# Mochica: Grammatical topics and external relations

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Cover Page

## Universiteit Leiden

*Mochica: grammatical topics and external relations*

**Mochica: Grammatical topics and external relations**

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A Taru y a Miska, por compartir a su mami con el mochica

# Table of contents

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# List of abbreviations

| | |
|---|---|
| 1SG | first person singular |
| 2SG | second person singular |
| 3SG | third person singular |
| 1PL | first person plural |
| 2PL | second person singular |
| ABESS | abessive |
| ABL | ablative |
| ACOL | acolytive |
| ACC | accusative |
| ADE | adessive |
| AG | agentive |
| ALL | allative |
| ANA | anaphoric |
| ANTE | antessive |
| BEN | benefactive |
| BOUND | bound |
| CAU | causal-final |
| CAUS | causative |
| CLF | classifier |
| COM | comitative |
| COP | copula |
| DAT | dative |
| DEADJ | deadjectival |
| DEM | demonstrative |

| | |
|---|---|
| DEREL | derelational |
| DET | determiner |
| DIR | direct |
| DIST | distal |
| DUB | dubitative |
| ELA | elative |
| ERG | ergative |
| ESS | essive |
| EVENT | event |
| FUT | future |
| GEN | genitive |
| IMP | imperative |
| IPFV | imperfect/imperfective |
| INE | inessive |
| INTRT | intrative |
| INS | instrumental |
| LOC | locative |
| MID | middle voice |
| NEG | negation |
| NOM | nominative |
| NMLZ | nominalizer, nominalization |
| NP | nominal phrase |
| NUM | numeral |
| OBLIG | obligation suffix |
| OBL | oblique |
| OPT | optative |
| PER | perlative |

| | |
|---|---|
| PFV | perfective |
| PL | plural |
| POSTE | postessive |
| POSS | possessive |
| POSS.NMLZ | possessive nominalizer |
| PROX | proximal |
| PTCP | participle |
| PURP | purposive |
| REL | relational |
| REL$_1$ | relational suffix <-o> |
| RELA | relative pronoun |
| SEQ | sequential suffix |
| SIM | similative |
| STATIVE | stative |
| SUBE | subessive |
| SUPE | superessive |
| VAL$_{EM}$ | valency marker -em |
| VAL$_{ER}$ | valency marker -e |
| VOC | vocative |
| n.p. | no numbered page |

## Stark's (1968) glosses used in this dissertation

| | |
|---|---|
| Do | DIRECT OBJECT |
| L | LOCATIVE |
| O | OBJECT |

S        SUBJECT

V        VERB

# List of figures

# List of tables

*Part I. Introduction*

*Chapter 1. Introduction*

## 1.1. General background information

### 1.1.1. State of the art

South America linguistic panorama represents an enigmatic field of research when it comes to its genealogical diversity and the presence of a large number of isolates. Following Seifart & Hammarström (2017: 260), South America is the continent with the highest proportion of language isolates. According to these authors, 10 % of South American languages are isolates, that is, 65 out of 574 languages. Taking into consideration that South America was the last continent to be populated, the presence of 65 isolates and this linguistic diversity can be considered a paradox which intrigues linguists, who, aiming at disambiguating it, explore possible genealogical and areal relationships between these languages.

Out of these 65 South American isolates, 12 (8 extinct) have been found in the Andean region (Seifart & Hammarström 2017: 265, 266). The present study concentrates on Mochica, an extinct isolate of the Andes. The research conducted for this dissertation was circumscribed within the *Mesandlingk* project, led by Willem Adelaar. The aim of this project was to reconstruct the linguistic past of Mesoamerica (Mexico and western Central America) and the Middle Andes (Ecuador, Peru and Bolivia) through a study of the genealogical and contact relations between the indigenous languages of Mesoamerica and the Andes. The ultimate goal of Adelaar's project was to contribute to the understanding of the historical process behind the settlement of the Americas as a whole. The research presented in this thesis was carried out as a sub-project within *Mesandlingk*. The objectives of my project were to understand the nature of the Mochica language and to attempt to identify the possible external and genealogical relationships of this language.

## 1.1.2. Brief information on the Mochica language

Mochica was spoken until the mid- to late-nineteenth century in the northern coastal area of Peru (see Map 1[1]). Mochica is typologically distinct from other Andean languages. It is predominantly a synthetic, suffixing language. Most of the languages that existed in the Andes prior to the Spanish conquest vanished, leaving little evidence for posterity. Fortunately, in the case of Mochica, there are colonial and post-colonial descriptions, which help us interpret some of its forms. The Mochica language has been preserved whilst it was still spoken in two colonial documents: *Rituale, Sev Manvale Pervanvm* by Jerónimo de Oré (1607) and *Arte de la lengua yunga* by Fernando de la Carrera (1644). Our knowledge of the grammar and phonology of Mochica is limited since Carrera's (1644) is the only existing grammar that has survived from colonial times.

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[1] Map 1 was created by Arjan Mossel (University of Leiden).
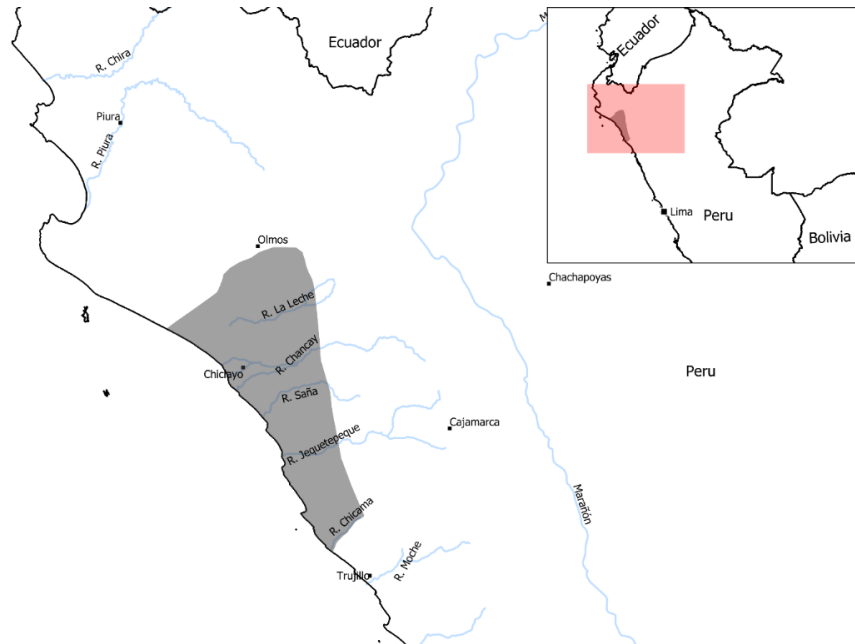
Figure 1.   Map 1. Distribution of the Mochica language, according to Carrera's (1644)
information

## 1.1.2. This dissertation

### 1.1.2.1. Research questions

This dissertation intends to answer the following main questions:

1.  What is the nature of the Mochica language?
    a.  What kind of relevant information can be extracted from the
        only existing grammatical description (Carrera 1644) of this
        language whilst it was still spoken? Is this information
        enough to create a Mochica grammatical sketch?
2.  What are the main peculiar typological features of Mochica?

3.   Can one find genealogical relationships between Mochica and other languages?

   a.   Is it feasible to establish external areal relations between Mochica and surrounding languages?

   b.   Is it feasible to establish external distant relations between Mochica and other languages of South America and Mesoamerica?

   c.   Is the Mochica isolate status refutable?

The objective of this dissertation is twofold: first, to understand the Mochica language and second, to establish Mochica's genealogical and contact relationships. In this respect, I try to answer Research Questions 1, 1a and 2 in Parts II and III of this thesis, that is, in chapters 2-8. In Part IV (chapters 9 and 10), I deal with Research Questions 3, 3a, 3b and 3c.

### 1.1.2.2. Aims of this study

This dissertation aims to contribute to the better understanding of the Mochica language as presented primarily in the missionary colonial description *Arte de la lengua yunga* (Carrera 1644). One of the very few available physical exemplars in octavo format can be found in the British Library in London (British Library, General Reference Collection, C.58. b.4). For the present study, I worked with a digitized copy ordered from the British Library. Besides this grammar, I have worked with other linguistic and non-linguistic data.

Throughout this dissertation, I systematize and describe Mochica grammar as a whole and analyze in more depth some specific Mochica grammatical topics, concentrating on the most salient peculiar typological features that

differentiate this language from the other Andean languages. Nevertheless, the ultimate motivation of the selection of the topics dealt with in depth depends on the available data, considering that there are no remaining Mochica speakers. The methodology consists in interpreting texts (due to the lack of speakers) and taking into account a general linguistics and typological approach. Besides my contribution to the study of the Mochica language itself, I offer the results of my attempts to find genealogical and external relations of Mochica with other languages. I examine early proposals and suggest new ones.

### 1.1.2.3. Challenges of this study

There are several challenges one encounters when approaching the Mochica language. First, the fact that there are no speakers left is a clear limitation. In relation to its phonological system, the reconstruction of Mochica sounds will probably always remain hypothetical, unless someone discovers the location of the wax cylinders that were recorded by Hans H. Brüning in Eten, by means of the Edison phonograph during the first half of the twentieth century. Brüning was an enthusiastic collaborator of the Austrian ethnomusicologist Erich Moritz von Hornbostel (1877-1935), who was at one point the director of the *Berliner Phonogramm-Archiv* (which is nowadays part of the *Ethnologisches Museum in Berlin-Dahlem*).

The *Phonogramm-Archiv* distributed phonographs and wax cylinders to travelers, explorers, scientists and diplomats around the world (until 1943), producing a collection of 30,000 phonographic recordings kept in the above-mentioned archive. Unfortunately, some of the cylinders remain undiscovered due to misplacement during the Second World War (Yep 2017: 198-199). Brüning collaborated on this project and kept epistolary communication with

von Hornbostel over several years (1908-1925). His musical recordings in Lambayeque represent the first ones in Peru (Hampe Martínez 2009), but, unfortunately, his linguistic recordings of the Mochica language have not yet been located (Zevallos Quiñones 1941: 377, Aristizábal & Schmelz 2009: 10, Schmelz 2016: 19, Cánepa Koch 2016: 72).

Another problem one faces when dealing with northern Peruvian languages in general, including Mochica, is the scarcity of sources on these languages. In colonial documentation, one finds references to several lost coastal languages that coexisted in northern Peru: Olmos, Sechura, Quingnam, Mochica, Culli, Colán and Catacaos (Oviedo y Valdés [1492-1549] 1855; Mogrovejo [1593-1605] 2006; Calancha 1639; Martínez Compañón 1783b: EIV). Unfortunately, Mochica is the only language for which there is some sort of grammatical and lexical documentation in republican and colonial times.

However, in spite of the available evidence, the sources do not include enough information on basic vocabulary or grammar that would contribute to a more complete understanding of the language, or that would suffice to allow for a translation of all the religious texts left by Carrera (1644); in the best case scenario, one would have enough information on Mochica lexical items to allow for a lexical comparison with other languages.

Carrera (1644: no numbered page[2]) expressly says in his introductory words to the reader that he is not sure whether he has accommodated everything according to the Latin grammar. In addition, when dealing with the Mochica numeral classifiers, Carrera (1644: 187) explains that it is better to learn how to use these elements following "the criterion of use". The concept of use is

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[2] No numbered page henceforth n.p.

present in colonial grammatical descriptions as an invitation to learn in a pragmatic way. This way Carrera excuses himself for not including the numeral classifier for counting weaving threads. The information about this specific numeral classifier will probably remain unknown. In relation to difficulties with pronunciation, Carrera (1644: n.p.) explains that it is difficult to teach pronunciation in his grammar, claiming that only after six to eight months of use and practice with native speakers, can the learner achieve proper pronunciation and improve the gained language skills. Following these observations, it is not difficult to suspect that there is information about Mochica grammar that we will never have access to, unless we were to recover at least one of the reportedly lost colonial grammars (see 2.4.1.1.).

In addition to the scarcity of documentation, the difficulty of accessing possible repositories of lost grammars, catechisms and vocabularies, i.e. religious orders' archives, is another source of frustration. In the search for any kind of further evidence on Mochica, it is necessary to try to access different archives, both in South America and Europe. For Colonial Mochica, the places to visit in search for linguistic evidence are the archives of various religious orders because Franciscan, Dominican, Jesuit, Augustinian, Mercedarian and secular priests preached and missionized amongst Mochica speaking Indians.

To obtain information about Republican Mochica, a large part of which resulted from German scholarship, starting with Bastian at the end of the 19th century and continuing throughout the first half of the 20th century, one needs to visit archives in Germany. While among German archives, the Ibero-American Institute in Berlin (Seler's and Lehmann's legacies) and the library of the Ethnological Museum in Hamburg (Brüning's legacy) were accessible, the convents and church archives in Peru did not quite collaborate willingly.

The exception was my experience in the parish archives of Eten, Jayanca, Mórrope and Lambayeque, thanks to the intercession and unceasingly kind help of Father Freddy Beltrán García, lecturer of Theology in both the *Universidad Católica Santo Toribio de Mogrovejo* and in the Santo Toribio Seminar. In Lima, only the Franciscans allowed me to visit the library of the *Convento de los Descalzos* and the *Archivo histórico documental de la Provincia Franciscana de los XII Apóstoles del Perú,* in which I consulted manuscripts related to the activities of Marcos López (López 1649, 1650) and Fernando de la Carrera (Carrera 1649), as ecclesiastical judge in Magdalena de Eten (Lambayeque).

The Archiepiscopal Archive in Trujillo, where one could presumably find evidence on missionary activities conducted while the extinct northern languages were still spoken, is practically impossible to consult. Many monasteries do not even have an inventory or catalog of what they keep since the first years of colonial time. I consider this one of the biggest problems a Mochica scholar has to deal with. One never knows what can be found in an archive. One does not only need to look for linguistic data in grammatical descriptions or vocabularies; epistolary communication and other documents written by priests may contain valuable information as well, not only about the speakers and the languages geographic boundaries, but also about lexical items and the structure of the language itself.[3]

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[3] When researching the priests that worked in the Moxo missions, I was able to discover lexical evidence and even a brief grammatical sketch of the *Moxa* language in a letter written by the Jesuit Aller (1667).

## 1.1.4. Structure of the thesis

This thesis is divided into five parts. Part I contains Chapter 1, which offers a general introduction to the dissertation and presents the corpus of study and methodology. Chapters 2, 3, 4 and 5 are included in Part II. Chapter 2 is devoted to thoroughly describing all the available Colonial and Republican Mochica study sources. In this chapter, I additionally introduce what I have called New Mochica, i.e. a new language based on Mochica, but with different structures belonging to Spanish. This chapter also includes my proposal of etymologies for an anthroponym (Naimlap/Ñaimlap) and a toponym (Lambayeque). Chapter 3 is dedicated to the evaluation of earlier proposals of interpretation of the Mochica phonological system. Mochica is a language with no speakers left; therefore, all interpretations may remain hypothetical and impressionistic. Nevertheless, in this chapter, I provide the result of my own analysis and concentrate on the interpretation of the controversial so-called Mochica sixth vowel <æ>, which I hypothesize to be the phonologically high, central vowel /ɨ/. Chapter 4 and Chapter 5 deal with Mochica nouns, adjectives and pronouns, and Mochica verbs, respectively.

Specific grammatical topics are discussed in detail in Part III, which consists of Chapter 6, 7 and 8. In Chapter 6, I offer an analysis of the syntax and semantics of the possessive constructions described in Carrera (1644). In this chapter, I propose an analysis of the Mochica inalienability split, which cannot be identified as a strict bipartite system (inalienable-alienable). I claim that the Mochica system of nominal possession is a *continuum*, which would have at one end the inalienable construction and, at the other, the allomorphs expressing alienable possession. In between, one finds a transition area represented by inalienable possessive constructions with double marking, characterized by the suffix <-æng>.

