paezan branch of Amerind.

## 10.2. Walter Lehmann's various proposals on distant relations

In the introduction to his *Kleines Wörterverzeichnis alphabetisch geordnet der Mochica-Sprache*, Lehmann ([1929a] 1937: n.p.), criticizes different earlier proposals on possible distant relations of Mochica with other languages. Lehmann ([1929a] 1937: n.p., 1930: 340) evaluates Paul Rivet's proposal that related Mochica to Malayo-Polynesian languages based on the word for sweet potato <ubi> and Mochica <ápaenĕ> (Lehmann [1929a] 1937: n.p.), <op<sup>179</sup>>, <open>, <apene> (Lehmann 1930: 340). He also considers it necessary to

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<sup>179</sup> The first record for 'sweet potato' in Mochica is <opæne> (Carrera 1644). One can segment this word as <op-æne>. The second segment <-æne> is a plural marker, which would mean that the word for 'sweet potato' is <op>, as Lehmann (1930: 340) records.

prove scientifically whether the same types of Polynesian sweet potatoes<sup>180</sup> were available in pre-Hispanic America.

Moreover, Lehmann ([1929a] 1937: n.p.) mentions his personal communication with Gustav Wilhelm Otto Antze in Lübeck, in which Antze would have shared his proposal on the connection between Mochica and Chamorro (Micronesian language). Lehmann ([1929a] 1937: n.p.) considered this proposal adventurous. However, he believed it necessary to prove whether or not Mochica was related to some Central American language. Regarding cultural and archaeological evidence, he suggests that the Naymlap-culture<sup>181</sup> may have some relationship to the Chorotega-Mangue culture. Lehmann ([1929a] 1937: n.p.) claims that Mochica likely had some distant relationship with the Uro<sup>182</sup> language, according to his investigations (mentioning his

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<sup>180</sup> The search for possible pre-historic contacts between Polynesia and the west coast of South America has been an investigative topic for specialists of different disciplines: archaeologists, linguists, biologists, geneticists, etc. Recent studies seem to prove that there was indeed prehistoric interaction in the Pacific. The proof is based on evidence of the pre-historic distribution of two animal species associated with humans: the chicken and the dog, and some plants: the sweet potato or *kumara* (*Ipomoea batatas*), the bottle gourd (*Lagenaria siceria*), the coconut (*Cocos nucifera*), the soapberry (*Sapindus saponaria*) and the Polynesian tomato (*Solanum repandum*) (Storey et al. 2011, Storey et al. 2013). The identical form of the Quechuan *kumara* (sweet potato) and the Polynesian name, along with its regional Oceanic cognates, *kumala*, *umala*, *'uala* (*Ipomea batatas* by Poiret; *Convolvulus batatas* by Linné; *Batatas edulis* by Choisy was pointed out for the first time in 1866 by Berthold Seemann (cited in Rivet [1943] 1960: 167). The striking similarity to the Polynesian name *kumara* has led some scholars to suspect an instance of pre-Columbian trans-oceanic contact. Adelaar (1998: 403-409, [2004] 2007: 41) supports a case of lexical borrowing between Polynesia and South America due to sporadic contacts that led to occasional interchanges of words.

<sup>181</sup> Naymlap-Kultur (Lehmann 1930: 337).

<sup>182</sup> Lehmann ([1929e] 1930) collected information on Uro in Puno. He calls this language “Uro von Ts' ímu” or “Chímu”. The manuscripts on Uro by Lehmann are in the library of the Ibero-Amerikanisches Institut in Berlin.

manuscript work *Peru-Reise*<sup>183</sup> 1929). At the same time, Lehmann (1930: 237, fn. 4) claims that Mochica has thus far been an isolated language reminiscent to Atacameño. As will be discussed in 10.4. Adelaar (2003) inspects Atacameño comparing it to other Andean languages and coming to the conclusion that there are a few lexical and structural similarities between Mochica and Atacameño.

The manuscript *Vokabulare zu meiner Süd-Amerika Reise*, prepared by Lehmann (1929f), includes vast information about the following languages: Aymará, Quechua, Mochica, Uro-Puquina (Bolivian Uro or Hankoaque), Atacameño and Uro-Ts'ímu. Lehmann creates lists in columns where he compares Aimara, Quechua, Mochica, Uro, Atacameño and Puquina<sup>184</sup>. This manuscript is not only the final result of compilation of vocabulary of the aforementioned languages accomplished during a period of around five months' travel through South America, but it also includes a comparative analysis in which Lehmann (1929f) searches for similarities amongst these languages. The recollection of his data started in August 1929 in La Plata and Buenos Aires, Argentina, where he obtained data on Atacameño. Continuing, he collected his Quechua data in the train to La Quiaca (22<sup>nd</sup> of September 1929). In La Paz, he started to gather Aimara data from the end of September until the 13<sup>th</sup> of October. He collected data on Uro (Puquina) in Hankoaque on the 12<sup>th</sup> of October and on Uro-Ts'ímu in Puno on the 26<sup>th</sup> of October. He gathered Mochica (Eten) data on the 14<sup>th</sup> and 15<sup>th</sup> of December. He compared approximately 637 entries. In one page of his work, he compares the personal

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<sup>183</sup> Lehmann (1929f) *Vokabulare zu meiner Süd-Amerika Reise*.

<sup>184</sup> It is called Puquina by Lehmann, but this name was used to refer to the Uro language (Cerrón-Palomino 2016: 27-30, 135).

pronouns of Mochica with those of Uro. He also illustrates the verb ‘to be’ in Mochica, <chi>, and that in Uro, <tšúí><sup>185</sup> ‘to be’, ‘to exist’.

### 10.3. Mochica and Barbacoan (Cayapa-Colorado)

In one of his last index cards, Lehmann ([1929c] 1937) attempts to compare Mochica with Colorado. Mason (1950: 194) mentions Lehmann’s failed attempt of finding a connection between these languages. In Table 32, I reproduce his comparisons between Mochica and Cayapa-Colorado. The Mochica words follow Lehmann’s orthography.