Chapter 7 is a study of Mochica lexical and grammatical nominalization. I describe and analyze the four nominalizing suffixes in the language: <-(V)çVc> / <(V)ssVc> 'event nominalizer', <-(V)pVc> 'agentive nominalizer', <-tVc> 'locative nominalizer', and <-Vc> 'locative / instrumental nominalizer'. Additionally, this chapter provides evidence of the existence of deadjectival and stative nominalization. Furthermore, this chapter also concentrates on grammatical nominalization, presenting examples of nominalizations serving a relativization function, a complementation function, and an adverbial function.

Chapter 8 concentrates on expanding the description and analysis of numeral classifiers in Mochica. In this chapter, I suggest that the Mochica system does not correspond to a typologically prototypical numeral classifier system. I show that the Mochica numeral classifier system has peculiar characteristics and argue that it includes some morphemes that cannot be seen as typical numeral classifiers. They share some features comparable to those in the languages studied by Bender & Beller (2005, 2006a, 2006b, 2007a, 2007b) but retain their very own peculiar characteristics. This is the main reason why, according to the present analysis, I consider the Mochica system as neither a numeral classifier system in a strict sense nor a specific counting system.

Chapters 9 and 10 constitute Part IV of this work and cover topics dealing with the second aim of this study. In Chapter 9, I re-evaluate earlier proposals of language contact across the Andes. I present a detailed analysis of the possible case of language contact between Mochica and Cholón-Hibito. I also examine the evidence of the contact relationship between Mochica and Quingnam, as well as the case of contact between Mochica and Quechua. Likewise, I inspect coastal loan terms in Quechua that I propose to be of Mochica origin. Chapter 10 explores Mochica's distant relations. In this

chapter, I review previous proposals on distant relationships between Mochica and other languages and reconsider Stark's (1968, 1972) proposal on the Mochica relationship with Mayan and provide the results of my own comparison with Proto-Mayan, which was not available when Stark conducted her own comparative study. After a careful re-evaluation, I conclude that Mochica and Mayan cannot be said to be genealogically related. Therefore, I suggest that Mochica remains for the time being a linguistic isolate.

Finally, Part V contains Chapter 11. Chapter 11 presents a summary of the findings of this dissertation. Chapter 11 also offers some topics for future consideration concerning the study of the Mochica language and its place in the linguistic history of pre-Columbian South America.

## 1.1.5. Corpus and methodology

One of the aims of this investigation was to reconstruct and better understand the Mochica language in order to achieve the second goal of this research: the comparison of Mochica with other languages, which could allow for the establishment of potential contact or genealogical relations.

Mochica is a language without speakers. Thus, the main source of study of the language while it was still spoken and functional is the Mochica grammatical description written by Fernando de la Carrera (1644). This colonial grammar has been my main source of data. To be able to use the information contained in such a source properly, I had to conduct linguistic historiography. According to Swiggers (2012: 38-39) linguistic historiography can be defined as "[…]the discipline (within the field of [general] linguistics) that aims at providing a scientifically grounded descriptive and explanatory account of how *linguistic knowledge* (i.e. what was accepted at a given time as

knowledge, information and documentation on language related issues) was gained, and what has been the course of development of this linguistic knowledge, since its beginnings to the present time."

Many grammatical treatments presented in colonial grammatical descriptions constitute the first attempts to describe the corresponding linguistic phenomena in the history of linguistics, and this fact has often been dismissed. For instance, numeral classification, inalienability split, and evidentiality were first described in such works. This is certainly a debt of the modern linguist to the colonial grammarians. In relation to the grammatical description of Mochica, for example, one encounters original terminology to refer to numeral classifiers or Carrera's own way to explain the Mochica inalienability split. One has to consider the concepts described and explained in the *Arte* within their proper social and cultural context. Swiggers (2012: 42) claims that the methodology involved, "follows from the fact that the linguistic historiographer is an "observer", a (critical) "reader" and an "interpreter" of the evolutionary course of linguistic knowledge". Following Swiggers (2012: 42), this requires a basic attitude of empathy for the past; a linguistic historiographer respects what he/she finds in his/her sources.

Besides the first concern regarding the interpretation of the colonial grammar of Mochica, in the cases where it was possible, I confronted and complemented the information with that found in the work of Middendorf (1892). Middendorf confirms with examples the information provided by Carrera. With respect to vocabulary, Carrera (1644) and Middendorf (1892) are good sources of information. However, the post-colonial wordlists provided by German scholars provide additional, and sometimes more insightful, new lexical items. In general, I have turned to all possible attested

lexical evidence I have come across, including information extracted from archives and ethnographical sources.

This thesis is also the result of applying a combination of several disciplines within the field of general linguistics. First of all, as stated above, I needed to become a good reader of colonial manuscripts, but also had to develop certain skills on the fly, such as reading Sütterlin[4] handwriting. A great deal of time was spent improving my paleography skills in order to read colonial manuscripts from different times (16th-18th century). My sample of manuscripts is extensive: the manuscripts come mainly from *the Archivo General de Indias,* AGI in Seville, where I spent some time in 2014, the Archiepiscopal Archive of Quito (October 2015), different archives in Lambayeque (2014), and the Franciscan Archive in Lima (2014-2015). Of post-colonial manuscripts, I mainly dealt with Seler's, Lehmann's and Brüning's legacies. Visiting archives and collecting materials were part of my activities during my period of investigation of the Mochica language. Oftentimes, archival work is not visibly fruitful, as one can spend hours or days and find nothing. In the present investigation, I have also conducted etymological research, trying to uncover the history of the Naymlap anthroponym and the Lambayeque toponym. Finally, a crosslinguistic typological and comparative approach was needed, as well. After reconstructing some grammatical aspects of the Mochica language, I was able to compare it with other surrounding languages as well as with other typologically similar languages.

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[4] To understand Seler, I needed to learn to read Sütterlin, for which I received extra help from Rogier Nieuweboer and Hans W. Giessen, from the University of Helsinki.

*Part II. The Mochica language*

*Chapter 2. Mochica and its speakers*

## 2.1. The Mochica language across time

Mochica has received several denominations in the literature since colonial times, for instance, Oviedo y Valdés[5] ([1492-1549] 1855: 224-225) talks about *lenguas mochicas* (Mochica languages); Mogrovejo ([1593-1605] 2006: 43, 45) refers to this language as *lengua mochica* and *lengua yunga*. Oré's denomination (1607: 403) is *Lengua Mochica de los Yungas* 'Mochica language of the Yungas', opting to refer to the speakers as Yungas and to the language as Mochica; Calancha (1639: 550) refers to the language as *lengua Muchic* 'Muchic language', and Carrera (1644) calls his grammatical description *Arte de la lengua yunga,* using the term *yunga* to refer to the Mochica speakers, as well (Carrera 1644: 231). *Yunga* is also the name Martínez Compañón (1783b: EIV) prefers to use.

Later on, during republican times, the Mochica language was called *Sprache der Chimu* 'language of the Chimus' (Bastian 1878a); *lengua Chimu* or *lengua de Eten* 'Chimu language' or 'language of Eten' (Paz Soldán 1880); *Muchik* or *Chimu-Sprache* 'Chimu language' (Middendorf 1892); *Yunca-Sprache* 'Yunca-language' (Seler: 1909?); *Mochica* (Brüning 1905-1924a and b) and *Mochic* (Brüning 1905-1924a: n.p.), *Yunka* (Harrington 1945), *Ed Muchik* 'Muchik tongue' (Ramos Cabrera & Serrepe Ascencio 2012), *Tūk Muchik* 'Mochica language' (Chero Zurita et al. 2012).

Following the information in the list of Mochica speaking areas provided by Fernando de la Carrera (1644), one can determine that Mochica was spoken in the colonial *corregimientos* of Trujillo, Zaña, Piura and Cajamarca (see

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[5] It is probable that Oviedo y Valdés ([1492-1549] 1855: 224-225) is referring to several north Peruvian languages, not only Mochica.

Map 2[6]). These old administrative districts do not correspond exactly to the modern Peruvian regions with the same names, but since Carrera (1644) provides the names of the specific villages and *doctrinas*[7] where this language was spoken, one can surmise that it was spoken in the modern region[8] of Lambayeque (Zaña, Eten, Chiclayo, Reque, Mochumi, Túcume, Illimo, Jayanca, Monsefú, Ferreñafe, Copiz, Motupe, Salas, etc.) and in the modern region of La Libertad (Magdalena de Cao, Chocope and the whole Chicama valley).

Mochica was also spoken in some villages in the modern region of Piura (Huancabamba, Frías), in the modern region of Cajamarca (Niepos, Santa Cruz, Huambos) and the region of modern Amazonas (Balsas del Marañón, which was a colonial period *doctrina* in the Marañón river valley). Torero (1986) defines the linguistic distribution of the Mochica language between Río de la Leche and Motupe to the north and the Chicama river valley and the town of Paiján to the south. Between the rivers of Jequetepeque (or Pacasmayo) and Chicama there was an overlapping area between Quingnam and Mochica.

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[6] Map 2 shows all the towns and villages where Mochica language was spoken according to the report by Carrera (1644). I have modernized the names of the places mentioned. In Map 2 Zaña appears as a big area, the dotted line represents a division that did not exist during 17th century.

[7] A *doctrina* was a colonial parochial jurisdiction.

[8] After winning independence in 1821, Peru became divided into *departments,* but in order to avoid centralization, elected regional governments have been managing the departments since 2002. Nowadays, regions are the administrative subdivision of the country.

REAL AUDIENCIA OF
QUITO

PIURA

Piura's Corregimiento

Motupe, Salas, Copiz, Frías

Cajamarca's Corregimiento

Santa Cruz, Niepos, San Miguel, San Pablo,
Balsas del Marañón, Huambos,
Condebamba Valley, Cachén

ZAÑA

Zaña's Corregimiento

San Pedro de Lloc, Jequetepeque, Pueblo Nuevo
Eten, Chiclayo, San Miguel, Santa Lucía, Reque,
Monsefú, Ferreñafe, Mochumí, Lambayeque,
Túcume, Íllimo, Pácora

CHICLAYO

CAJAMARCA

TRUJILLO

Trujillo's Corregimiento

Magdalena de Cao, Santiago (de Chuco),
Chócope, Chicama Valley, Paiján

Figure 2.  Map 2. Mochica speaking towns and villages, according to Carrera's (1644) account

Mochica represents an important element in the process of reconstructing a cultural identity on the northern coast of Peru both after its death during the second half of the twentieth century, and after language revival. Peru's region of Lambayeque, on the northwestern coast of Peru, witnessed the rise and death of several important pre-Columbian civilizations that left impressive archaeological sites and diverse cultural manifestations such as pottery, metallurgical work, etc. Interestingly, not only the people of modern Lambayeque (which was a clear Mochica speaking area) but also the people

of modern La Libertad (which was a Quingnam[9] speaking area) seek to build and reinforce their identity, rediscovering those elements and trying to put a new version of the Mochica language into use. A "New Mochica" is being developed, which is based on the Mochica colonial and post-colonial grammatical and lexical elements. Thus, Mochica has gone farther than its colonial distribution limits in present-day northern Peru, expanding to areas where it was not previously spoken.

The Regional Direction of Education promulgated a resolution (N° 0675-2008-GR.LAMB/DREL) along with the Regional Government of Lambayeque which gave a regional ordinance (N° 011-2010-GR.LAMB/CR) supporting the diffusion of the Mochica language in schools and other educational centers in the region of Lambayeque. The revitalization of the Mochica language is part of a larger movement in search of a Mochica identity. To achieve this goal, there are activities held in different schools and communities of the Lambayeque region, such as the election of both the *Chisi Muchik* (Mochica girl) and the *Iñikuk*[10] *Muchik* (Mochica teen). These contests

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[9] Quingnam, commonly known as *lengua pescadora* 'Pescadora Language', is another extinct northern coastal language.

[10] <Iñikuk> is Middendorf's orthographic variation (1892: 58) of the term registered as <yñicuc> 'marriageable woman' attested in Carrera (1644: 146). Cerrón-Palomino (personal communication, January 14, 2020) suggests that the Mochica term <yñicuc> comes from a Quechua neologism that would have been created during the colonial period to refer to a woman who has accepted a proposal of marriage. The hypothesized Quechua neologism would have been *iñikuq* 'the one who says yes', 'the one who accepts'. Although it is not recorded in Quechua from colonial or contemporary times, its segmentable structure supports Cerrón-Palomino's suggestion. The absence of a voiceless uvular stop /q/ in the Mochica system forces the adaptation of the final /q/ to a voiceless velar stop /k/ (see 9.3.1.).

i-      ñi-     ku-     q
yes-    to say- MID     AG.NMLZ
'The one who says yes'

can be considered cultural-ethnic pageants where the participants are chosen according to criteria such as the ability to give a short speech in Mochica, master some commonly used Mochica expressions, describe regional dishes or dance traditional Lambayecan dances.

Asensio (2012, 2014) claims that the discoveries of the great archaeological sites in northern Peru during the eighties motivated the rise of this movement, which this author refers to as *movimiento Muchik* 'Muchik movement'. This movement is growing stronger, supported by the regional government, as well as by some intellectuals promoting an ethnic and political discourse that allows the discovery and enhancement of cultural elements that had already been lost or almost lost.

## 2.2. Mochica: lengua yunga and/or lengua pescadora?

In colonial documents, there seems to be confusion as to the way in which the northern Peruvian languages Mochica and Quingnam are referred to. It has been generally accepted in Andean Linguistics that the name Yunga referred to coastal languages in general, and specifically to Mochica, and that Pescadora designated the Quingnam language. The adjective *pescadora,* which qualifies the noun *lengua* 'language'*,* does not have a direct translation into English and is therefore known in English as *Lengua Pescadora*, *Pescadora language* or 'fishermen's language'. Because of the assumption that "pescadora" refers to 'fishermen', some interpreters have been misled to claim that this language was the language of a socio-economic group formed according to a principle of occupational specialization, whose existence is

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In the Quechuanist tradition, this element -*ku* is seen as a reflexive/middle voice marker (*"mediopasiva*", Cerrón-Palomino [1987]2003: 214) or as middle voice with different functions (Hintz 165-182).

proven and supported by ethno-historical and archaeological evidence. In spite of this evidence, one cannot find any direct reference of the members of this occupational group speaking this particular language.

Moreover, the reference given by Mogrovejo ([1593-1605] 2006: 48) claiming that a *lengua yunga pescadora* was spoken in Magdalena de Eten, a Mochica speaking town, has intrigued scholars interested in the linguistic and geographic distribution of these languages. Additionally, Mogrovejo ([1593-1605] 2006: 52) praised the language proficiency of the Dominican Bartolomé de Vargas (see 2.4.1.1.), calling him "buen lenguaraz de las lenguas pescadoras" 'proficient in the *Pescadora languages*' in another intriguing reference, accounting for the town of Magdalena de Cao (presumably Quingnam speaking). Note that the term "pescadora" appears in the plural "pescadoras". So far, in a reconciliation attempt, the terms *yunga* and *pescadora* have been assumed to refer to Mochica and Quingnam, respectively (see Rabinowitz 1983; Torero 1986; Cerrón-Palomino 1995: 29-33; Salas 2010; Solís Fonseca 2015; Adelaar 2019). In order to resolve the vagueness and confusion, the authors have offered various justifications for the mention of *lengua pescadora* (assumed to be Quingnam) in a clear Mochica speaking area.

On the one hand, Rabinowitz (1983: 260-263) suggests the possibility of *lengua pescadora* having been a secret language or dialect spoken by fishermen that deviated from Quingnam, with a high degree of specialization on its way to achieving independence. Along the same lines, Torero (1986: 541) and Cerrón-Palomino (1995: 31) follow similar assumptions and believe Pescadora and Quingnam to be related languages, dialects of another language, with Pescadora representing the socially stigmatized version in contrast with Quingnam. Salas (2010: 111, 122) offers a solution to the

problem by proposing a situation of Mochica-Quingnam bilingualism. In this scenario, Quingnam and Pescadora refer to the same language. Therefore, this author prefers to dismiss the information provided by Mogrovejo, considering it a mistake (2010: 90-91).