Table 32. Mochica-Cayapa

Gloss in German	Colorado	Mochica (Eten)
essen ‘to eat’	<finu>	<phenno>
Vater ‘father’	<apá>	<ef>
Weib ‘female’	<sónu>	<ssonäng>
Nase ‘nose’	<kinfu>	<fonkik ?>

Source: Lehmann ([1929c] 1937)

The extremely reduced number of lexical similarities found by Lehmann proves nothing concerning a relation between Mochica and Cayapa-Colorado. Because of the proposed grouping of Mochica with Chibchan languages by Greenberg, Stark (1968: 40-49) decided to analyze the Chibchan languages closest to Mochica territory, assuming that those would be the Barbacoan family languages. Therefore, she examined the Colorado and Cayapa languages belonging to Greenberg’s Paezan branch. Her comparative list of

<sup>185</sup> Lehmann records this verb in the manuscript *Vokabulare zu meiner Süd-Amerika Reise* but I did not find it in Lehmann (1929d) or Lehmann ([1929e] 1930), nor did I encounter it in Cerrón-Palomino & Ballón Aguirre (2011) or Cerrón-Palomino (2016).

cognates includes 102 potential cognates and limited correspondences such as Cayapa-Colorado /p/ corresponding to Mochica /f/ (Stark 1968: 46). After analyzing morphological and syntactic aspects, Stark (1968: 49) concludes that Mochica and the Barbacoan languages (Cayapa and Colorado) should not be considered sister languages.

#### **10.4. Mochica and Kunza (Atacameño)**

Kunza, also known as Atacameño or Lican Antai, is an extinct Andean language which was spoken by the Atacameños within the Salar de Atacama river basin and areas of the El Loa province, in Chile. Its influence (based on toponymic studies) reached Salta and Jujuy in Argentina and some adjacent areas of Bolivia (Lehnert 1987: 104; Adelaar ([2004] 2007b: 376). Adelaar (2003) inspects Kunza's possible connections to other Andean languages. He compares it with Mochica, Cholón, Quechua, Callahuaya, Puquina, Leco and Aimara. He comes to the conclusion that it is clear that Kunza has borrowed lexical items from Quechua and Aimara (Adelaar 2003), but considers the lexical similarities between Kunza, Mochica, Chipaya and Leco to be coincidences. He also observes some structural similarities between Kunza and Mochica.

Adelaar (2003) considers that both languages present relational suffixes attached to nouns in possessive constructions. In Chapter 6, we observed that Mochica has two relational suffixes, <-(V)ss> and <-Vd>, that occur in complementary distribution (for nouns ending in vowel or consonant, respectively) in alienable possessive constructions. After examining the scarce information on possession by San Román (1890: 8-9) and the possessive constructions in the Kunza "Our Father" prayer recordings by Tschudi (1869: 84, 84, fn.1), I cannot determine whether there was inalienability split in Kunza. Adelaar (2003, [2004] 2007b: 381) assumes that Kunza makes use of

the suffix <-ia> / <-ya> as a relational suffix in possessive constructions without establishing possessive classes in this language. I consider this insufficient because the only examples with this suffix are: <tic-han> / <tic-hania> ‘father’ (San Román 1890: 8-9); <lójma> / <locjmaia> ‘dog’ (San Román 1890: 9); <che><sup>186</sup> / <chea> ‘name’ (Tschudi 1869: 84) and <\*manu> / <manuya> ‘debt’ (Tschudi 1869: 84). The Spanish and Quechua loanwords in possessive constructions in the “Our Father” prayer do not occur with this supposed relational suffix (the loans in the Kunza “Our Father” prayer are: *reino* ‘kingdom’, *voluntad* ‘will’, <tancta<sup>187</sup>> ‘bread’).

Another formal characteristic that Adelaar (2003) considers a correspondence between Mochica and Kunza is the initial vocalic element of interrogative pronouns. In this respect, Adelaar (2003) mentions one of Greenberg’s grammatical evidences for Amerind<sup>188</sup>, that is, the two common interrogatives, with initial *k*- and with initial *m*- (Greenberg 1987: 315-316). Mochica and Kunza do not fall into this grouping, presenting initial *e*- and initial *i*-, respectively. Adelaar contemplates a third similarity, comparing the second person singular and plural in Kunza and Mochica. Second person prefixes in Kunza would correspond to the Mochica pronouns according to this proposal, but only the singular forms are actually comparable, as can be seen in Table 33. Mochica does not have prefixes, but it presents a clitic that can precede or follow a verb because as a clitic, it occupies second position,

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<sup>186</sup> Cf. <tchei> ‘name’ Vaisse et al. (1896: 34), <ch’ei> Schuller (1908: 30)

<sup>187</sup> Quechua loanword for ‘bread’.

<sup>188</sup> Greenberg’s thesis is that all indigenous languages of the Americas fall into a single vast family except those of Na-Dene and Eskimo-Aleut families (Greenberg 1987: 38).

always attaching to the first element, even if it is not a verb. Table (33) is based on Adelaar (2003).

Table 33. Mochica-Kunza pronouns

<b>Kunza</b>		<b>Mochica</b>	
pronominal prefix	pronoun	pre-and post verbal clitic	pronoun
2SG	2SG	2SG	2SG
<(i)s->	<chema>	<as>, <æs>, <-s>	<tzhang>
2PL	2PL	2PL	2PL
<chin->	<chimi>	<as-chi>, <æs-chi>, <-s-chi>	<tzhæich>

Source: Adelaar (2003)

After inspecting the lexical evidence of Kunza (cf. Vaïsse et al. (1896); San Román (1890); Schuller (1908)), I agree with Adelaar (2003) that there are only a few items that look similar to Mochica words, and they cannot prove any kind of genealogical or contact relation between these two languages. Adelaar ([2004] 2007b: 376, 376, fn. 164), when referring to the Kunza genetic relations, does not mention his study on the lexical comparison of Kunza with Mochica. Table 34 shows Adelaar's (2003) findings. Personally, I would not consider the last element in the table to be a similarity.