Adelaar (2019: 305) reflects on this issue and considers that the Pescadora language occupied areas alongside the Pacific shore or nearby the sea, such as Santa, Enepeña (Nepeña) and Guañape, and some other maritime areas on the coast, such as Magdalena de Cao and Santiago de Cao. Adelaar does not consider the problem of interpretation of "Pescadora" to be solved. He is convinced that the language spoken in Magdalena de Eten could only have been Mochica, but leaves the possibility open for Salas' proposal of multilingualism in the area. However, in spite of the fact that it is likely that there was bilingualism in the Mochica-Quingnam territories, this does not seem to the best solution for explaining the "wrong information" provided by Mogrovejo. Furthermore, in agreement with Adelaar, I view the Pescadora problem as the result of inaccurate interpretations, and also, as a problem that remains unsolved.

In what follows, I suggest that there is no need to justify the "confusing" and "misleading" use of the term Pescadora. I will attempt to prove that depending on the area where Mochica was spoken, it can be considered either a Yunga or a Pescadora language. First, I will present excerpts of a so far unknown manuscript that can help to elucidate the name Pescadora. Secondly, I will show how the distinction maritime/mediterranean, used by Spaniards to determine regions, can better explain the denomination Pescadora. As already stated, the Mochica scholar can count on few linguistic sources of the language. It will remain a utopic hope to rediscover the lost grammars. The case seems, anyhow, to be different in relation to information about the priests

who mastered Mochica, as well as the scenarios and localities where this language was still functionally spoken during the first colonial years. One can still encounter manuscripts, in the form of letters, relations, or official statements, which offer a better picture of the context in which Mochica had the status of an important and living language.

In this respect, there exist documents that need revision and research. I was able to check some manuscripts kept in the *Archivo General de Indias*, in Seville, Spain, which date back to the first half of the 17th century. The manuscript presented below has the signature number AGI LIMA 224, N.13[11] (Informaciones: Lorenzo Arias Maraver[12]). It deals with all the information regarding the *concursus*[13] or competitive examination taken by Lorenzo Arias Maraver in 1621 in order to obtain one benefice[14] out of four available positions in Lambayeque. Lorenzo Arias Maraver was born in Zaña to Antonio Arias Maraver and Beatriz Cartagena. He obtained a Bachelor of Arts and Theology, graduating from the Universidad de San Marcos, in Lima (AGI 1621: AGI LIMA 224, N.13 2r).

The language proficiency of missionaries was rigorously examined. Throughout the manuscript, one finds names of examiners of the Mochica

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[11] AGI (1621) in the bibliography.

[12] Appears in the manuscript written as <Malaber>, but I respect the transcription of the name provided by the AGI's catalog.

[13] Concursus was a special competitive examination prescribed in canon law for all aspirants to certain ecclesiastical offices. The clerical had to conduct the cure of souls in the office assigned to him (O'Neill 1908).

[14] According to the Council of Trent, to obtain a benefice through concursus implied being a man of virtue and learning. The Council of Trent decreed that the cure of souls needed to be entrusted to someone who demonstrated fitness after examination. The purpose of this examination was not only to exclude unworthy candidates, but to secure the selection of the best (Meehan 1909).

language, references to the language and comments on Arias Maraver's Mochica skills. Regarding the Mochica language designations, Father Díaz from Ferreñafe declares that Arias Maraver spoke "the lengua materna deaquellos balles", 'the mother tongue of those valleys' (AGI 1621: AGI LIMA 224, N.13 12v) and there is mention of Francisco de Saavedra from San Juan de Íllimo as "exsaminador general de la lengua materna de estos balles mochica" 'general examiner of the mother tongue of these Mochica valleys' (AGI 1621: AGI LIMA 224, N.13 13r). Diego de Armenteros y Henao (Oidor[15] of Panamá and Oidor of Lima), Fernando de Guzmán, Francisco Flores and Fernando de Avendaño mention the difficulty of Mochica, ratifying that Arias Maraver preached in Spanish and "en su lengua [de los naturales] que es en aquel pueblo dificultosa porque no es la general" 'in the language [of the native Indians], which in that town is very difficult because it is not the general[16]' (AGI 1621: AGI LIMA 224, N.13 21r). In the same line, in AGI 1621: AGI LIMA 224, N.13 22r one can read about the difficulty of the language spoken in the benefice of Lambayeque granted to Arias Maraver: "que es la **lengua pescadora**[17] que llaman que es muy dificultossa", 'that it is the so called **Pescadora language** (see Appendix A), which is very difficult'.

The language Arias Maraver mastered, which is mentioned throughout the manuscript is definitely Mochica; there is no room for confusion. As I mentioned above, I consider the Pescadora problem to be mainly the result of complex and erroneous interpretations. It is questionable to assume that Pescadora would mean 'Fishermen's language' as a language used exclusively by fishermen, i.e. in the sense of an occupation-based group language or

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[15] An Oidor was a judge in a Real Audiencia.

[16] The general language refers to Quechua.

[17] Emphasis is mine.

dialect. There is no direct evidence of such a group with a specialized language. I prefer to formulate an easier interpretation, which relies on the meaning of the word itself. This said, I want to present examples of the way peoples, regions and languages were divided into two main groups, that is, taking the opposition between mediterranean and maritime into account. The Latin word *mĕdĭ-terrānĕus* means midland, inland, remote from the sea, and it is understood in opposition to *maritimus* 'maritime' (Lewis & Short [1879] 1958: 1124).

Similarly, in the Andean context, Garcilaso de la Vega ([1609] 1800: 181) claims that Inca Roca conquered many large mediterranean and maritime provinces. Cobo ([1653]1892: 48-49) reflects on the numerous languages in Peru and suggests that all (in his account probably more than 2000) may have descended from only one family. He also distinguishes between the peoples and languages, speaking of Indians of mediterranean versus maritime regions. Mexico is also divided in the same way, "some of the provinces of that vast realm [of Mexico] were mediterranean and some maritime" (Clavijero 1844: 3). Coleti (1771: 97), in his historical-geographic dictionary, reports about the Caribs[18], dividing them into two groups according to the region in which they lived: those living at the shores or coast of the Atlantic and those living inland: "they are divided in maritime and mediterranean [groups]. The first ones live in the plains and on the Atlantic coast[19]". Interestingly, when talking about the places where Guayaquil obtains wheat, Coleti (1771: 191) mentions the "Provincias mediterráneas de Quito, Perú y Chile".

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[18] More references about the mediterranean and maritime caribs "Caribes marítimos y Caribes terrestres o mediterráneos" (Coleti 1771: 189, 104, 192).

[19] "Se dividen en Marítimos y Mediterráneos. Los primeros habitan en las llanuras y sobre la Costa del Mar Atlántico […]" (Coletti 1771).

Another example where the division is used is in the relation to the whole world's most important provinces, kingdoms and cities by Rebullosa (1748). When talking about the historical land of Livonia (nowadays Latvia and Estonia), Rebullosa (1748: 154) uses the distinction maritime/mediterranean: "the maritime lands of Livonia are infested with the impiety of Luther and Calvin: the Mediterranean [lands] and their surroundings, with ignorance [...]"[20]. Rebullosa (1748: 329) also makes note of Peru: "But the wealth and strength, in Peru, come from the mediterranean provinces, out of which Collao is the first"[21]. It is clear that the distinction maritime/mediterranean was used to define regions and peoples living within them.

In spite of using the mediterranean/maritime distinction, the Spaniards, when confronted with a vast territory of different geographic and climate zones like Peru, needed to adopt some Quechua terms to refer to and delimit zones, like the term *Yunga.* González Holguín (1608: 373) reports that *Yunca* refers to the region of the plains and the valleys, and as an extension, also to the Indians of those areas (in opposition to <sallqa> 'highlands' and the people native to that area (González Holguín 1608: 306)). Yunga was a polysemous term, as Cieza de León (1554: 164r-165v) explains. Cieza de León's explanation of Yunga, has been summarized by Adelaar (2019: 3), who, by analyzing the description of the town of Puruguay (Mogrovejo ([1593-1605] 2006: 90)), comes to the conclusion that the term Yunga was applied to either language, ethnic or cultural identity, and climate zone.

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[20] "Las Tierras maritimas de Livonia, están inficionadas de la impiedad de Lutero, y Calvino: Las Mediterraneas, y sus contornos, de ignorancia [...]" (Rebullosa 1748).

[21] "Pero la riqueza y pujanza, en el Perú, conciste en las Provincias Mediterraneas, de las quales la primera es Collao" (Rebullosa 1748).

> [T]his way you have to understand that the towns and provinces of Peru are located according to the disposition I have declared, many of them in the valleys between the Andes and the snowy mountains. And all the inhabitants of the highlands are called Serranos, and the ones living in the plains are called Yungas. And in many places of the highlands where the rivers go through, the mountains are high but the valleys warm and temperate, so much that in many parts it is hot like in the plains, the people who live there even though they are in the highlands, are called Yungas. And in all of Peru when they talk about these warm areas that are between the mountains, they say it is Yunga. And the inhabitants do not have a name even if they have one in their villages or regions. This way, the ones living in the mentioned places, and those who live in all these plains and the coast of Peru are called Yungas because they live in warm land.

Thus, it seems clear that all coastal languages were Yunga languages (languages of warm lands), that Mochica was a Yunga language and that the Mochica speakers were also Yungas (as Carrera (1644: 231) himself states). The fact that the Mochica language is called Yunga in the *Arte* is interesting because it leaves the possibility open that it was a *lengua general* with special status; not every language was considered a *lengua general* during colonial times. Mochica made it to Oré's manual (1607) in companion with the other two major Peruvian languages, Quechua, *la más general*, Aimara, Puquina and Guaraní. Zevallos Quiñones (1947b: 169) informs that in 1587[22] Baltazar Ramírez wrote a description of his trip to Peru around 1567 which was called *Descripción del Reyno del Perú*, in which he reported that "there were three very general languages: Yunga, Quichua and Aymara". The status of *lengua general*, that is, very well extended and considered important, may have

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[22] According to the catalog of the *Biblioteca Nacional de España*, this manuscript dates from 1597. I have never accessed this manuscript.

influenced Carrera's decision in calling his grammar *Arte de la lengua yunga,* as if Mochica would have been considered the Yunga language par excellence.

As mentioned already, *Yunga* was a Quechua term used to define a region, an ethnic group, a language, and a climate zone. Other Quechua terms as *Quechua* itself and *Sallqa* accomplished the same task (Itier 2015). I believe the Spanish term *Pescadora* was used in order to fill the gap that presented itself when new distinctions in the large, extensive coastal area of northern Peru had to be established. The cover term Yunga may have become insufficient to distinguish between the numerous languages in the north coast. The need to remedy this motivated the innovation of a term that would establish exactly the same distinction as the one established with the pair mediterranean/maritime. Following this, the pair yunga/pescadora would correspond perfectly to the same opposition. Yunga would correspond to the coastal languages spoken inland, in the plains, in the valleys, distant from the seashore, and Pescadora would refer to the languages of maritime regions, that is, languages spoken by the seashore, next to the sea, in the Pacific coast, at harbors, such as Eten. This explanation would also explain why the plural form Pescadora was used. Indeed, if the term Pescadora designated coastal languages spoken by the people living near the sea, the options of such languages were at least more than one, certainly Mochica-Pescadora and Quingnam-Pescadora.

I believe my proposal to be the simplest way to interpret the term Pescadora. To summarize what has been expressed in this section, Yunga was not the only cover designation for coastal languages. The same concept was embedded in the term Pescadora.

## 2.3. Who were the Mochica speakers?

Northern Peru has been home to great civilizations, which flourished during pre-colonial times. There has been confusion when relating the Mochica language with a specific pre-colonial civilization. Salas (2012b: 21) suspects that the confusion originated with Larco Hoyle [1938] 2001, who called the Moche culture "Mochica" and claimed that the language was spoken by the Chimús. The association of Mochica language with Moche culture, which flourished from about A.D. 100 and vanished around A.D. 700, is very hard to prove (Salas 2012b: 21). It is also impossible to establish which language was spoken by the ancient Moches.

Confusion arises with the association of the Mochica language with the Chimu kingdom, as well. First, Paz Soldán (1880: 1), in his edition of the grammatical description by Carrera (1644), says that Mochica is the Chimu kingdom language. Middendorf worked with the edition prepared by Paz Soldán, and most probably could have been influenced by the idea of Mochica being the language of the Chimus. Middendorf's (1892) title is: *Das Muchik oder die Chimu-Sprache* 'The Muchik or the Chimu language'. Along the same lines, Hovdhaugen (2004: 6) presumes that Mochica "was most likely the language of the Chimú culture".

Mochica-Quingnam bilingualism is attested via studies of toponyms and through ethnohistorical evidence provided by chroniclers like Calancha (1639: 550). Calancha records that the Chimus conquered the Yungas (Mochica speaking) and made them learn their language. The language of the Chimus was Quingnam. Chimus were the peoples the Spaniards encountered when they arrived to the Peruvian north coast.

Current knowledge and understanding of the Sicán culture, which originated and developed in northern Peru, have contributed to better support the hypothesis that Mochica was probably spoken by at least some of its members. Shimada (2009: 8) and Shimada et al. (2005: 64) present not only archaeological evidence such as pottery and ritual and funeral patterns but also genetic information after investigations of mitochondrial DNA that prove that the society was, in fact, multiethnic (Shimada et al. 2005: 75). This could imply that all members of the Sicán society did not speak the same language. Mochica toponyms in the areas of Sicán's heartland also give support to the proposal that Mochica was the language (or one of the languages) spoken by – at least some – Sicán society members. The highest point of expansion and influence of Sicán was achieved mainly during the phase known as the Middle Sicán period, which flourished from 900–1100 A.D. During Middle Sicán, new metallurgic technology allowing the production of metal alloys, like arsenical copper, and mass production of metallic ornaments and pottery contributed along with other factors to the growth of Sicán's political, economic and religious power (Shimada et al. 2007: 340; Shimada 2009: 48). The Sicán language was most probably Mochica. Cerrón-Palomino (1995: 43) correlates the geographical extension of the Sicán empire with the area of the Mochica linguistic area. The Sicán culture lasted as an independent and autonomous culture for approximately 600 years, starting around A.D. 800-850. Its rulers governed with sovereignity until they got conquered around A.D. 1375 by the Chimus whose government center was the Moche Valley (Shimada 2009: 4).

## 2.4. Sources for the study of the Mochica language

Considering the period of time when the sources were produced and considering the nature of the language itself, I have delimited three clear

phases of the linguistic production on the Mochica language. I do not include here the works developed by linguists, such as grammatical analyses or sketches. The first phase covers the colonial period, thus Colonial Mochica, and since the only grammatical description is that by Fernando de la Carrera, who missionized in Reque, one can suspect that the language described is an abstraction of the several varieties this missionary encountered, but with more influence from the Reque variety. The second phase is represented by the remnants collected by several travelers when the language was already dying out, mainly from Eten, the last bastion of the language. The third phase of production of Mochica material concerns what I call New Mochica and consists of the results of the efforts of several local researchers from both the regions of La Libertad and Lambayeque, who in the search of constructing a cultural identity, conduct projects of language reclamation and revival. The term "language reclamation specifically refers to language revival in situations where the language is no longer spoken and little is known orally within the community" (Amery 2016: 19). I prefer to refer to the ongoing process in northern Peru as language revival rather than language revitalization, as I will explain in 2.4.3.

## 2.4.1. Colonial phase

### 2.4.1.1. Lost sources of Colonial Mochica (late 16<sup>th</sup> century)

In relation to the languages of northern Peru, there is information about certain missionaries who were active learning indigenous languages and producing linguistic materials. Unfortunately, even though part of that material may have been published, it remains lost. According to Zevallos Quiñones (1948a: 5-6), following Meléndez (1681a: 558-560), Pedro de Aparicio, a Dominican friar, learned and mastered Mochica and prepared a grammatical description of the

language, as well as a vocabulary, sermons, talks and prayers. After inspecting the information on Pedro de Aparicio provided by Meléndez (1681a: 558-560), I cannot affirm with certainty that the language mentioned is indeed Mochica. What is mentioned is that Pedro de Aparicio learned the language of the valley (Chicama). Meléndez (1681a: 613-614), reports relevant information about the convent where Pedro de Aparicio lived: the Chicama (Valley) Convent, which was home to a group of priests involved in the production of linguistic material. This convent was founded by Domingo de Santo Tomás[23]. Pedro de Aparicio lived there with Benito de Jarandilla, Bartolomé de Vargas and Pedro Cano. Apart from Pedro Cano, the rest of the priests mentioned produced linguistic and catechetical material in the Chicama valley language. Concerning the missionary-linguists of the Chicama convent, Espinel (1978: 80) claims that Bartolomé de Vargas had studied and written a vocabulary and a grammatical description of a language called *pescadora,* and Cuervo (1915: 561) states that Bartolomé de Vargas had preprared a grammatical description, a copious vocabulary, a *Sermonario de Santos y de tiempo para utilidad de los naturales y misioneros de Chicama.*

Concerning Benito de Jarandilla, Meléndez (1681b: 40) states that he lived in the convent of the Chicama Valley for forty years, and in collaboration with Pedro de Aparicio, learned the extremely difficult language of the valley; he reports, as well, that they both translated prayers and a cathecism. This information is not precise, but it is complemented by the account by Reginaldo Lizárraga (1545-1615), who, based on the information gathered on his trips, prepared his chronicle *Descripción breve de toda la tierra del Perú, Tucumán,*

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[23] Domingo de Santo Tomás (1560a) is very well known for being the author of the first Quechua grammar, *Grammatica, o Arte de la lengua general de los Indios de los reynos del Peru.*

*Río de la Plata y Chile* (1605)[24]. The following paragraph sheds light on the language(s) corresponding to the Chicama valley: "The Indians from this valley have two languages: the fishermen's one, extremely difficult and the other one not so hard; few speak the general language of the Inca; this good friar knew both, and the more difficult he knew better"[25] (Lizárraga [1605] 1916: 67). This is clear information about Jarandilla's good command of the language of the fishermen, which was most probably Quingnam, many times also being referred to as *lengua pescadora.* The designation *pescadora* language is confusing. At times it refers to Quingnam, and at others it refers to Mochica, as shown in 2.2.

From Roque Cejuela de Traña's testament, reproduced by Zevallos Quiñones (1948a: 25-29), one can find information about the life of this missionary. He had spent 34 years living in Lambayeque, four of which he spent translating a doctrine, a cathecism, a confessionary and a sermon book into "the mother tongue of these plains", as he calls them. Mogrovejo (2006: 43) confirms that the language spoken by this priest was Mochica, with the report stating that he was an examiner of the Mochica language. Roque de Cejuela informs in his testament that he had accomplished the task of preparing all this material with great success and approval of theologists and interpreters (or *lenguas),*

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[24] This chronicle remained unpublished but was edited by Ricardo Rojas (1916) with another title: *Descripción colonial.*

[25] "Los indios deste valle tienen dos lenguas que hablan: los pescadores una, y dificultosísima, y otra no tanto; pocos hablan la general del Inga; este buen religioso las sabia ambas, y la más dificultosa, mejor" (Lizárraga [1605] 1916: 67). This information suggests that the information provided by Meléndez (1681b: 40) on Jarandilla and Aparicio mastering the very difficult language would imply Quingnam and not Mochica.

and that he had paid himself over 4000 *castellanos*[26] for getting the work to press (Zevallos Quiñones 1948a: 27). The fact that he had paid for the publication of his work is the best proof that the linguistic material existed; this allows for the possibility that it may still be out there.

Luis de Teruel was a Jesuit who participated in the extirpation of idolatry campaign conducted in four coastal towns north from Lima, namely Barranca, Huaura, Végueta and Huacho (Calancha 1639: 631), during the first years of the 17th century in company of other Jesuits: Hernando de Avendaño and José de Aliaga, known extirpators of idolatries (Calancha 1639: 412; Duviols 1983: 385). Calancha expressely states that he used the information from Teruel's manuscript to write about the idolatries of that coastal area (Calancha 1639: 631). This non-linguistic work describing the traditions and religion of the indigenous people they met during that campaign is not available, and his linguistic works are also lost: presumably, a Mochica grammatical description and a vocabulary. Zevallos Quiñones (1948a: 29-31) reproduces fragments of a letter from the Parish of Lambayeque to the Jesuit priests dated at 1618, where there is mention of Teruel preparing a grammatical description and a vocabulary of the "mother tongue of the mentioned town [Lambayeque] and the valleys of Trujillo". His linguistic production includes yet another lost work, a grammar of the Tabalosa language (De la Cruz y Bahamonde 1812: 339; Torres Saldamando 1882: 123) from the Mission of Lamas, reported to be extinct by Hervás y Panduro (1800: 258).

A reference to another lost Mochica grammar is reported to be of the authorship of Pedro de Prado y Escobar, who was born in Trujillo (Zevallos

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[26] One *castellano* or *peso de oro* 'golden peso' was equivalent to 4,6 grams of gold. It was established by the Spanish Crown in 1475 and disappeared by 1497 in Spain, but was still used in the colonies (Torres 1994: 125).

Quiñones 1948a: 10) and who was Vicar of San Martín de Reque and examinator of the Yunga Language (Mochica). The relevant linguistic work prepared by Prado y Escobar is a grammatical description of the "language of the valleys of Zaña, Chiclayo and Trujillo" (Medina 1904: 302-303).

## 2.4.1.2. Earliest documentation of Colonial Mochica

The earliest testimony of the Mochica language registered in press is that of Jerónimo de Oré (1607: 403-408); this work was part of a polyglot manual prepared for the use of the priests. Oré (1607: 11) compiles the translations of rites, ceremonies and formulas for the administration of the sacraments, according to the Roman Rite, into Quechua, Aimara, Puquina, Mochica and Guaraní. This is the reason why he calls his manual *Manual Catholico Romano Peruano y Cuzquense* (Peru's and Cuzco's Roman Catholic Manual). In this manual, Oré includes the following prayers in the Mochica language: the Our Father, the Hail Mary, the Creed and the Salve Regina. The Articles of Faith, the Ten Commandments and some other Catholic theological issues such as The Theological Virtues, The Acts of Mercy, etc. are also included in this compilation. Oré's register of the Mochica language consists exclusively of religious texts.

So far, Oré's (1607) register has been considered the earliest existing evidence of the Mochica language. Nevertheless, there seems to be a manuscript which would have contained even earlier Mochica evidence. This manuscript was written by the chronicler Alonso Castro de Lovaina in 1582. This chronicle is presumably located in the Archiepiscopal Archive of Trujillo in Peru (Burgos

Guevara 2003: 14[27]) and it is difficult to access[28]. The title of the manuscript is *Gobierno de los situmas antes de los señores yngas comenzasen a reinar, y trata quienes fueron y mandaron en aqueste valle, Cañaribamba*. The striking detail regarding this evidence is that it supposedly accounts information about the Cañari peoples in Azuay, Ecuador and its extinct language, Cañari. Calle Romero (2007: 14-15) copied the Our Father and the Hail Mary prayers preserved in the manuscript, citing the work of Carlos Paida Toalongo[29] (1991).

The prayers in question have never been presented amongst Colonial Mochica testimonies, due to the fact that they have been erroneously assumed to be records of the extinct Cañari language of Ecuador. Both Oré (1607: 403) and Carrera (1644: 203) offer the same prayers. In Table 1, I have arranged the text of these three early Mochica versions of the Our Father[30] in a convenient disposition, to facilitate comparison between them. The 1582 version of the

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[27] Burgos Guevara (2003: 14) states that he has had personal communication with Father Máximo Glauco Torres Fernández de Córdova, who has inspected the mentioned chronicle in Trujillo, Peru. Concerning the same issue, Burgos Guevara (2003: 14) cites Torres (1982: 250), which he has not himself accessed but mentions the citation by Hirschkind (1995: 44).

[28] I have tried multiple times to contact the Archiepiscopal Archive of Trujillo in Peru via telephone and e-mails. The end result has not been favorable, except for a possible collaborative work on the investigation of this document.

[29] The work mentioned by Calle Romero (2007: 14-15) is *Taday Patrimonio histórico del Austro* by Carlos Paida Toalongo (1991: 91-92). Calle Romero (2007: 14) copied the transcription of Carlos Paida Toalongo (1991). Calle Romero's access to the text was only through a transcription whose origin goes back to the manuscript, but one cannot be sure whether it is a faithful copy of the original manuscript. Calle Romero does not say whether Carlos Paida Toalongo saw this manuscript himself or whether he transcribed someone's transcription.

[30] Hervás y Panduro (1787: 93) offers the account of Oré's Our Father in Mochica, but with his own orthography. He reports that he uses Oré's account in his *Saggio* (Hervás y Panduro 1787: 64).

Mochica Our Father differs more with respect to the other two, which are more similar to each other. Nevertheless, there are recurrent correspondences between the Mochica Our Father and the other two versions that I will explain and present in Table 2. In Table 2, I locate Carrera's version first because I consider his text my point of reference which I compare the other two versions with, mainly because Carrera justifies to some extent the election of his orthographic symbols.

Table 1.    Colonial versions of the Our Father prayer

| Castro de Lovaina ([1582] 2007: 14) | Oré (1607: 403) | Carrera (1644: 203) |
|---|---|---|
| Maesi, if alas luciedg dic, tzaedg, ol mag lilem maecia, | Mvchef, acazloc, cuçiangnic, çũq oc licum apmucha, | Mæich ef, acaz loc cuçiang nic, tzhæng, oc mang licæm mæcha, |
| dof tzaedg, eiaepmadg polaeg maed, mu aeisi lapeec liciadgnic meen. | Piycan ñof, çũgcuçias, eyipmãg, çung, poleng munmo vzicápuc, cuçiangnic mun, | piycan ñof tzhæng cuçias, eiæpmang tzhæng polæng mæn, mo æizi capæc cuçiang nic mæn. |
| Aio ideng, edendu meaici [sic] zllun, pi led ñof ellu mudum. Efquelad ñuf ixlleese aie ala naix eflo xlldg [sic] musseiu maesi. | Ayoyneng. ynengo, much xllon, Piycam ñof allò molun, ef quecan ñof. yxllis, acan mux efco. xllang museyo. much çiòmun, | Aio ineng inengô mæich xllon, piy can ñof allô mo lun. Efque can ñof ixllæss aie aca naix efco xllang musseio mæich, çio næn. |
| Amuz toceen ñof zlladg mus emaellael zaer eniluam maesi deynem ef loñof quci. | Amus tocum ñof. xllangmuse yz puçèrenic, namnum, les nan, efco, ñof pissin quich. | Amoz tocæn ñof xllang muss emællæc zær enicnam næm lecụnan efco ñof pissio quich. |

When analyzing the version attested in 1582 and comparing it with those of Oré and Carrera, at first glance, one can conclude that the 1582 version corresponds to a variety of Colonial Mochica that exhibits a very particular orthography. Some clear mistakes such as <xlldg> and <meaici> are noticeable. First, a combination of consonants with no single vowel is impossible according to Mochica phonotactics; one would expect to have <xlladg> and <maeci>, respectively.

In relation to the correspondences, Carrera's (1644) sixth vowel <æ> corresponds to <e>, <i> and <v> / <u> in Oré (1607) and to <ae>, <e> and <ee> in Castro de Lovaina ([1582] 2007: 14). Carrera's and Oré's <c> corresponds to Castro de Lovaina's <l> in all contexts: word initial, word

medial, and word final, while Carrera's and Oré's <ç>, <ch>, <n> and <xll> correspond to Castro de Lovaina's <c>, <si> / <ci>, <d> and <zll>, respectively. Carrera's <z> corresponds to Castro de Lovaina's <z> and to Oré's <s>, and Carrera's <tzh> corresponds to Castro de Lovaina's <tz> and to Oré's <ç>. The details are summarized in Table 2.

Table 2.    Comparison of three colonial versions of the Our Father prayer

| Carrera (1644: 203) | example | Oré (1607:403) | example | Castro de Lovaina ([1582] 2007:14) | example | meaning |
|---|---|---|---|---|---|---|
| <æ> | <polæng> <br> <ixllæss> <br> <licæm> | <e> <br> <i> <br> <v> <u> | <poleng> <br> <yxllis> <br> <licum> | <ae> <br> <ee> <br> <e> | <polaeg> <br> <ixlleese> <br> <lilem> | 'heart' <br> 'sin' <br> 'may be' |
| <c> | <capæc> <br> <licæm> <br> <oc> | <c> | <cápuc> <br> <licum> <br> <oc> | <l> | <lapeec> <br> <lilem> <br> <ol> | 'on top' <br> 'may be' <br> 'name' |
| <ç> | <cuçiang> | <ç> | <cuçiang> | <c> | <liciadg> | 'heaven' |
| <z> | <amoz> | <s> | <amus> | <z> | <amuz> | 'do not' |
| <ch> | <mæich> | <ch> | <mvch> | <si> / <ci> | <maesi> <br> <maecia> | 'our' |
| <n> | <ineng> <br> <mo lun> <br> <xllangmuss> | <n> | <yneng> <br> <molun> <br> <xllangmuse> | <d> | <ideng> <br> <mudum> <br> <zlladg mus> | 'day' <br> 'today' <br> 'enemy' |
| <tzh> | <tzhæng> | <ç> | <çung> | <tz> | <tzaedg> | 'your' |
| <xll> | <xllangmuss> | <xll> | <xllangmuse> | <zll> | <zlladg mus> | 'enemy' |

## 2.4.1.3. Fernando de la Carrera (1644) and the Arte de la lengua yunga

In spite of the references to the several Colonial Mochica grammatical descriptions presented above, the only available document is the *Arte de la*

*lengua yunga* by Fernando de la Carrera (1644) (henceforth, *Arte*). The *Arte* not only consists of a grammatical description, but it comprises religious texts with no Spanish translations.

Fernando de la Carrera was the son of Juan de la Carrera and Jerónima Daza Carvajal, a descendant of conquistadores and encomenderos. Since early colonial times, Carrera's family had settled in Trujillo, where he was born (Zevallos Quiñones 1948a: 13, De la Puente Luna 2006: 53). Carrera (1644: n.p.) states, in his dedicatory words to the reader *Al Lector,* that he had learned the language when he was a child in the town of Lambayeque, where he actually grew up.

Carrera did not belong to any religious order; he was a *cura beneficiado* in charge of a benefice[31] or 'incumbent'. In 1630, he was named incumbent of the benefice of San Salvador de Jayanca (in the Corregimiento of Zaña[32]), where he replaced Pedro de Prado y Escobar. He was in charge of San Salvador de Jayanca for three years (Medina 1904: 345; Zevallos Quiñones 1948a: 13-14) after which, in 1633, he arrived to San Martín de Reque, the town which became his benefice (De la Puente Luna 2006: 39).

As Fernando de la Carrera declares that he masters the Mochica language because he learned it since he was a child, one can assume that his proficiency was near native. Juan Niño de Velasco in the approval statement of the *Arte*,

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[31] A benefice was an ecclesiastical office such as a diocese, parish, or monastery, often understood as certain property destined for the support of ministers of religion, such as the care of souls. However, in the strict sense it is the right given permanently by the Church to a cleric to receive ecclesiastical revenues on account of the performance of some spiritual service (Creagh 1907).

[32] Carrera (1644: n.p.) claims that before 1644 he had had two benefices, in the Corregimiento de Zaña and in the Corregimiento of Chiclayo.

signed on December 19th 1643, advocating for its publication (available in the first pages of the *Arte,* Carrera 1644: n.p.) informs that Indians themselves had confessed that Carrera knew better than themselves how to speak this difficult language. Carrera claims that he struggled to accommodate Mochica grammar according to the Latin grammar. Especially his explanations referring to the verbal system in Mochica suffer because of his need to adjust everything according to the Greco-Latin paradigm of describing languages. Fortunately, he does deviate from the strict colonial grammar pattern and offers rules on how to, for example, use the numeral classifiers and tries to explain in the best way possible the inalienable/alienable distinction present in the language. Amongst innovations or deviations from the established model of description priests had during the colonial time, Carrera (1644) bravely creates "new letters" to represent sounds foreign to Spanish and for which he gets praised by Juan Niño de Velasco.