Table 34. Mochica-Kunza lexical comparison

Gloss in English	Atacameño	Mochica
'head'	<lacksi>	<lecų>
'heart'	<tchitack>	<cuætæss>
'to eat', 'to drink'	<man-tur <sup>189</sup> >	<man->
'to bring'	<mat-ur>	<met->
'to kill', 'to die'	<latta-tur>/<latan-tur>	<læm->
'earth'	<(h)ôyri>	<æiz>

Source: Adelaar (2003)

### 10.5. Mochica affinities with Mayan?

Mochica constitutes an enigma for Amerindian Linguistics when it is compared to the surrounding languages spoken in the region due to its highly unusual typological features. Many features of Mochica, such as numeral classifiers, recurrent use of passive constructions, personal reference markers, and some lexical items are reminiscent of the Mayan languages in Mesoamerica (Stark 1968, 1972; Adelaar [2004] 2007a).

Zevallos Quiñones (1944: 7) believes to have found an ethnic and cultural relationship between northern Peru, Ecuador and Mayan and other Mexican languages. He bases his suggestion on his study on toponyms. There have been several attempts to relate Mochica genealogically, like that of Zevallos Quiñones', but the only serious attempt is that of Stark (1968, 1972), who compared Mochica to a Cholan Mayan language, Ch'ol, suggesting that some lexical and grammatical similarities between these two languages could be

<sup>189</sup> Vaisse et al. (1896: 26) and Schuller (1908: 43) register <mantur> as 'to swallow' and <holmtur> as 'to eat' (Vaisse et al. (1896: 22), Schuller (1908: 39)).



evidence for a genealogical relationship between them. The main difference between Stark (1968) and (1972) is that the latter version includes a few Proto-Mayan forms that became available only after her first study (1968) appeared. Whereas some of the aspects of Stark’s (1968, 1972) proposals certainly need to be revised (10.5.1.), it is evident that there are indeed some parallels between Mochica and Mayan languages. In this respect, the intention of this section is to revisit Stark’s hypothesis and present the results of my own comparisons.

#### 10.5.1. Stark’s proposal (1968) revisited

The purpose of Stark’s dissertation on “Mayan affinities with Yunga of Peru” was to reconstruct the phonology of Mochica and to explore its relationship to other American languages. Stark dedicated the first chapter of her work to the reconstruction of the Mochica phonological system (Stark 1968: 8-27). In Chapter 3 (see Table 6) of this dissertation, I summarize all existing reconstructions of the Mochica phonology available so far. In the present section, for methodological reasons, I offer Table 35, which contains partial information from Table 6, including Carrera’s (1644), Stark’s (1968) and my own reconstruction of the Mochica phonological system.

Table 35. Stark’s interpretation of the Mochica phonological system

<b>Carrera (1644)</b>	<b>Stark (1968)</b>	<b>Eloranta (2013b)</b>
<a>	a, a:	a, a:
<e>	e	e, e:
<i>	i	i, i:
<o>	o, o:	o, o:
<u>	u, u:	u, u:

Carrera (1644)	Stark (1968)	Eloranta (2013b)
<æ>	ø	i
<c/qu>	k	k
<ç/z>	ç / z	s
<ch>	ĉ	ĉ
<cu>	ĉ	c
<d>	ĉ	d
<f>	f	ϕ
<l>	l	l
<ll>	Ŀ	Ŀ
<m>	m	m
<n>	n	n
<ñ>	ñ	ñ
<ng>	ŋ	ŋ
<p>	p	p
<r/rr>	r/r	r
<s/ss>	z/s	š
<t>	t	t
<tr>	-	-
<tzh>	ĉ	ĉ
<v>	u	u
<x>	ç / f	f
<xll>	ø <sup>j</sup>	ł
<y, j, i>	j	j

Chapter 3 of Stark's dissertation is dedicated to the examination of a possible relationship of Yunga to Mayan. At the time of her study, there was no

available account of Proto-Mayan, an issue that she herself identified as a problem (Stark 1972: 122) and also as the motivation for choosing the Mayan language Ch'ol. Stark (1968: 56) selected Ch'ol because she considered it to resemble Mochica. According to her own statement (Stark 1968: 91), there was no grammar written of Ch'ol when she conducted her research; because of this, for her comparative work, she needed to outline a sketch of the Ch'ol grammar based on the texts presented in the Ch'ol dictionary by Aulie<sup>190</sup> (1949). Amongst Stark's multiple criteria for comparing these two languages, she considers, first, that both languages have a six-way vocalic system. Second, both languages have similar syllable structures and, third, Mochica and Ch'ol show a tendency for mono-syllabic roots. In relation to the sixth vowel in Ch'ol, it is convenient to note that, according to Stark (1968: 62), it is the open-mid central unrounded vowel /ɜ/. Stark (1968: 24-25) interprets the Mochica sixth vowel as the mid central rounded vowel /ø/.

In order to find correspondences between Ch'ol and Yunga, Stark (1968: 63-85) isolated the word roots, removing residual morphology from the inspected elements. With respect to her treatment of Mochica, one can state that Stark correctly identifies extra morphology such as the event nominalizer suffix <-(V)çVc> / <(V)ssVc>, which she calls a nominalizer (Stark 1968: 64), or the valency marker <-um> (Stark 1968: 64), which she calls a "verbal suffix". However, she isolates the suffix <-cu> out of two words referring to fingers, namely, <lecucu> 'thumb' and <quichcu> 'pinkie'. She assumes that <-cu> is a suffix meaning 'finger'. As seen in 4.5.2.2. the suffix <-cu> seems to be a productive derivational suffix that helps to create new nouns, but its semantics

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<sup>190</sup> I have not had access to Aulie (1948). In the bibliography, this work is mentioned as registered by the Summer Institute of Linguistics publications site: <https://www.sil.org/resources/publications>. I have only had access to the posterior Ch'ol dictionary prepared by Aulie & Aulie ([1978] 2009).

remains unknown. Stark's interpretation was only intended for nouns referring to fingers, but the following attested nouns seem to be the result of the affixation of <-cu> to an existing noun, as well: <ñangcu> 'male' (Carrera 1644: 28), <eizcu> 'abdominal cavity' (Carrera 1644: 178). This is an example of Stark's arbitrary selection of items; had she grouped all items ending in <-cu>, she would not have proposed the meaning 'finger'.