In spite of the fact that he considers himself a near native speaker of Mochica, there is no doubt that he probably got help from bilingual Indians when preparing his grammar. There do not seem to be available sources telling whether he benefited from the help of native speakers, but when reading the life of a tributarian Indian who considered himself a friend of Carrera's, one can suspect that he may have been a collaborator amongst many other anonymous Indians which probably helped with the preparation of the *Arte.* The name of this Indian is Jerónimo Limaylla or Lorenzo Ayun Chifo. Jerónimo Limaylla, in fact a trickster, was born as Lorenzo Ayun Chifo (1622-1678) in San Martín de Reque, as a common tributarian Indian (De la Puente Luna 2006: 48). The life of this Indian is very interesting, he managed to take the identity of a southern Peruvian noble Indian (Jerónimo Limaylla, for more information about Jerónimo Limaylla, see Alaperrine-Bouyer 2007: 212-217). However, the important details to mention about him are the ones related to

his relationship with Fernando de la Carrera. First, in spite of him being a tributary Indian which meant "one of the lowest statuses within native society", he became a "less Indian" (De la Puente Luna 2006: 50). Common Indians were able to become "less Indian", their involvement with the Church provided them that opportunity. At the age of 11, he was serving the clergymen of the local church as altar boy, by the age of 15 he knew the Christian Doctrine, only Indians belonging to native nobility knew the Doctrine. Around 1638, Lorenzo's parents died and Fernando de la Carrera took care of the sixteen year old boy, he appointed Lorenzo sacristan and later entrusted his musical training to Juan de Ayllón (Franciscan), who became his main benefactor and with whom he refined his skill of writing and reading in Spanish (De la Puente Luna 2006: 52-56). Carrera's relationship with the native community was good, in the introduction to his *Arte,* he tells about the importance of teaching and preaching in the language. When Lorenzo Ayun Chifo got into legal troubles due to his stealing of someone's identity, he communicated with Fernando de la Carrera via letters.

In general, Fernando de la Carrera was a well recognized priest, he was also an Ecclesiastical Judge. Colonial manuscripts (Carrera 1649, López 1649) provide information about the case of the Eucharistic Miracle of Eten, where Fernando de la Carrera was asked by Marcos López (Dean of the San Francisco Convent in Chiclayo) to investigate and testify as ecclesiastical judge in Eten. During the processing of the case, witnesses had to declare what they saw in front of the ecclesiastical judge, Carrera, and a notary, Íñigo de Sarabia, named by Carrera for this purpose (Carrera 1649: 29r). In general, in these documents one can observe that the relevance of knowing the indigenous language is striking; in order to get the sworn testimonies of Indians, interpreters were named and they had to be next to Carrera when the Indians testified in their language. The names of the interpreters were Tomás Castel,

from the village of Reque, "persona entendida en la lengua maternal de estos balles[33]" and Nicolás Chiscul[34], also from Reque, (Carrera 1649[35]: 35r). Indians were interrogated and asked to testify what they saw during the episode of the Miracle of Eten, there are names of Indians (that interpreters helped to get their testimonies in front of Carrera and the notary): Andrés Neciosup, from Eten, sacristan, who knew Spanish (Carrera 1649: 35v), Pablo Quinocial, mayor of Eten (Carrera 1649: 37r) and Fabián Chancafe, mayor of Eten, as well (Carrera 1649: 38v). Nevertheless, there was also a common interrogation process held in Mochica, with the aid of the interpreters, so that the whole village could respond and testify (Carrera 1649: 40r-40v). The names of the involved priests mentioned in these documents, are of those who were proficient in Mochica: Marcos López, Tomás de Reluz and Antonio Crespo. Córdova Salinas ([1651] 1957: 178) reports that they all had the title of *linguae indorum peritus*.

### 2.4.1.4. Baltasar Jaime Martínez Compañón

In 1778, King Charles III of Spain promoted the young Lima Cathedral canon, Baltasar Jaime Martínez Compañón, to become Bishop of Trujillo. This way, he grouped an elite of ecclesiastical and administrative reformers who

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[33] "person who knew the mothertongue of these valleys"

[34] This name is written as Chis cul in Carrera (1649: 35r), and this surname is still found in the modern Lambayeque area.

[35] I have named the *Autos* as Carrera 1649, the *Auto*s is a collection of several manuscripts that include letters, signed testimonies, etc. related to the Miracle of Eten. Carrera y Daza, Fernando de la (1649). Autos originales de la aparición que el S$^r$ hizo en la ostia consagrada en el pueblo de Etem, a veinte y dos de julio año de 1649. Juez Don Fernando de la Carrera Vicario de Prov$^a$ , en el Corregimiento de Chiclayo. Notario Juan Carrillo. Manuscript signed by Fernando de la Carrera kept in Archivo histórico documental de la Provincia Franciscana de los XII Apóstoles del Perú, Lima. Code I-17. 1. Appendix D is the first page of this manuscript.

performed an important part of the Bourbon reforms in Spanish America. These religious leaders were involved in political economy and state administration activities (Berquist 2008: 377-378). Martínez Compañón had problems when attempting to convert his northern Peruvian bishopric of Trujillo into the industrious province expected by the Bourbons due to economic difficulty, population loss and lack of intellectual and cultural life in Trujillo. Trujillo did not fit the Bourbon agenda well but Martínez Compañón focused on promoting the common good, designing appropiate economy activities for his own bishopric. At the same time, the Bishop of Trujillo dedicated a massive effort in collecting all sorts of ethnographical information. This effort resulted in nine monumental volumes with information about the peoples, costumes, traditions, flora and fauna of the Bishopric of Trujillo. His work is known as *Truxillo del Perú.* Volume II of *Truxillo del Perú* includes a vocabulary list of eight different languages known as the *Plan* (Martínez Compañón 1783b: EIV). The languages registered are Quechua, Yunga (Mochica), Sechura, Colán, Catacaos, Culli, Cholón and Hibito. The list includes 43 entries for each language. Rivet (1949: 1-51) publishes, analyzes and compares the information of the attested languages. Moreover, Martínez Compañón registers a song written in Mochica *Tonada del Chimo* in the same volume (Martínez Compañón 1783b: E180, see Appendix E). There are two interpretations of this 18th century Mochica text, one by Salas (2013) and one by Eloranta (2013a). The information recollected by Martínez Compañón is crucial because it closes the connection gap between 17th century and 19th century Mochica, providing clear cases of phonological changes undergone in Mochica during that period (Cerrón-Palomino 1995: 65). For instance, an important change to be mentioned is [l] > [x]. Martínez Compañón (1783b: EIV) registers the alternation between /l/ and /x/, a change that gets consolidated in Republican Mochica.

The examples in Figure 3 and Figure 4 represent this alternation, <col> means 'animal' according to Martínez Compañón, 'horse' or 'llama' according to Carrera (1644), <ol> means 'fire'.
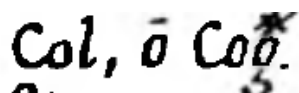


Figure 3.    Representation of the alternation [l] ~ [x] in the word <col> 'animal' in Martínez Compañón (1783b: EIV)
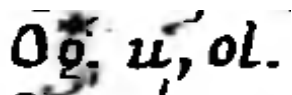


Figure 4.    Representation of the alternation [l] ~ [x] in the word <ol> 'fire' in Martínez Compañón (1783b: EIV)

## 2.4.2. Republican Mochica

The presence of German anthropologists and researchers of various disciplines in Peru is remarkable. German interest in the Andes has a long tradition, already in the late 17th century there were German Jesuits missionizing in Peru, preparing grammatical descriptions of indigenous languages, and later on during the 18th century there were travelers visiting Peru even before Alexander von Humboldt's famous voyage to the New World (1799-1894). During the late 18th century there were German mineralogists who went to Peru as experts to analyze the declining mining industry in the colony. After Peru became independent from Spain, many German scholars traveled across the Atlantic to visit the Andes, such as Eduard Pöppig, Karl Schmarda, Karl Scherzer, etc.

During the period between 1850-1920 about fifty German anthropologists and archaeologists arrived in Peru. In the mid 19th century Germany became the nation with leading academic knowledge of Peru (Kresse-Raina 2008: 104-105). This is the reason why Mochica got so much attention from Germans during post-colonial time, the long list of Germans studying the pre-history of

the ancient cultures before the Spanish colonization in northern Peru starts with Adolf Bastian, who was the first scholar to record Mochica lexical material in Eten. Bastian (1826-1905) is considered the founding father of the German Ethnology, he was the first director of the *Königliches Museum für Völkerkunde* (nowadays known as Ethnological Museum of Berlin, founded in 1868 and open to the public since 1873). He spent twenty-five years travelling around the world and conducted nine collecting trips. He donated his collections to the museum (Vermeulen 2015: 424-425). During one of his trips, which lasted a year, he collected the information contained in his work *Die Culturländer des Alten America.*

The first republican-time Mochica wordlist known so far is registered in this first volume of his monumental work (Bastian 1878a: 169-173). The second volume of his authorship (Bastian 1878b) deals with historical and ethnographic material. He was familiar with chroniclers, missionaries' accounts, legends, etc. Salas (2002: 135) reflects on Bastian's orthography of this Mochica wordlist and states that Bastian was not influenced by Carrera (1644). The first re-edition of Carrera (1644) dates from 1880. Bastian (1878a, 1878b) did not have access to this nor to an original (Carrera 1644), but he knew about the existence of Carrera's grammar. Bastian (1878b: 887) mentions Clements Markham's collection of old grammars, as well. Bastian (1878a, 1878b) refers to Mochica as the language of the Chimus. In this respect, he seems to be influenced by Clements Markham. They had communication, and it would not have been strange if Markham had given that information to Bastian. Markham (1873: xviii) considers Mochica to be a

dialect of the Chimu kingdom. He mentions Fernando de la Carrera's grammar (1644) and the Our Father by Oré (1607[36]).

In relation to his data, Bastian (1878a: 169) explains that he collected his vocabulary and sentences in Eten, with the help of Mr. Sohlfs. Salas (2002: 135-140) presents Bastian's account, to which he had access through Altieri's transcription reproduced in his edition of Carrera ([1644] 1939: xiii-xv). I agree with Schumacher (2004: 81), who complains about Salas not being accurate offering an incomplete list of Bastian. As a late tribute to Bastian, I have decided to include in this thesis my transcription of Bastian's contribution to the study of the Mochica language. I transcribe the list as it appears in Bastian (1878a: 169-173) with no English translations. I present only the Mochica words and phrases and the original Spanish translations, see Appendix B.

Ernst Middendorf (1830-1908) is the second in the list of Germans involved in the study and compilation of Mochica material. Middendorf published *Das Muchik oder die Chimu-Sprache* in 1892. Taking the *Arte* as a basis, he writes his interpretation of the Mochica grammar and complements the existing vocabulary with new lexical items that he records in Eten. In his introduction to this book, Middendorf explains how he proceeded with the collection of materials. He first studied Carrera's materials and prepared adequate questions and forms in order to be able to confront the language consultants with what he wished them to corroborate from Carrera's *Arte*. Not only did he conduct a comparative study between Carrera's attested variant of Mochica and the one he encountered in Eten, because of his knowledge of the Quechua

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[36] Markham incorrectly cites the work by Oré (1607), which makes me suspect that he knew Oré via Hervás y Panduro (1800), who records only Oré's Mochica version of the Our Father prayer.

language, he also performed a comparison of some Mochica typological features with Quechua, coming to the conclusion that in contrast with Quechua, Mochica only identifies two cases: nominative and genitive, that the relations of possession have peculiar features in Mochica, that Mochica has a tendency to create short expressions, and that most words and verbal roots are monosyllabic (Middendorf 1892: 43). Middendorf (1892: 46-47) also reports about phonetic changes occurred, for example the change [l] > [x]. He reflects about Carrera's comment on the variation of the pronunciation in the different places where this language was spoken and considers that the variety described by Carrera was of Reque while his was of Eten.

Middendorf (1892: 44) reports that in the coastal valleys and towns people did not use the Mochica language (Chimu-Sprache in his words) anymore, that the elders who spoke the language had died, and that the children were using only Spanish. In most of the places, the language was gone, and the only remains were some isolated words and a specific accent in the local Spanish. The only place where Mochica was still being used was Eten. Therefore, the Mochica language was referred to as "language of Eten". In relation to his language consultants and the process of collecting information, he explained that he got help from father Alejandrino Vallejos, the local parish priest who every morning sent four elders, both men and women, to help Middendorf answer specific questions related to the language. For this purpose, Middendorf had prepared forms and questionnaires so as to check conjugations, pronouns, numbers and expressions. Due to the fact that the people who came to him were not very highly educated, Middendorf experienced the frustration of not getting much progress with his project. After fourteen days of working this way, the results were not motivating at all but, luckily, at that point Middendorf met the most appropriate consultant, a hat salesperson who was a native speaker of Mochica. This speaker knew Spanish

and Spanish grammar, had a better education, and his wife also spoke the language. Middendorf met this person some hours per day and managed to go through all the desired topics of Carrera's grammar.

In my list of German Mochica scholars, Eduard Seler (1849-1922) is the third to appear. This scholar prepared a Mochica vocabulary, which he called *Vocabulario Yunca* (for more information about Seler, see 2.5.). His Mochica vocabulary is probably prior to Otto von Buchwald's because Buchwald mentions in 1909 that he had received a Mochica vocabulary from Seler (see 2.5.). Seler's vocabulary is based on an analysis of Carrera ([1644] 1880) and Middendorf (1892). Comparing all the work of analysis done by all German scholars, one must conclude that Seler's is definitely the deepest and most interesting. For instance, he has a very unique approach to the intriguing nature of the suffix <o> in Mochica, proposing eleven different contexts of its appearance. He dedicates fifteen index cards[37] of his "vocabulario" to examples of the different contexts where this <o> appears. He calls this <o> *Suffix der Beziehung* 'relational suffix'.

As an interesting detail of what can be discovered in an archive, I think I could trace the path that the re-edition of Carrera's grammar (Carrera [1644] 1880) took to arrive in Seler's hands. Among Lehmann's legacy, preserved at the library of the Ibero-Amerikanisches Institut, Preussischer Kulturbesitz in Berlin, there is a short letter that presumably arrived with a book sent by the Austrian (chevalier) Karl von Scherzer (1821-1903), traveler and diplomat, who, while being Consul General in Leipzig (1878-1894) sent Carrera's

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[37] To read these index cards, I profited from the friendly and enthusiastic help of Rogier Nieuweboer and Hans W. Giessen, from the University of Helsinki.

grammar edited by Paz Soldán as a gift to Eduard Seler.[38] In the letter von Scherzer states that he got the printed grammar from Paz Soldán himself (Scherzer 1880).

I have decided to posit Otto von Buchwald after Seler because of the information obtained through Buchwald himself in relation to Seler's collaboration with him, handing a vocabulary of his authorship to him (Buchwald 1909: 149). Of course, this is speculative, but the time frame in which this could have happened was probably between November 1896 and March 1909; this I justify as follows: Buchwald mentions the Great Fire in Guayaquil, which occurred in November 1896, where he lost his word list (around 200, fruit of his own fieldwork in Eten (Buchwald 1918: 5)). This information was destroyed but, in general, one can observe the deep interest Buchwald had in Mochica. In most of his writings, like for example Buchwald (1909), (1918) he tries to etymologize Ecuadorian toponyms and ancient anthroponyms with the aid of his Mochica knowledge.

Villarreal (1921) provides a grammatical analysis of the Mochica grammar by Carrera ([1644] 1880) edited by Paz Soldán. Villareal (1921: 9-44) is the vocabulary extracted by Villarreal from Carrera ([1644] 1880). In addition, in the same work, Villarreal (1921: 122-124) offers a vocabulary list collected in Eten, in 1920, by Amadeo Vilches from María Carbayo. Villarreal (1921: 125-126) is the lexical information gathered by Lorenzo Colchón in Eten.

Brüning (1840-1928) is an important Peruvianist who dedicated many years of his life to the study of northern Peru and the Mochica language. He prepared

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[38] I assume the book was sent to Seler and not to Lehmann even though the letter is kept by Lehmann, because the year when the letter was signed is 1880, and by then Walter Lehmann (1878 –1939) would have only been two years old. In 2.5. I explain Lehmann's close relationship to Seler, which would explain why he kept his letter.

a vocabulary basing himself on his analysis of Carrera ([1644] 1880), other historical sources such as Calancha, Oviedo y Valdés, and his own fieldwork. The variety attested in his work is the variety of Eten. In his vocabulary there are several new lexical items and multiple expressions. Brüning's manuscripts, Brü 1.34 and Brü 1.35 (Brüning 1905-1924a and Brüning 1905-1924b, respectively), kept in the Ethnological Museum in Hamburg, were edited by Salas (2004) as the *Mochica Wörterbuch/Diccionario Mochica*.

Larco Hoyle ([1938] 2001) prepared two volumes called *Los Mochicas.* In the first volume, there is a section dedicated to the Mochica language (Larco Hoyle [1938] 2001: 129-143). This section includes a brief analysis of Mochica grammar, according to the author (Larco Hoyle [1938] 2001: 129-138) and a comparative vocabulary list of 174 lexical items, where Larco Hoyle ([1938] 2001: 139-143) compares the vocabulary registered by Carrera (1644), the one provided by Villarreal (he names the columns according to the respective language consultant and the year of recollection: María Carbayo (1920) and Lorenzo Colchón (1920)). The column containing the result of his own field work performed in Eten and Monsefú is named Domingo Reyes and other names, in reference to his own language consultants.

Walter Lehmann (1878-1939) studied medicine but felt attracted to the research conducted by Eduard Seler at the University of Berlin. In 1900, he took some courses about ancient American cultures with Seler and by 1903 he was a volunteer at the *Museum für Völkerkunde* in Berlin. He worked under the supervision of Seler. Even though he did not have the education of an archaeologist or anthropologist, his talent, scientific level, and the approval of Seler granted him the option to become a very well recognized Americanist. He was very interested in languages and studied many different Amerindian languages (Riese 1983: 311-312).

He traveled through Central America and South America. The result of his journey through South America is the collection of data in his manuscript called *Vokabulare zu meiner Süd-Amerika Reise: Aymará, Quechua, Mochica, Uro-Chipaya (verwandt mit dem Puquina), Atacameño, Puquina* (Lehmann 1929f). This, like most of his manuscripts on languages and linguistic research on Peruvian languages, is kept unpublished as part of his large legacy collection in the library of the *Ibero-Amerikanisches Institut* in Berlin. On the first page of this document, one can get interesting information about the short time Lehmann spent in every place when gathering his data. For instance, for Mochica, he dedicated two days, the 14th and the 15th of December 1929 (Lehmann 1929f).

This tendency of spending a short time with his language consultants is criticized by Dürr (1993: 174-175). This may be true, but his manuscripts show that he prepared himself before his field work trips for gathering data. For instance, in relation to Mochica, before his encounter with his consultants, he prepared a dictionary based on Carrera [1644] 1880 and Middendorf (1892) called *Kleines Wörterverzeichnis alphabetisch geordnet: der Mochica-Sprache, Nordküste Peru's nach Carrera (1644). Vocabulario Lengua Mochica (Carrera 1644)*. He prepared it in Trujillo, during the short period of the 4th-9th of December, 1929 (Lehmann [1929a] 1937). In relation to his work of Mochica, he collected lexical items with the help of consultants. Isidora Isique was over 80 years old and she was Lehmann's "main interpreter" according to his own account (Lehmann [1929g] 1931). Lehmann got help from other consultants: Trinidad Chancafe, Juan de Dios Puican, Martín Chirinos, and José Velásquez.

In what follows, I wish to present two vocabularies, namely, the one compiled by Huber [1946] 1953a and b, and the vocabulary by Kosok [1948] 1965,

[1951] 1965. Salas (2002: 237-244) presents Huber [1946] 1953a and b and Kosok [1948] 1965 as copies of the same manuscript. Salas (2002: 237-239) applies philological criteria of textual criticism to establish how the copying process occurred. He establishes that Huber had made a better copy than Kosok but disregards entirely Huber's contribution excluding it completely from his Mochica dictionary (Schumacher 2004 does not mention Huber's contribution either). A clarifying note why he decided not to include the data gathered during this author's fieldwork in old Mochica speaking areas would have been enough to at least make the reader aware that such information exists.

Let us turn to Konrad Huber (1916-1994). He was a Swiss Romanist, a disciple of Jakob Jud (Decurtins 1995: 247, Huber [1946] 1953a: 127). Konrad Huber lived in Peru during 1943-1947 (Huber [1946] 1953a: 127) working as the director of the Private Swiss School "Pestalozzi" in Lima. He arrived in Peru in 1943 (see in bibliography Pestalozzi School). He mentions his stay in Peru in his article *Contribution a la langue Mučik* (Huber [1946][39]1953a: 128-130), in which he claims that he wished to investigate whether one could find Mochica words in the Spanish variants of the indigenous people of the northern coast of Peru. He thought he could apply his mentor Jakob Jud's methods of linguistic geography that were previously applied to finding pre-Roman terms in French dialects. He traveled to northern Peru 1946 with a questionnaire he had previously preprared in order to obtain terms related to agriculture, fishing, flora, and fauna. He had chosen these semantic fields building on his own experience in the Alps, where he discovered that these fields included archaic lexical items. He took his

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[39] I record the year of recollection in brackets [1946], the year Huber published this material was 1953.

questionnaire with him to Ferreñafe, Mórrope, Lambayeque, and Eten. With great enthusiasm he gathered data and compiled it as *A. Vocabulaire personnel* (Huber [1946] 1953a: 128-130). He also found a manuscript vocabulary that he copied under *B. Vocabulaire manuscript appartenant à Rafael Quesquén de Eten* (Huber [1946] 1953b: 130-134)*.*

In relation to the lexical items corresponding to part A, he explicitly says that he did not have the time to investigate whether the list includes Quechua items or whether the words corresponded to Carrera's information or not, but that his intention by publishing it was to make his data accessible to Mochica scholars (Huber [1946] 1953a: 127). Indeed, there are several regionalisms that have Quechua origin and one should work with his list, but there are also several words referring to different calabashes, fish names, trees and herbs that are worth considering and comparing to other sources. Huber was careful to indicate where he recorded the words, using initial letters Fe (Ferreñafe), VE (Villa Eten), Mp (Mórrope), L (Lambayeque). Part B contains the vocabulary he copies from the aforementioned manuscript. Rafael Quesquén explains to Huber that those are all the words and expressions that he had gotten from the elders. Huber explains that the orthography follows Spanish orthographical conventions (Huber [1946] 1953a: 128).

Paul Kosok (1965) offers *List 1 of Mochica words and phrases* (Kosok [1951]1965: 248-249). This list is a copy of the copy made by Antonio Rodríguez Suy Suy (of Simón Quezquen's copy made out of his grandparents' originals collected in 1951). Kosok ([1948]1965: 249) offers *List 2 of Mochica words and phrases,* which is a copy obtained by Schaedel and Rodríguez Suy Suy from Manuela Millones de Carrillo in Trujillo in 1948.

Zevallos Quiñones (1941: 377) provides a list of fifty terms collected by himself in Monsefú, with the collaboration of two language consultants: Manuel Llonto Esqueche (70 yeas old) and José Ayasta (72 years old) (Zevallos Quiñones 1941: 377), while Zevallos Quiñones (1947b) comprises the information of several sources: Carrera [1644]1939, Bastian (1878), Middendorf (1892), Villareal (1921), Larco Hoyle [1938] 2001. He also registers eight terms extracted from Calancha (1639).

Augusto Orrego (1958) published *Palabras del mochica* in the Revista del Museo Nacional del Perú, edited by Luis E. Valcárcel. The author does not give any kind of explanations about how he compiled his vocabulary or which sources he has used. But he seems to have used practically all sources including Calancha's information as Zevallos Quiñones did. Apparently, this vocabulary is based on Zevallos Quiñones (1947b) but has some additional entries.

Gertrud Schumacher de Peña's (1991) edition of Walter Lehmann's vocabulary compared with other lexical sources is a careful edition of Lehmann's data from Eten. The materials of Lehmann's dictionary consist mainly of nouns, some verbs, adjectives, and short expressions (Schumacher 1991: 2). In her edition of the dictionary Schumacher compares Lehmann's materials with Carrera [1644] 1939, Martínez Compañón (1783) (accessed by Schumacher from the reproduction provided by Zevallos Quiñones 1948b: 119), Bastian (1878a), Middendorf (1892), Villareal (1921), Larco Hoyle [1938] 2001, Zevallos Quiñones (1941) and Kosok (1965) (Schumacher 1991: 2-3).

One has to acknowledge the work carried out by Salas (2002) at compiling a large amount of Mochica lexical evidence from various sources. His

dictionary demonstrates an effortful attempt to accomplish a task that had not fully been done before. Salas has the merit of unifying and interpreting the various materials he includes in his *Diccionario Mochica-Castellano/Castellano-Mochica*. For every single entry in his dictionary, he offers a hypothetical phonetic transcription (Schumacher 2004: 77-78). This work is a compilation of all the sources except for Lehmann, in spite of the fact that Lehmann's data were available through the edition by Schumacher (1991). He did not use Brüning's manuscripts Brü 1.34, Brü 1.35 which he later on edited in 2004. In spite of all the good efforts of Salas (2002), it must be remarked that he does not render the available sources in a complete way. For example, he did not use Bastian's original, nor did he include the contribution of Huber's (Huber [1946] 1953a: 128-130). Salas has tried to be as accurate as possible but there are several misspellings and inadequate transcriptions of the originals in his dictionary. Unfortunately, I agree with the point of Schumacher (2004) that it is always necessary to consult the original sources until a newer compilation of Mochica vocabulary appears in the future.

Serrepe Ascencio (2012a,) included in Ramos Cabrera & Serrepe Ascencio (2012: 25-61), is a compilation of various sources. The author respects the original orthography of each source not uniformizing his vocabulary. Serrepe Ascencio (2012b) (in Ramos Cabrera & Serrepe Ascencio 2012: 63-66) is a basic vocabulary of words and phrases that appear in the manual *Ed Muchik* 'Mochica language', a learning manual, prepared by Ramos Cabrera in 2006. It was created by the author with pedagogical purposes in mind, to help in the use of the manual. It includes expressions that follow both the rules of Colonial Mochica and the rules of New Mochica. Ramos Cabrera ([2006] 2012) included in Ramos Cabrera & Serrepe Ascencio (2012: 69-180) is a

manual to learn Mochica which includes both grammatical rules and explanations and lexical information from different sources.

Table 3.    Summary of the information on the materials compiled by researchers during the last decades of the 19th century and the second half of the 20th century

| Author | Source | Place of recollection of data | Type of material |
|---|---|---|---|
| Adolf Bastian (1878a: 169-173) | with the help of Mister Sohlfs collects a word list and sentences of the Mochica variety of Eten | Eten | word list and some expressions |
| Ernst Middendorf (1892) | based on analysis of Carrera ([1644] 1880) consultants: a hat merchant and his wife (Middendorf 1892: 46) | Eten | analysis of Carrera's grammar new vocabulary |
| Eduard Seler (earlier than von Buchwald, second half of the 19th century) | based on analysis of Carrera ([1644] 1880) and Middendorf (1892) | - | vocabulary and grammatical analysis |
| Otto von Buchwald (?) | own fieldwork | Eten | vocabulary list destroyed by the big fire in Guayaquil 1896 |
| Federico Villareal (1921) | collected by Amadeo Vilches from María Carbayo and Felipe Yumps collected from Lorenzo Colchón | Eten Eten | variants of existing lexical material, new items |
| Brüning (1905-1924) | based on analysis of Carrera ([1644] 1880) and own fieldwork | Eten | new lexical ítems expressions |

| Author | Source | Place of recollection of data | Type of material |
|---|---|---|---|
| Larco-Hoyle [1938] 2001 | Domingo Reyes and others | Monsefú Eten | variants of existing lexical material, original expressions |
| Walter Lehmann (1929a, 1929b) | Trinidad Chancafe Juan de Dios Puican Martín Chirinos José Velásquez Isidora Isique | Eten | new lexical items |
| Zevallos Quiñones (1941) | Manuel Llonto Esqueche José Ayasta | Monsefú | short lexical list, variants of existing lexical material |
| Zevallos Quiñones (1947b) | based on analysis of Carrera ([1644] 1880) and Middendorf (1892) and Calancha (1639) | - | compilation |
| Huber ([1946] 1953a) | own field work summer of 1946 | Ferreñafe Eten Mórrope Lambayeque | own list, some items of Quechua origin |
| Huber ([1946] 1953b) | copy of list of Rafael Quesquén of Eten (1946) | Eten | expressions and variants of existing vocabulary, new items |
| Kosok (1965) | LIST I copy of the copy made by Antonio Rodríguez Suy Suy (of Simón Quesquen's copy made out of grandparents' originals (1951) | Eten | list full of clear copyist mistakes |
| | LIST II copy by Kosok and Rodríguez Suy Suy from Manuela Millones de Carrillo (1948) | done in Trujillo, consultant is from Eten | |
| Augusto Orrego (1958) | based on Zevallos Quiñones 1947b (?) | - | vocabulary |

| Author | Source | Place of recollection of data | Type of material |
|---|---|---|---|
| Gertrud Schumacher de Peña (1991) | edition of Walter Lehmann's vocabulary compared with other lexical sources | - | |
| Salas (2002) | compilation of all the sources except for Lehmann, did not use Brüning's manuscripts Brü 1.34, 1.35, did not use Bastian's original | - | vocabulary |
| Serrepe Ascencio (2012a) | compilation of various sources | - | vocabulary |
| Serrepe Ascencio (2012b) | vocabulary list created to better understand the book *Maellaec Maix ed Muchik* 'Let us talk Mochica' | - | |
| Ramos Cabrera ([2006] 2012) | grammatical information and vocabulary based on different sources | - | created phrases by the author following Colonial Mochica and New Mochica (see 1.4.3.) |

Source: Republican sources of study of Mochica

## 2.4.3. New Mochica and language revival

Mochica constitutes an interesting case of language revival. Following Zuckermann & Walsh (2011) and Zuckermann & Monaghan (2012), I prefer to use the term language revival instead of language revitalization because it is more appropriate for the situation of Mochica. After its extinction in the first half of the 20th century, it was revived in an attempt to maintain it and empower it. In contrast to revitalizing a language, which implies rescuing a weakening or a dying language, language revival means resurrecting a language with no existing speakers. Zuckermann & Walsh (2011: 114) discuss

the most quoted example of language revival, Hebrew, and state that modern-day Hebrew or Israeli is a very different language from Biblical Hebrew, typologically and genealogically speaking. These authors expose the various attempts to classify Israeli; it has been considered both Indoeuropean and Semitic. However, they find it more appropriate to categorize it as both Semitic and (Indo-)European; this makes Israeli a hybrid language rather than an evolutionary phase of Hebrew. The way these authors explain the hybridity of Israeli is relevant to understanding the nature of the revived Mochica, or what I prefer to call New Mochica.

Considering the Mochica revival linguistic movement, it is important to distinguish two groups[40] of revitalists, the Lambayeque group (in Lambayeque) and the Moche group (in La Libertad). For years, the Lambayeque group has been employing several representatives to recover the Mochica language and cultural elements in order to construct a northern Peruvian identity. Antonio Serrepe Ascencio is one of the representatives of the language and culture revival movement in Lambayeque. Serrepe Ascencio is a university lecturer of History of the Mochica Culture at the Faculty of Education in the private University of Chiclayo. He has dedicated over sixteen years of his life to the study of the history of Lambayeque and its ancestral civilizations and is the author of publications on these topics.

Serrepe Ascencio is the director of the *Sociedad y Cultura Muchik* association in Chiclayo, which is a group of Mochica culture and, especially, language researchers, founded in 2008. This association is dedicated to the teaching of Mochica in the *Instituto Nacional de Cultura* in Chiclayo (National Institute of Culture). In 2010 Serrepe Ascencio published a book called *Las culturas*

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[40] This categorization is my own way of presenting the people involved in the Mochica revival movement.