At the end of the examination of the isolated forms, she concludes that all phonemes in Ch'ol have correspondences in Mochica (Stark 1968: 85). Then, Stark (85-90) offers a list of 89 Mochica - Ch'ol cognates out of the 691 Mochica lexical items she examined. Stark's 89 proposed Mochica - Ch'ol cognates offer several problems. One of them is the erroneous segmentation of the Mochica words. The case of the cognate in her example (57) shows her mistaken segmentation of the attested word meaning 'meat' in Mochica, <ærquic> (Stark 1968: 88). Stark records the word as *ør*, which demonstrates that despite her correct identification of the extra morphology, did not correctly display the root as <ærc->.

The same kind of mistake is repeated with other cognates she proposes: (28) *fal* 'head' (Stark 1968: 87), (31) *iñ* 'marriageable woman' (Stark 1968: 87) and (42) *laft* 'rib'. In the case of *fal* 'head', the inspected words were probably <falp-ic> or <falp-eng> from which one can obtain <falp-> 'head' and not <fal->. I consider the proposed term *iñ* for 'marriageable woman' rather adventurous, as the attested Mochica word for 'marriageable woman' is <yñicuc> (Carrera 1644: 146), and even though a segmentation such as <iñ-ic-uc> is hypothetically feasible, the segment <iñ> would probably not mean 'marriageable woman'. The case of the cognate (42) *laft* 'rib' does not correspond to a correct analysis of the Mochica nominalizers, which involves a locative nominalizer <-tVc> present in the body part term for 'rib' <laf-tic>.

In most of the cases, an arbitrary segmentation appears to be motivated by the need to find a resulting segment comparable to a similar Ch'ol term. Example (256) includes some of the aforementioned Mochica cognates and the case registered as number (82) in Stark (1968: 90), where this author suggests that *un* may be 'one' in Mochica. The numeral 'one' in Mochica is <onæc>, which indeed could be segmented as <on-æc>. In this specific case, the only motivation for representing it as *un* seems to be making it resemble Ch'ol *hum(p'ehl)* more.

(256) Mochica	Ch'ol	Gloss
<i>fal</i>	<i>hol</i>	'head'
<i>iñ</i>	<i>ihnam</i>	'marriagable woman'/'wife'
<i>laft</i>	<i>(či?)lat</i>	'rib'
<i>um</i>	<i>hum(p'ehl)</i>	'one'

Another problem observable in Stark's analysis is that she hypothesizes meanings or etymologies without strong arguments. Related to this, one can add that in many cases Stark assumes semantic extensions that I consider unconvincing, and the correlations of form and meaning are rather few. Stark's proposed cognates (4) *al* 'mouth' (Stark 1968: 86) and (15) *čam(asak)* 'suffering' (Stark 1968: 87) are clear cases of this author speculating on meanings without evidence. There is an attested word for 'mouth', which is <ssap> and therefore it is difficult to understand how Stark could have concluded that *al* means 'mouth'. My only suspicion is that she inspected the word <altærr> 'throat' and segmented it as <al-tærr>, assuming that <al> means 'mouth'. The case of *čam(asak)*, meaning 'suffering', is similar. There exists a word in Mochica meaning 'suffering', namely, <rromçæc> (Carrera 1644: 207). The form recorded as 'suffering' by Stark is extracted from Middendorf's corpus (Middendorf 1892: 63); it is an event nominalizer

derived from verb <cuam-> (Carrera 1644: 148, Middendorf 1892: 86), meaning ‘anger’, ‘fury’. Middendorf’s (1892: 63) German translation is ‘Zorn’ ‘anger’, ‘Unwille’ ‘unwillingness’.

Besides the problems exposed so far, one can also mention some individual cases in which imprecisions can be identified in the analysis. Such is the case with Stark’s assumption that the Quechua word *fakča* was a Mochica word (Stark 1968: 87). In her example numbered (27), she registers the pair of cognates: *fakča* ‘poor, barren’ - *hoč* ‘empty’. First of all, the correspondence between these two words is very low, and secondly, as demonstrated in 9.3.1., Mochica <faccqa> (Carrera 1644: 43), represented by Stark as *fakča* is an etymologically secure Quechua term \*wakča, meaning ‘poor’. Moreover, the pair numbered (63) by Stark, Mochica *pol-* ‘increase’ - Ch’ol *p’ohl(el)* ‘sell’ (Stark 1968: 89) deserves to be commented on. The verb <pol-> is registered by Middendorf (1892: 89) as *verkaufen*, that is, ‘to sell’. It is difficult to understand the need to change the meaning of ‘to sell’, which actually would correspond perfectly to the one registered for *p’ohl(el)*. After consulting a dictionary of Ch’ol, I discovered that the verb *p’ol* means ‘to produce’ and not ‘to sell’ (Hopkins, Josserand & Cruz Guzmán 2011: 193).

After presenting lexical correspondences, Stark (1968: 90-98) inspects grammatical aspects of Mochica and Ch’ol, both morphological and syntactic, and comes to the conclusion that there are certain similarities between Mochica and Ch’ol (1968: 98). Stark takes into consideration multiple grammatical features; however, she examines some of the features erroneously. This is why I have decided to include only the cases I consider accurate. As example of an error of interpretation, Stark (1968: 93) assumes that the Mochica event nominalizer <-(V)çVc> / <(V)ssVc> may be a “general superlative of modifiers” comparable to the Ch’ol suffix *-ša*, used “to show

greatest degree”. However, this nominalizer does not have the function of an adjectival modifier in Mochica, at all. In (a) - (f) one can find the morphological aspects shared by Mochica and Ch’ol that are best supported by Stark’s examples and explanations (1968: 90-94):

- (a) Mochica and Ch’ol nouns and verbs are most frequently monosyllabic.
- (b) the most frequent syllable structure is CVC.
- (c) nominalizers present in Mochica and Ch’ol have similar forms and functions. Stark (1968: 92) mentions the possessed form <-Vr> of the Mochica locative/instrumental nominalizer <-Vc> (section 7.1.1.4), acknowledging the similarity of this nominalizer with the Ch’ol nominalizer *-Vl*, which she records as *-il* (Stark 1968: 92).
- (d) Stark (1968: 92) correctly observes the purposive function of the suffix *nem*, which she calls the “verbal suffix *-nem*” but describes as a nominalizer. In my analysis, I consider <-næm> a purposive suffix that serves the function of subordinating clauses (see 5.8.2.2.). She compares it with the Ch’ol suffix *-eʔn*, which “forms a noun expressing the action of the verb” (Stark 1968: 92).
- (e) Stark (1968: 93) correctly identifies the Mochica imperative suffix <-an>, which can be suffixed to the verbal stem (see 5.4.2.1.2.), stating that the Ch’ol suffix *-an* “occurs with certain stems to indicate a command”.
- (f) Both languages have “numerical classifiers” (Stark 1968: 94).

In relation to her comparison of syntactic similarities, Stark (1968: 95-98) observes several aspects, but unfortunately her limited knowledge of Mochica grammar affected her analysis in a negative way. Besides, given such a limited known inventory of Mochica phrases, it seems obvious that Stark created her own Mochica sentences, accommodating the existing ones (mainly Middendorf's) according to her needs. For instance, because she considered the Mochica sentence to consist of "a subject (S) plus a verb (V) plus a direct object (Do) plus a locative (L)", she provided her own example following this proposed structure, completely disregarding Mochica syntax and indiscriminately attributing inaccurate translations to some words.

In (257a) and (257b), I exemplify this problem discovered in Stark's data (Stark 1968: 96). Example (257a) corresponds to the example offered by Stark; the glossing and translation are hers. Comparison of examples (257a) and (257b) reveals serious problems with the structure of Stark's sentence and the meaning of, for instance, the word <fajsäk> 'quiet', 'calm'. Regarding the structure of the sentence, the verb cannot appear without a verbal personal clitic; most probably the so called subject in Stark's proposal *čox* would have needed to come at the end of the sentence, and *kukúli* at the beginning of the sentence, without including the locative phrase 'in the nest'. A more appropriate way of saying 'the boy sees a dove' would have been: *kukuli ang ak čox*. The personal clitic <ang> would occupy the second position, attached to <kukúli> 'dove', after which the verb 'to see' would come. At the end of the sentence, one would need to position the word meaning 'boy', that is, *čox*.

Middendorf (1892: 68) registers <fajsäk> as 'ruhig, 'sesshaft', which are the German terms for 'quiet, calm' and 'sedentary', respectively. A remarkable fact is that in (257a) Stark does not actually register the Mochica word meaning 'nest' as she claims in her translation. The word recorded by



Middendorf meaning ‘nest’ is missing in Stark’s example. She seems to assume that <fajsäk>, represented by her as *fahsøk*, means ‘nest’, whereas the actual term for ‘nest’ is <melluss>, according to Middendorf (1892: 187).

(257a) *čox ak kukuli fahsøk* (Stark 1968: 96)

čox	ak	kukuli	fahsøk
S	V	Do	L
boy	sees	dove	in nest

‘The boy sees a dove in (her) nest’

(257b) <Ak-eiñ onäk kukúli fajsäk melluss-enek> (Middendorf 1892: 187)

Ak=	eiñ	onäk	kukúli	fajsäk	mellu-	ss	en-	ek
See=	1SG	one	dove	quiet	egg-	REL	house	LOC

‘I see a quiet dove in (her) nest’.

Another example which is clearly manipulated by Stark is shown in (258a) and (258b), illustrating the imperative suffix <-an>, shared by Mochica and Ch’ol (Stark 1968: 96). It is important to note that Stark registers the verb ‘to wash’ as *ak-* while it is recorded as <aik-> by Middendorf (1892: 187). Example (258a) shows Stark’s register with her own glosses (I for imperative, O for object) and her own translation. Interestingly, Stark records *kønčo* as ‘venison’, which means ‘meat of deer’ while Middendorf (1892: 187) records only ‘meat’.

(258a) *akan kønčo* (Stark 1968: 96)

I	O
wash	venison

‘wash the venison’

(258b) &lt;Aikan koncho&gt;

(Middendorf 1892: 187)

Aik- an koncho

Wash- IMP meat

'wash the meat'

In general, Stark's analysis is the first attempt to compare Mochica with another language following the comparative method of historical linguistics. However, after revising her proposal and analysis, one can detect several problems that offset her effort to understand both undescribed languages, Mochica and Ch'ol. In this section, I have tried to show examples of some of the problematic points of Stark's analysis, namely, (a) her arbitrary segmentation of morphemes, related to (b) an incomplete understanding of the Mochica grammar and (c) manipulation of the meanings of the analyzed forms. Besides these imprecisions, amongst the 89 Mochica – Ch'ol cognates provided by Stark, there are only a few that can be taken to show sound correspondences. Furthermore, they are unfortunately not enough to establish a genetic relationship between these two languages as Stark suggests. Stark's proposal should perhaps be re-evaluated in the light of reconstructed Proto-Mayan data available nowadays. In the following section (10.5.2.), I offer my own lexical comparison of Mochica and Mayan and my analysis of grammatical features that might be equivalent between these languages.

## 10.5.2. Re-evaluation of the Mochica-Maya comparison

### *10.5.2.1. Mochica - Mayan lexical comparison*

In order to revisit Stark's proposal of Mochica – Mayan cognates properly, I have conducted my own lexical comparison between Mochica (Colonial and Republican Mochica sources) and Proto-Mayan (pM), as well as other Mayan

languages included in the etymological dictionary prepared by Kaufman and Justeson (2003). The Mayan languages regarding the obtained cognates are Proto-Ch'olan (pCH), Eastern Mayan (EM), Yukateko (YUK), Tzotzil (TZO), Tzeltal (TZE), Tojol (TOJ), Mocho (MCH), Huehuetenango (Hue), Yukateko (Yu), Greater K'iche'an (GK): Uspanteko-K'iche'an (UK) + Poqom-Q'eqchi (PQ), Itzaj (ITZ) and Mopan (MOP) (Kaufman & Justeson 2003).

The results of my comparison include 26 probable lexical correspondences. Interestingly, in addition to some probable lexical correspondences, one can also identify recurrent sound correspondences. Particularly striking is the case of the body part terms, which I present in (259). The Mochica voiced alveolar lateral approximant /l/ finds recurrent correspondence with the voiceless glottal fricative /h/. The same kind of sound correspondence can be identified in (260).