*prehispánicas en la región Lambayeque – I*. In collaboration with another notorious revitalist representative, the late Ana Ramos Cabrera, he prepared the re-edition of Altieri's re-edition of the *Arte* by Carrera [1939] 2009. In the final pages of this book, Ramos Cabrera (2009: 110-111) includes an impressive, long text written entirely in New Mochica, telling the Ñaymlap legend (see Appendix C).

Linguist Guillaume Oisel, who is a visiting professor at the Universidad Nacional Intercultural de Amazonía (Pucallpa) and the director of the Alliance Française in Chiclayo, also promotes the diffusion of the Mochica language, including a course of the Mochica language at the Alliance Française. Serrepe Ascencio supports this teaching initiative in collaboration with two other teachers: Luisa Santisteban (born in Mórrope) and Wuagnner Cabrejos Guevara (Alliance Française 2018; Guillaume Oisel, personal communication, June 26, 2018).

Lambayeque counts on another group, including a younger generation of revitalists, such as Medalí Peralta Vallejos and the brothers Juan Carlos Chero Zurita and Luis Enrique Chero Zurita, who work in an interdisciplinary team that, since 2005, has been establishing an active front of the revived Mochica language and culture. Peralta Vallejos is a secondary school teacher of Language and Literature and a researcher and promoter of the Mochica language and culture; she promotes the ancestral technique of waist loom weaving and regional craftwork. Juan Carlos Chero Zurita is also a Language and Literature teacher, a lawyer and a lecturer at the Universidad Señor de Sipán (Lord of Sipan University) in Chiclayo, while his brother Luis Enrique Chero Zurita is an archaeologist and lecturer at the Universidad Nacional Pedro Ruíz Gallo, who also holds the position of Director of the Site Museum of Huaca Rajada in Sipán.

The efforts and activities led by this team have been fruitful, with learning workshops, teachers training, and Mochica instruction in some schools. They promote the investigation of cultural manifestations in the area, as well as producing linguistic material. They are also very supportive to other initiatives in the region and eager to collaborate. They have actively participated in organizing various events as part of the *Festival del Señor de Sipán* (Lord of Sipan's Festival) from 2012-2016. The result of their years of study of the Mochica language and culture is a learning manual with Mochica basics, called *Tūk Muchik* (Chero Zurita, Juan Carlos, Medalí Peralta Vallejos & Luis Enrique Chero Zurita 2012).

The Moche (La Libertad) group of revival and diffusion of the Mochica language and culture is mainly composed of the brothers Antonio Hermógenes and Jorge Juan Sachún Cedeño. Antonio Hermógenes Sachún Cedeño is an ethnohistorian; along with his brother, an anthropologist, he co-founded a research center that concentrates on investigating and empowering the Mochica language and culture as a means for the construction and vigorization of ethnic identity. This research center's name is *Eje de Investigación y Vigorización de la Etnia Muchik*. In the founder's manuscripts[41] he stipulates diverse proposals of renovation of the education system, among other ideas; his goal is the diffusion of Mochica language and culture. Language plays an important role in this manifesto, as a means to learn and interpret culture and as an important element for the consolidation of historical, cultural and artistic identity of the *etnia Muchik*[42] 'Mochica ethnia' (Sachún Cedeño 2004). This

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[41] I visited Antonio Hermógenes Sachún Cedeño in Moche and received several of his manuscripts. Most of the manuscripts are not dated, but I list them in the bibliography according to their title.

[42] The concept *etnia Muchik* is defended by Sachún Cedeño but it is highly controversial.

group's motto is *Moeiche Muchik-Chipan siamein* 'we, the Mochicas, still live'. This, along with many other phrases, are of Sachún Cedeño's authorship, as are the Mochica ethical-moral maxims *Ekeiñ pecanpoen* 'tell the truth' *Lokeiñ odka* 'be honest, honorable, sincere'and *Lokeiñ caf loepac* 'be hardworking'. In an interview in 2017, Jorge Juan Sachún Cedeño adds a fourth maxim whose spelling I assume to be: *lokeiñ kallapoek*[43] 'be friendly'. In Moche they are trying to boost the use of these maxims in schools.

The Sachún Cedeño brothers have devoted efforts to developing what Jorge Juan Sachún Cedeño (2017) calls "ethno-pedagogical strategies" and to supporting the revival of the Mochica language. The election of both the *Chisi Muchik* (Mochica girl) and the *Iñikuk Muchik* (Mochica teen) are so-called ethno-pedagogical strategies. The *Iñikuk* ethno-cultural pageant appears to have been started by the initiative of Jorge Juan Sachún Cedeño[44] in 1993 (Sachún Cedeño 2017), and it has been gaining acceptance and popularity, nowadays replacing beauty contests in the area.

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[43] Middendorf (1892: 67) reports <kallapäk> 'smiling', 'friendly'.

[44] Peralta Vallejos (personal communication, August 4, 2017) believes that there is no consensus about which group initiated the celebration of the election of the *Iñikuk*. Besides Sachún Cedeño, Victorino Túllume, archaeologist, director and founder of the *Círculo Cutural Étnico Pedagógico Victorino Túllume Chancafe*, claims to have been the initiator. Serrepe Ascencio & Ramos Cabrera (2009: 7, 102) confirm that Túllume Chacafe started with the celebration already in 2002, the first *Iñikuk* was Amalia Uypan. However, the regional government institutionalized in 2008 the election of the Regional *Iñikuk* as a cultural symbol to recover and promote values such as respect, responsibility, solidarity (Gobierno Regional Lambayeque et al. 2008).

*2.4.3.1. Characteristics of New Mochica*

It is impossible to talk about all the features of the New Mochica varieties that have emerged lately. To illustrate cases concerning some aspects[45], I want to offer examples of their salient characteristics. First, to be able to discuss the nature of this language, an important point to consider is the language of the revitalists. In this respect, Zuckermann & Walsh (2011: 115) claim that "the more revitalists speak contributing languages with a specific feature, the more likely this feature is to prevail in the emergent language". In the case of New Mochica, the revitalists' language is exclusively Spanish, and its features are evident in different aspects, as I show in what follows.

At the level of phonology, even though there is no record of the original Mochica pronunciation, the information on Mochica's peculiar sounds, very different to those of Spanish, was preserved through colonial documentation, as will be shown in Chapter 3. In New Mochica, these particular sounds are simplified; they are pronounced following the Spanish phonetic rules and represented following the Spanish orthography. Chero Zurita et al. (2012) keep Carrera's orthographic representation of the sixth vowel <æ>, proposing <eu> as its pronunciation. Ramos Cabrera ([2006] 2012: 77) does not always make use of the Latin ligature and most often uses either <ae> or <oe>, as in the cases of <aiapaec> and <chizoer>, respectively. These cases would originally have had the Latin ligature <æ>: <aiapæc> 'the creator' and <chizær> 'grace'. In the Moche variety, the tendency is to have <oe> instead of the Latin ligature, for example: <cianchipoec> 'human being', 'person' (Sachún Cedeño 2013). The segment of this word that serves as an agentive

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[45] I follow the analysis of the impact of English on Kaurma presented by Zuckermann & Walsh (2011: 120) and apply some of the argumentation presented there to explain the case of New Mochica.

nominalizer <-poec> was originally <-pæc> in Colonial Mochica. Carrera (1644: 208) reports <çiamo chipæc> 'person'.

At the lexical level, these varieties present a good number of calques, evidently literal translations that have appeared independently in the groups, the word for 'welcome' is a clear case. There are three versions of the translation of 'welcome' into New Mochica: <chizoer tañeiñ> (Sachún Cedeño[46]), <ayen tesäkedo> Ramos Cabrera (2009: 99) and <ayentaado> (Chero Zurita et al. 2012). The version <chizoer tañeiñ> is perhaps used more due to the fact that it is older. In opposition to <chizoer tañeiñ>, Peralta Vallejos (personal communication, August 4, 2017) considers the calque <ayentaado> more appropriate but does not comment on <ayen tesäkedo>. The respective glosses are presented in (1), (2) and (3).

(1)    <chizoer tañeiñ>                                          (Sachún Cedeño)

       chi-     zoer                    ta       =ñeiñ[47]

       be-      EVENT.NMLZ.REL          GO       =1SG

       'welcome'


(2)    <ayen tesäkedo>                                          (Ramos Cabrera 2009: 99)

       ayen     t-      esäk-      edo

       well     go-     EVENT.NMLZ-    PTCP

       'welcome'

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(3)    <ayentaado>                                      (Chero Zurita et al. 2012)

ayen-   ta-    a-      ado[48]

well-   come-  a[49]-   PTCP

'welcome'

Despite the fact that these three interpretations depart from the various ways of understanding Colonial Mochica grammar, it is necessary to accept them all as correct, keeping in mind that the only way of keeping the recovered language alive is embracing its hybridity.

At the syntactic level, with regard to the constituent/word order, all three New Mochica varieties share the same characteristic; they formulate expressions according to the most common order in Mochica, which corresponds to the traditional sequence in Spanish, the SVO order. My suspicion here is that they all follow the Spanish, and this is the reason for the similarity in the three Mochica varieties.

In relation to word order within the noun phrase, New Mochica nominal expressions do not follow the original Colonial Mochica order of modifier-modified, but rather follow the word order of the Spanish construction. Examples (4), (5) and (6) show cases of the modifier-modified order of New Mochica. Interestingly, in the translations in (4) and (6), the use of the ablative <ich> is preferred where maybe a genitive would be the easiest solution.

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[48] Carrera (1644: 147) reports the participle <tædo> as the participle form of verb 'to go'.

[49] According to Peralta Vallejos (personal communication, 4 August, 2017), <a> would be a support vowel.

(4)  <An kankapissäkærô "Çiequic Sipán ich">        (Peralta Vallejos 2007[50])

| An | kan- | kap- | issäk- | ær- | ô | Çieq- | uic | Sipán |
|----|------|------|--------|-----|---|-------|-----|-------|
| house | a lot- | know- | EVENT.NMLZ- | OBL- | REL | lord- | DEREL | Sipán |

ich

ABL

house knowledge of lord Sipan of

'house of knowledge (university) "Lord of Sipán"'

(5)  <Ap eiñ ed muchik Centro Investigacioneaerô Muchik nic>

(Ramos & Serrepe 2012:164)

| Ap=eiñ | ed | muchik | Centro Investigacion- | eaerô | Muchik |
|--------|-----|--------|----------------------|-------|--------|
| Ap=1SG | tongue | muchik | Center of Investigation- | OBL | Muchik |

nic

INE

in

Learn I tongue muchik Center of Investigation of Muchik

'I learn Mochica language in the Mochica Center of Investigation'

(6)  <Kankapissak kesmik ich moche>        (Sachún Cedeño 2013)

| Kan- | kap- | issak | kesmik | ich | moche |
|------|------|-------|--------|-----|-------|
| a lot- | know- | EVENT.NMLZ | old | ABL | moche |

knowledge old from moche

'ancient Moche knowledge'

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[50] Peralta Vallejos (personal communication, August 4, 2017) reports that the first time they used the term was in 2007 in the archaeological complex of Huaca Rajada in Sipán.

Expressions in New Mochica are not the exclusive creations of the groups mentioned so far. The Universidad Señor de Sipán (Lord of Sipán University) in Lambayeque has an institutional scientific journal called *Tzhoecoen*. Peralta Vallejos (personal communication, August 4, 2017) informed me that the meaning of this name is 'the messenger' but does not have a reference from where this word came from. Personally, I believe that the only verb that can be its origin is <tzhæcæm[51]> 'to run', which is attested in Carrera (1644: 136, 147). This is an interesting case of word creation in New Mochica because there is a direct connection to a mythical Mochica personage considered a messenger or ritual runner who would bring a bag of lima beans as a message (Castillo Butters 2000: 116).

At the level of discourse, everything said is translated from Spanish; in this respect, besides the pervasive tendency of calquing, Spanish discourse patterns seem to be another highly pervasive feature. As stated before, a revived language is no longer the original language; in relation to New Mochica, one can be sure that there is no relation to an evolutional stage of Mochica. One rather talks of a new language with the base of Mochica, but with different structures belonging to Spanish. The resulting new language will develop new functions and new vocabulary, the same way another living language would. It will also remain as a valid system of communication as long as the new speakers value it as a true expression of their identity (Crystal (2000: 162), Zuckermann & Walsh (2011: 120)).

## 2.5. Seler as Mochica scholar in Berlin

During the last two decades of the 19th century, the investigation on the ancient cultures in the Americas developed as a new scientific discipline. Max Uhle

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[51] This verb is attested as <tsǔkum> in Middendorf (1892: 91).

(1856-1944) and Eduard Seler (1849-1922) were two academics who specialized in America (Bankmann 2003: 231). Eduard Seler is considered the founder of pre-colonial Mexican and Amerindian studies in Germany. Seler is very well known, as a preeminent Mayanist and Mesoamericanist, but very little is known about him as a South American scholar. Among his disciples in the area of the Americanist studies, one can name Theodor Wilhelm Danzel, Ernst von Hoerschelmann, Walter Krickeberg, Franz Termer and Walter Lehmann (Thiemer-Sachse 2001: 205, 2003: 63). With no doubt, one can be certain that Seler is a lost link in the well recognized continuous chain of German scholars dedicated to the study of the Mochica language.

Seler was a (South) Americanist and, to some extent, also a Peruvianist; he devoted work and research to Peruvian pottery, textiles, archaeological sites and even tried to establish connections between Mexico and Peru based on pottery patterns, for example (Bankmann 2003: 231-257). In relation to Peru, one can establish his relationships with other German scholars who were also interested in Peru, such as Adolf Bastian (1826-1905) and Max Uhle (1856-1944). Bastian, who was the founder and first director of the Ethnological Museum of Berlin, invited Seler to work in the museum in 1884 (Bankmann 2003: 232). His relationship with Uhle was not the friendliest (Bankmann 2003: 250), but they definitely shared an interest in Peru, attending the same conferences and dealing with the same topics of research, many times with diverging opinions (Bankmann 2003).

Seler taught numerous courses on Mexico, and Mexican languages and cultures at the University of Berlin, but he taught some courses on South America, as well. The courses that covered South American topics are presented in the list below. As can be seen in the list, Mochica was taught at least once during the winter semester 1908/1909 as an open class.

- Die alten Kulturstamme Südamerikas[52] (WS 1908/09 [privatim])
- Kulturvolker Südamerikas (WS 1914/15, SS 1916 SS 1918 [privatim])
- Grammatik der Khetschua-und Aymará-und Yunca-Sprache[53] (WS 1908/09 [offentlich])
- Grammatik der Khetschua-und Aymará-Sprache (WS 1914/15 [privatissime (and unentgeltlich]; SS 1916)
- Ketschua und Aymará-Sprache (SS 1918 [privatissime (and) unentgeltlich])

In Berlin, the Ibero-Amerikanisches Institut (IAI or Ibero-American Institute) preserves Seler's legacy. Among the copious collection of his linguistic and ethnographical contributions preserved in the IAI, I could spot two little boxes, labelled *S.A. Vocabulario Yunca I a-m* and *Vocabulario Yunca II n-u Nachlass Seler,* respectively (S.A. refers to South America). The boxes are about ten centimeters long and contain a total of about 1400 handmade index cards. Each of these cards is probably the size of a sixth of a sheet of paper. The index cards contain a vocabulary of the Mochica language, elaborated upon by Seler. The two main sources for the preparation of his vocabulary are the re-edition[54] of the colonial grammatical description of his time (Carrera [1644] 1880) and Middendorf (1892).

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[52] In the collection of Seler's legacy, a manuscript preserved at the library of the Ibero-Amerikanisches Institut, Preussischer Kulturbesitz in Berlin is the copy of Seler's lessons taken by Krickeberg (Krickeberg [1908-1909] 1913).

[53] The courses on Mochica are mentioned as well by Masson (2001: 222), (2003: 167).

[54] The first re-edition of the colonial Mochica grammar was conducted by Paz Soldán (1880).