Thus, the sound correspondence Mochica /l/ > Mayan /h/ can be seen in (259) and (260).

(259)	<b>Mochica</b>	<b>Mayan</b>	<b>Gloss</b>
	<lecq>	*hoʔl	'head'
	<lucq>	*haty pM	'eye'
		*(h)ut pCH	
	<loc>	*ʔooq	'foot'

(260)	<b>Mochica</b>	<b>Mayan</b>	<b>Gloss</b>
	<là>	*haʔ	'water'

Considering the lexical correspondences in (259) and (260) and comparing my own results with Stark's (1968: 90), it is relevant to mention that she had

also identified the correspondences related to ‘foot’ and ‘water’. For her comparison, she used Middendorf’s (1892) account, which represents an internal language change that occurred in Mochica (Cerrón-Palomino 1995: 155-159): the velarization of the lateral; thus, the terms were *xok* and *xa* for ‘foot’ and ‘water’, respectively. The corresponding terms in Ch’ol attested by Stark are: *kok*<sup>191</sup> ‘my foot’ and *haʔ* ‘water’.

Besides the body part terms presented in (259), one can also consider those in (261). Stark (1968) already identified the correspondences for ‘hand’ and ‘breast’.

(261)

<b>Mochica</b>	<b>Mayan</b>	<b>Gloss</b>
<mæcu>	*mochʔ	‘hand’/ ‘fist’
<chichu>	*tyʔ uʔ	‘breast’

Moreover, the correspondences of certain verbs are particularly interesting, and they are listed in (262).

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<sup>191</sup> Adelaar (personal communication, April 6, 2019) provides an insightful comment regarding the form <kok>. The initial <k> corresponds to \*q- which stands for the prefix for the 1PL.

(262)

<b>Mochica</b>	<b>Mayan</b>	<b>Gloss</b>
<t(a)>	*tya	‘to come’
<kon>	pM *kan	‘to learn’
<macu>	pM *moch’ pYu *mach <sup>192</sup>	‘to grasp’, ‘to take in the hand’, ‘to remember’
<ton>	pM *t’in	‘to hit’

Cultural elements relevant for the northern Peruvian coast and the Mesoamerican populations since ancient times appear to be similar, as shown in (263). The reference to squashes, more specifically to squash containers, acquires an interesting nuance if one compares the Mochica element <luc> and the Mayan forms *\*laq* and *lek*. The element <luc> is a numeral classifier that serves to count squash containers, plates, squashes, etc. The term *lek* registered for Itzaj (ITZ) and Mopan (MOP) refers to a ‘squash container’.

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<sup>192</sup> Adelaar (personal communication, April 6, 2019) mentions that in Mixe Zoque this form is also the same [matʃ] as the one in Proto Yucatecan.

(263)

<b>Mochica</b>	<b>Mayan</b>	<b>Gloss</b>
<luc>	pM *laq Yu+GK #lek ITZ lek ‘squash container’ MOP lek ‘squash container’	‘plate’
<ong> ‘carob tree <sup>193</sup> ’	pM *ʔoonh (avocado) tree	‘tree’
<c’hun>	pM *k’uhm ~ *k’uum	‘squash’
<chüm>	pCh *ch’u(h)m	

Table 36 below offers the results of my lexical comparison between Mochica and Mayan. This table includes lexical similarities other than the ones presented separately in (259) - (263).

Table 36. Lexical comparison between Mochica and Mayan

<b>Gloss</b>	<b>Mochica</b>	<b>Mayan</b>
‘head’	<lecü>	*hoʔl
‘eye’	<lucü>	*haty (pM), *(h)ut pCH
‘water’	<là>	*haʔ
‘foot’	<loc>	*ʔooq
‘breast’	<chichu>	*tyʔ uʔ
‘to come’	<t(a)>	*tya
‘to learn’	<kon>	pM *kan
‘hand’/‘fist’	<mæcü>	*mochʔ

<sup>193</sup> The word <ong> refers to a tree called ‘algarrobo’ in Spanish, *Hymenaea courbaril* (Brack Egg 1999: 252).

Gloss	Mochica	Mayan
‘to grasp’, ‘to take in the hand’, ‘to remember’	<macu>	pM *moch’ pYu *mach
‘earth’, ‘mountain’	<uiz>	*witz (pM)
‘path’	<kono>	pYu kon.ol MOP konol
‘child’, ‘same sex sibling’	<eiz>	?ihtz’iin
‘grandfather’	<mená> <munao <sup>194</sup> >	pM *maam ‘grandfather’ POP mum-e
‘sister’	<chach>	pM *tyaaq’ ‘brother’, ‘elder sister’
‘gray hair’	<c’had->, <chad->	EM+Hue *saq ERG-wi’
‘horse’ / ‘deer’	<col>, <coj> ‘horse’	pM *kehj ‘deer’
‘word’	çiaëiz	Kp *tzij USP tzij
‘to hit’	<ton>	pM *t’in
‘house’	<an>	pM *nhaah
‘plate’	<luc>	pM *laq Yu+GK #lek ITZ lek MOP lex ‘squash container’
‘tree’	<ong> ‘carob tree’	pM *?oonh (avocado) tree
‘squash’	<c’hun> <chüm>	pM *k’uhm ~ *k’uum pCh *ch’u(h)m
‘to enter’	<pok>	pM *?ook
‘chili’, ‘hot’, ‘spicy’	<äp>	pYu #pap

<sup>194</sup> I consider <munao> of Quingnam origin, as shown in 9.2.

Gloss	Mochica	Mayan
'little', 'small'	<zhúto> <c'huc'h> <tsuts>	pM *ty'i
'ripe'	<chik>, <chûk>	pM *riij YUK yij /j/ TZO yij TZE yij] TOJ yij MCH chi'j

## 10.5.2.2. Comparison of phonological aspects

## 10.5.2.2.1. Phonemic inventory: vowel /i/

As already seen in 3.3., the vowel system of Mochica includes a sixth vowel that I have interpreted as the high and central vowel /i/. Andean languages possess a trivocalic system; thus, the presence of /i/ in Mochica is an interesting typological feature that differentiates Mochica from the Andean languages. The vowel /i/ is present in typical Amazonian vowel systems, as it has been identified as a robust areal feature of the region (Aikhenvald 2012: 70). Because Mochica was spoken at the edge of this region, the presence of a high and central vowel /i/ in its phonemic inventory is not implausible. As a further matter, this characteristic vowel is also present in some Mayan languages. According to Campbell, Kaufman & Smith-Stark (1986: 544), the presence of a central vowel /i/ (high central unrounded vowel) or /ə/ (the mid-central vowel, also known as schwa) is considered a shared phonological feature throughout Mesoamerica. It appears in Mixe-Zoquean, in several Otomanguean languages, in Huave, Xincan, in Mayan languages (Proto-Yucatecan, Cholan, and varieties of Cakchiquel and Quiché) and Proto-Aztecán. Regarding Mayan languages and the presence of a higher central



vowel, one can add that it is present in the following Mayan languages: Mopan, Itzaj, Lacandon, Ch'ol, and Chontal (Bennett 2016: 472; England & Baird 2017: 175-176).

#### 10.5.2.2.2. Phonotactics

As previously stated by Stark (1968: 91, 93; 1972: 120), Mochica and the Mayan language Ch'ol share a similar syllable template, that is, /CVC/. In 3.9.1. I defined the syllable structure of Mochica as (C)V(C), mentioning its tendency for monosyllabic words. In relation to Mayan languages and root phonotactics, one can state that despite considerable differences in their phonotactics, the canonical form for bare roots in Mayan languages is /CVC/. The same template applies to free morphemes and verbal roots. With regard to Proto-Mayan syllable structure, the pattern was CV(C) (Bennett 2016: 489; England & Baird 2017: 176).

#### *10.5.2.3. Comparison of morphological and syntactic aspects*

##### 10.5.2.3.1. Possessability

Possessability is a semantic feature which distinguishes classes of nouns (Payne 2006: 102). Following this criterion, both Mochica and Mayan establish a distinction between alienably and inalienably possessed nouns. Mochica and Mayan nouns cannot simply be classified as alienably and inalienably possessed nouns. Polian (2017: 213) states that possession is the main inflectional issue that affects Mayan nouns allowing the establishment of possessive noun classes. He lists six relevant criteria for this classification. The same criteria are useful for distinguishing possessive noun classes in Mochica.

- a. Presence/absence of a particular suffix when possessed.

- b. Presence/absence of a particular suffix when non-possessed (absolute suffix).
- c. Possibility/impossibility of being possessed.
- d. Possibility/impossibility of being non-possessed.
- e. Other formal changes under possession (lengthening, tonal change, etc.).
- f. Presence of a possessive classifier when possessed (Yucatecan, Mam and Teko).

Based on these criteria, Lehmann (2003) establishes six possessive subclasses for Yucatecan. In relation to inalienably possessed nouns, Lehmann suggests two subclasses, namely inabsoluble (obligatorily possessed) nouns and absoluble nouns (those that can appear as absolute). Yucatecan alienably possessed nouns can be divided into: possessible, impossible, convertible (accepting the relationalizing suffix *-il*; Lehmann 2003: 61) and classifiable (they accept a possessive classifier, which actually does not really classify anything; Lehmann 2003: 68).

Polian (2017: 213) affirms that Lehmann's classification applies well to all Mayan languages, with specific deviations depending on differences between languages and descriptions, ranging between two and seven classes. In the case of Mochica, based on the criteria presented above (a. – f.) and based on distinctive morphological marking, one can establish three subclasses of nouns in the field of inalienable possession: absoluble, inabsoluble, and double-marked. Alienably possessed nouns can be further divided into two groups based on the relational suffix they accept when possessed (see Table 7, Chapter 4).

As shown in this section, possession, inalienability split, possessive subclasses, absolutive suffixes and relational suffixes are features shared between Mochica and Mayan.

#### 10.5.2.3.2. Locatives derived from body parts

Campbell, Kaufman and Smith-Stark (1986: 549) consider that locative expressions in many Mesoamerican languages derive from body parts. For instance, in Mayan, Mixe-Zoquean, Totonac, Tlapanec, Otomanguean, Tarascan and Nahuatl, there is a relationship between body parts and locative notions. Kockelman (2007: 346) states that body part terms may be grammaticalized as spatial relation markers. These spatial relation markers are often described as prepositions or postpositions, or generally as adpositions. In relation to Mochica, Carrera (1644: 161) already pointed out the origin of these postpositions in the seventeenth century, as the origin was transparent; that is, they had developed from nouns referring to body parts. This manifestation is common in the languages of the world.

The spatial relation markers are relational, as are the terms referring to body parts. According to Lehmann (2003: 86-87, see also Ameka 1995: 147), spatial relations are an essential part of inalienable possession. This applies to the case of Mayan, as studied by Lehmann (2003: 81-82), and of Mochica, seen here, in Chapter 6. Terms denoting spatial relations in Mochica and Mayan have evolved from body part terms, resulting in a word that acquires a locative meaning; for instance, see the literal translations attested by Carrera (1644) <lecɣæc> ‘on top’, lit.: ‘in/on the head’; <lucɣæc> ‘between’, lit.: in the eyes; <funæc> ‘according’, lit.: ‘in the nose’; etc. For Yucatecan Mayan, Lehmann (2003: 82, 88) provides *nak* ‘belly, mid-height’, *pàach* ‘back’, *táan* ‘front’ among several others.

#### 10.5.2.3.3. Numeral classification

In Mesoamerican languages, the presence of numeral classifiers is common (Campbell, Kaufman & Smith-Stark 1986: 550). Law and Stuart (2017: 166) discuss numeral classifiers in Classic Mayan. In addition, numeral classifiers have been reconstructed for Proto-Mayan, and most Mayan languages have classifiers which are used, obligatorily or optionally, in quantifying constructions, in combination with numerals (Polian 2017: 219). In South America, numeral classifiers are unusual among Andean languages, but they are common among Amazonian languages. The extinct Andean languages once spoken on the eastern slopes, Cholón and Hibito, present numeral classifiers, as does Mochica.

In Chapter 8, I analyze the Mochica numeral classifier system and conclude that it does not correspond to a semantic properties-based numeral classifier system, but rather might be a system in transition towards one that enables more efficient counting i.e. a specific counting system. Mayan numeral classifiers correspond to the more prototypical types of numeral classifiers, meaning that they could be classified according to the eight semantic categories proposed by Allan (1977: 297, 2001: 307) i.e.: (i) material, (ii) function, (iii) shape, (iv) consistency, (v) size, (vi) location, (vii) arrangement and (viii) quanta. The Mochica numeral classifiers are different from the Mayan ones; nevertheless, numeral classification can be considered a shared typological feature.

#### 10.5.2.3.4. Absence of plural markers

Butler, Bohnemeyer and Jaeger (2014: 2) claim that despite plural number being a near-universal cognitive and semantic category, its morphosyntactic realization shows vast cross-linguistic variation. Plural marking in

Mesoamerican languages is lacking totally (except from Nahuatl), or is optional (Campbell, Kaufman & Smith-Stark 1986: 550). As examples of Mayan languages with optional plural marking, see, for example, Polian (2017: 214) for Tseltal or Butler, Bohnemeyer and Jaeger (2014: 2) for Yucatecan Mayan. Concerning Mochica plural marking, I inspect Mochica nominal number in 4.1.3., illustrating that although the plural marker suffix <-æn> existed, its use was not obligatory. According to Carrera (1644: 10), it was used rarely. Nonetheless, this characteristic cannot serve as a diagnostic element of any kind because the lack of plural markers is a common feature present in Amerindian languages, in general (Campbell, Kaufman & Smith-Stark 1986: 550).

#### 10.5.2.3.5. The suffixes <-Vc> / -*Vl*

In this section, I explore the similarities shared between the Mochica suffix <-Vc> and the Mayan suffix <-*Vl*>. Both suffixes appear to be highly productive and versatile in use. This is not uncommon. Yap, Grunow-Hårsta & Wrona (2011: 4) give, for instance, evidence of very highly versatile nominalizers in several Asian languages including Chantyal, Chaozhou, Mandarin Chinese, Japanese, Korean, and Cantonese.

In the case of Mochica, as observed in 7.4., nominalizers share the segment <-Vc>. For illustrative purposes, I segment them into hypothesized morphemes: <-(V)ç-Vc> / <-(V)ss-Vc>, <-(V)p-Vc>, <-t-Vc>. If we set apart suffix <-Vc>, we end up with consonantal morphemes <-ç-> / <-ss->, <-p->, <-t-> and <-l->. The remaining consonants may be the elements that bear the semantics of each nominalizer.

In the case of Mayan languages, the suffix -(*V*)*l* is a nominal inflectional suffix (Kaufman 1990). It has several realizations but is usually assumed to be a

nominalizer (Lois & Vapnarsky 2003: 89). For example, in Yucatecan Mayan nominalizer *-l* can be found suffixed to some monosyllabic transitive verb stems (Lehmann 2003: 26). Deadjectival nominalization occurs in Yucatecan Mayan with the aid of the suffix *-il* (Lehmann 2003: 53). In Mam, another Mayan language, some nominalizers include the segment *-(V)l* in their structure. For instance: the suffix *-(V)l* is an agentive nominalizer (England 1983: 101, 123); *-b'il* is an instrumental nominalizer (England 1983: 118); and *-al* derives abstract nouns (England 1983: 119).

Moreover, both in Mochica and in Mayan, these suffixes are relevant when analyzing expressions related to space and direction. In the case of Mochica, spatial relational terms seem to have evolved from body part terms and are attached to suffix *<-Vc>*, which functions then as a locative, for instance, *<lecqæc>* 'on top', lit.: 'in the head'; *<lucqæc>* 'between', lit.: in the eyes; *<funæc>* 'according', lit.: 'in the nose'; etc. These literal meanings are offered by Carrera (1644: 161) (as seen in 6.4.2.2). In the case of Tzeltal the dispositional stative predicative is formed with the suffix *-l*, and in Yucatec the suffix is *-(V)kbal* (Bohnenmeyer & Brown 2007: 1122).

The suffixes examined are also relevant regarding possession and absolute markers in both languages (for the case of Mayan languages, see Lois & Vapnarsky (2003: 89, 94). In Mochica the absolute form of some nouns accepts a relational suffix, namely *<quic>* which includes in its structure the element *<-Vc>* (see inalienable (obligatory) inabsoluble possession in 6.3.1.2.). In Chol (Mayan language), the suffix *-l* marks the absolute stem of one noun class. In this case, this suffix then disappears when the noun is inflected for possession. In this language, the reverse happens with another noun class that marks the possessed term with the suffix *-l*. By contrast, in

Yucatecan Maya, absolute nouns are never marked by the suffix *-ʼl* and may take the suffix when being in possessive constructions (Bricker 1986: 105).

### **10.6. Remarks on the re-evaluation of the relation Mochica-Mayan**

In section 10.5.2., I offered a re-evaluation of the Mochica-Mayan comparison, considering multiple aspects and conducting a lexical comparison between Mochica and the reconstructed Proto-Mayan forms available. In cases where such reconstructed items were not available, I used forms from the other Mayan languages registered in the etymological dictionary by Kaufman and Justeson (2003). The result of this comparison represents neither a significant number of lexical correspondences nor many sound correspondences.

I have also analyzed Mochica and Mayan from other viewpoints. For instance, I have compared the phonological and phonotactic elements of these two languages, considering morphological and syntactic features, as well. Interestingly, Mochica shares various typological features with Mayan languages, namely, nominal possession, inalienability split, spatial relational markers originating in body part terms, the absence of obligatory plural marking, the presence of numeral classifiers and the similarity in use of the suffixes <-Vc> (Mochica) and *-ʼl* (Mayan).

Although some lexical items can be said to involve similar forms and functions, they are scarce, some being body part terms and others specific verbs. In addition, recurrent sound correspondences are few. Based on all these results, after re-evaluation, I come to the conclusion that Mochica and Mayan are by no means related genealogically. Mochica remains an isolate.