Seler's *Vocabulario Yunca* was probably well known and used in Germany by his disciples or any others interested in the Mochica language. Otto von Buchwald (1909: 149) reports about his own Mochica vocabulary (word list), lost in the major fire of Guayaquil in 1896, also mentioning Seler's vocabulary:

> Durch die Güte des Herrn Prof. Dr. Ed. Seler in Berlin habe ich ein Vokabular der Yungasprache (Chimu-Mochica) erhalten, das er nach dem Buche des Pfarrers Carrera (1644) und dem Vokabular des Dr. Middendorf zussamengestellt hat. Eine Wortliste, die ich selbst in Eten gesammelt hatte, ist leider in dem grossen Brande von Guayaquil 1896 vernichtet. Das ist insofern ein Verlust, als die Sprache wohl heute kaum noch gesprochen wird.[55]

The index cards of Seler's vocabulary do not only contain lexical items extracted by Seler from the sources mentioned, but he also attempts to give explanations of grammatical constructions. For example, a case of interest is his analysis of all possible different contexts of occurrence of <o>, which he calls a "relational suffix[56]" (Seler's Vocabulario Yunca II). He dedicates 15 index cards to this analysis and identifies eleven different contexts, offering examples of each case. Seler was not known as a Peruvianist, or at least not contemporarily, and amongst the Mochica studies Seler's work has never been mentioned so far. I consider it only fair to pay late tribute to him as a Mochica

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[55] By the kindness of Mr. Professor Dr. Ed. Seler, I received in Berlin a vocabulary of the Yunga language (Chimu-Mochica), which he has prepared based on the book of the priest Carrera (1644) and the vocabulary of Dr. Middendorf. Unfortunately, a wordlist that I had myself collected in Eten, got destroyed in the big fire of Guayaquil in 1896. This is a loss because the language is probably nowadays barely spoken. [My own translation].

[56] Indeed, this <o> appears in different contexts in Mochica; Seler calls it "Suffix der Beziehung".

scholar who was a support, mentor and inspiration, and reference for other German researchers interested in the Mochica language, such as Otto von Buchwald (1843-1934), Walter Lehmann (1878-1939) and Hans Heinrich Brüning[57] (1848-1928).

Walter Lehmann's work on Mochica is vast, and part of it is known through Schumacher de Peña's publication of his vocabulary (Schumacher de Peña 1991), but what is not known is by whom his passion for the Mochica language was inspired. Without a doubt, it was Seler who inflamed Lehmann's interest in the Mochica language. Lehmann was his loyal disciple, continuing with and trying to finish his investigations (Thiemer-Sachse 2001: 206, 2003: 63).

## 2.6. Mochica Onomastics

There are several anthroponyms and toponyms that could be discussed in this section, but I want to inspect *Naimlap* and *Lambayeque.* Naimlap is an anthroponym and Lambayeque is a toponym. These two names were registered by Cabello Valboa ([1586] 2011: 393-395), who collected information from the northern Peruvian coast in his *Miscelánea Antártica.* In this work, he compiled the answers to the question the Indians themselves gave about their origin. These two names are connected to the myth of the origin of the dynasty of rulers of the late prehispanic cultures of the northern Peruvian coast that Spaniards were still able to encounter.

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[57] Seler's legacy includes correspondence between Seler and Brüning that clearly shows how Seler advised Brüning during his stay in Northern Peru and how Brüning reported to Seler about his discoveries and concerns; for instance, see the letter by Brüning (1912) to Seler (Lambayeque, den 10ten April 1912). Seler's legacy is preserved at the library of the Ibero-Amerikanisches Institut, Preussischer Kulturbesitz in Berlin.

These mythological names have intrigued people over time. For instance, Father Justo Modesto Rubiños y Andrade[58] ([1782] 1936), in his own version of Naimlap's myth, includes etymologies. Brüning ([1922]1989: 10-21) inspects all the names recorded in the account of the myth and inspects Lambayeque, as well. Lehmann [1929g] 1931 seems considerably interested in names (both toponyms and anthroponyms) in the Mochica area and dedicates two sections of his *Mochica-Sprache von Eten bei Chiclayo*[59] to names. Salas (2012b: 22) claims that one can be certain that the names presented in the legend of Naimlap correspond to the Colonial Mochica. Salas is right in the sense that the names mentioned appear to have a Mochica origin, but in most of the cases the etymology is either obscure or impossible. Moreover, Salas (2012b: 25) does not inspect all the legends' names but only *Ñina Cala*[60]*,* the official responsible for the throne and royal litter of Naimlap.

Urban & Eloranta (2017) analyze the names associated to Ñaimlap's dynasty that appear in the account of Cabello Valboa ([1586] 2011), demonstrating that some names of the members of Naimlap's court can indeed be etymologized with the aid of Mochica linguistics[61]. In 2.6.1., I review and reconsider what was said about *Naimlap* and in 2.6.2., in relation to

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[58] Justo Modesto Rubiños y Andrade was born in Lambayeque in 1724 (Zevallos 1947a: 115).

[59] *Mochica-Sprache von Eten bei Chiclayo* is a manuscript kept in the archive of the Ibero-Amerikanisches Institut, Preussischer Kulturbesitz in Berlin. Nachlass W. Lehmann. This manuscript consists of 440 index cards, some of which include the results of Lehmann's study of place and personal names of Mochica origin.

[60] Literal translation of Ñina Cala would be 'llama of the sea'. For further discussion of this name, see Urban & Eloranta (2017: 161).

[61] Due to the lack of comprehensive information about Mochica grammar and vocabulary, it is impossible to etymologize all names.

*Lambayeque*, I will offer a novel interpretation not developed in Urban & Eloranta (2017).

## 2.6.1. The case of an anthroponym: *Naimlap* or *Ñaimlap*?

Naimlap was the mythological dynastic founder of Lambayeque. He was the first ruler who arrived to the Lambayeque shores with his wife, Ceterñi, a royal court (forty officials) and a big fleet of balsas. They brought an idol made from green stone, called Yampallec[62] (or Yanpallec). Cabello Valboa ([1586] 2011) registers Naimlap and other variants: Naylamp and Nainlap. Rubiños y Andrade[63] ([1782] 1936: 361-363), about two hundred years after Cabello Valboa's account, registers another version of the myth and the variant Ñamla. According to Mochica phonotactics and following Cerrón-Palomino (1995: 43), Naimlap is the most adequate. Nevertheless, in Urban & Eloranta (2017: 157) the spelling *Ñaimlap* is chosen considering that the name of the idol that represents this personage is Yampallec and taking into account the Ñamla spelling by Rubiños y Andrade.

Urban & Eloranta (2017) moreover adopt the Ñaimlap spelling because this shows that the name has something to do with the word for 'bird' (cf. Cerrón-Palomino 1995: 43; Torero 2002: 229), which is <ñaiñ> according to Carrera (1644: 144). In what follows, I present the plausible scenarios that favor the

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[62] Cabello Valboa explicitly says that Yampallec means "figure and statue of Naymlap" ("figura y estatua de Naymlap").

[63] Walter Lehmann ([1929c] 1937) copies what he considers the most important parts of Rubiños' account ([1782] 1936) and attempts some etymologies. Lehmann himself reports that he extracts the "most important", stating "wichtigstes ausegezogen …" This manuscript of Lehmann's is part of his legacy kept in the Ibero-Amerikaniches Institut in Berlin, Preussischer Kulturbesitz. Nachlass W. Lehmann.

different attested spellings and that justify their deviation from <ñaiñ>[64]. First, although the palatal nasal /ɲ/ orthographically represented by <ñ> is a phoneme in Spanish, its presence in word initial and final position is uncommon. This fact could have motivated replacement by the closest sound available, which is the alveolar nasal /n/ in the onset of the initial syllable of the name as recorded by Cabello Valboa (Naimlap). Secondly, the sequence [ɲl] offers articulatory difficulties leading to probable dissimilation of <ñaiñ> to <ñaim>. In this respect, it is worth mentioning that Cabello Valboa's spelling <Nainlap> retains an articulation point closer to Urban & Eloranta's (2017) proposal of the presumed original <*Ñaiñlap>.

The etymology of the element <-lap> remains unclear. Rubiños y Andrade ([1782] 1936: 363) suggests an etymology for <Ñamla>. He claims that it means 'bird (or hen) of water'[65]. Cerrón-Palomino (1995: 44, fn 22) calls this proposal "popular etymology" because the original <-*lap> with no known meaning cannot relate to <*la> 'water'; the final stop /p/ of the original version of Cabello Valboa's would lack explanation. Urban & Eloranta (2017: 157), following Rowe (1948: 38, fn 14), support Cerrón-Palomino's rejection of Rubiño y Andrade's etymology with an additional argument. Mochica has dependent-head order in compounds; thus, the interpretation would necessarily be 'bird-water' rather than 'water-bird'.

Although Urban & Eloranta (2017: 157-158) are not totally convinced about their new proposal of etymology of Ñaimlap, they nonetheless turn to the

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[64] These possibilities were presented in Urban & Eloranta (2017: 157).

[65] "…significa ave (o gallina) de la agua en la lengua Indica" (Rubiños y Andrade ([1782] 1936: 363)). One has to remember that even though Carrera (1644) mentions the word 'hen', there were no hens (as the ones we refer to as 'hens') in prehispanic Peru. Most probably the word <ñaiñ> originally only meant bird. This is a case of semantic change in lexical acculturation.

popular form <ñampal> 'osprey' (*Pandeon haliaetus),* citing Watanabe (1995:87) and Elera Arévalo (1998: viii, 328). Unfortunately, there is no early record of this form from colonial times. However, it is attested during the first half of the 20ᵗʰ century, while the language was dying out. The earliest record of <ñampal> I have found is Brüning ([1922]1989: 18-19, 22). Brüning had access to Ternaux-Compans' (1840) French translation and very first edition of Cabello Valboa's *Miscelánea Antártica.* On the basis of this translation of the account of Ñaymlap's legend, he prepares his study about the foundation of Lambayeque. When he deals with the anthroponym Naymlap, he suggests that this name may have been "Nyampal" or as written already during his time "Ñampal". He states: "I believe the name of our Chief was not *Naymlap* but *Nyampal,* or according to how it is written nowadays: *Ñampal*[66]"**.** He suspects that Ternaux-Compans (1840: 89-93) may have committed a copying error from the original manuscript or that there may have been an editing/printing error. As can be observed, during Brüning's time it was common to refer to Naymlap as Ñampal. Moreover, this author offers support to his assumption, indicating that he has seen the use of <ni> and <ny> in place of <ñ> in old documentation.

I now disagree with Urban & Eloranta (2017) and do not consider it adequate to suggest that <ñampal> originally meant 'osprey' in Mochica. I suggest that the meaning 'osprey' has been attributed to this word due to the influence of Spanish phonotactics. According to the legend, Ñaimlap developed wings and flew away after his death. Following the legend, the modern association of Ñaimlap with an osprey or any being with wings appears natural. In

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[66] "Creo que el nombre de nuestro Jefe no ha sido *Naymlap*, sino *Nyampal*, o según se escribe ahora: *Ñampal*." Brüning's emphasis ([1922]1989: 18).

conclusion, Ñaimlap can be segmented into two parts: <ñaym-lap>, <ñaym> may be the word for 'bird' and <-lap> will remain unknown.

## 2.6.2. The case of a toponym: *Lambayeque*

Toponyms link a language and its territory, current or ancestral, in a very special way (Nash & Simpson 2012: 392). Throughout the years, the etymology of the toponym Lambayeque has been subject to study and speculation. For instance, Brüning ([1922]1989: 19-21) inspects Carrera's (1644: 129) registered form for Lambayeque <ñam paxllæc> and tries to explain how this term could have changed into Lambayeque. Additionally, Brüning relates the name Ñaymlap with Lambayeque, pointing out that both <Ñan> and <pallec> (or variants) recur in both personal and place names of Lambayeque. He also mentions that <Ñan[67]> alone is the name of an old parcialidad. On the other hand, Brüning (1905-1924b: 60) registers Lambayeque as 'clay jug of smoke', Brüning (1905-1924a: n.p.) records <nyampášik> ~ <ñampášek> and Brüning (1905-1924b: 60) registers <ñampášek> ~ <nyampášk> as 'Lambeyeque'. Brüning (1905-1924a: n.p.) records both <ñam> and <nyam> 'smoke' and Brüning (1905-1924b: 17, 18) <pášĕk> ~ <pá͡ijnek> ~ <pá͡iÿäk> 'clay jug' and <pášek> 'clay jug, vessel to sieve chicha'.

In relation to Brüning's first concern, there is probably no need to look for a complex explanation for such a change. Already occurring during the 16th century[68], and in the times of Carrera in the 17th, the Spanish correspondence

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[67] Zevallos Quiñones (1989: 63) also mentions the parcialidades that existed by the end of the 16th century, and Ñan is one of them.

[68] Lambayeque as a place name appears in early documentation; for instance, Lambayeque is mentioned in the report of the *Visita* under the commission of the *oidor* González de Cuenca (an oidor was a judge). In that account, one learns that

of <ñam paxllæc> was already Lambayeque. Toponyms can easily undergo changes when they are borrowed or translated into other languages. Spanish speakers, since the beginning, adopted Lambayeque as the hispanized representation of <ñam paxllæc>. The adaptation is easy to explain, considering Spanish phonotactics. As mentioned above, the presence of the palatal nasal /ɲ/ in word initial and final position is uncommon in Spanish. The addition of a final vowel to the final consonant of Mochica words is also typical and can be seen in several cases of Mochica place names, such as in Firruñap > Ferreñafe (Middendorf 1892: 64). Zevallos Quiñones (1993: 220) mentions that toponyms ending in <ap>, <ep> have become <ape>, <epe>, etc.

Brüning was not the only German Mochica scholar who showed interest in searching for the etymology of Lambayeque. Walter Lehmann [1929g] 1931 was interested in names as well. His work *Mochica-Sprache von Eten bei Chiclayo* was compiled in Eten in 1929 but put in order in Berlin in 1931. The first part of this work includes two sections of names: *Ortsnamen,* or toponyms, (38 index cards) and *Eigennamen von Personen,* or anthroponyms (7 index cards). On one index card, he records Lambayeque as <Ñampajek> and <Ñanpajek> (as recorded by Middendorf (1892: 64, 190). On another index card, he presents Isidora Isique's[69] record (See Figure 5). Lehmann

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Lambayeque became an official settlement consolidation or *reducción* during 1566-1568. Lambayeque became a *pueblo* or town that included twelve parcialidades of Indians (Noack (1997); Zevallos Quiñones (1989: 63); Gómez Cumpa (2002: 50)). Mogrovejo ([1593-1605] 2006) also records the place name Lambayeque. Moreover, in different documents from the early 17th century, one discovers alternation of the following variants of this toponym: <Lanbayeque>, <Lambaieque> and <Lambayeque>.

[69] Isidora Isique was over 80 years old, she was Lehmann's language consultant and "main interpreter" according to his own account (Lehmann [1929g] 1931).

analyzes the word in two segments, <Ñăm> and <pǣr̥>, claiming that the name includes the family name <Ñam> or <Ñan>.
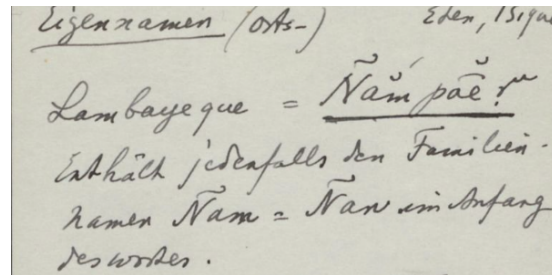


Figure 5.       Isidora Isique's pronunciation of the name Lambayeque as recorded by Lehmann ([1929g]1931)

On a third index card, Lehmann includes <Ñanlaipe>, referring to Lambayeque, underlined twice. This word Ñamlaipe resembles Naymlap (and considerably even more Ñaimlap). With the evidence of an initial palatal nasal, what was said about Ñaymlap and Ñampal and Brüning's report (Brüning ([1922]1989: 18-19, 22) gets reinforced. Moreover, Lehmann's record shows that during the early twentieth century it was common to interchange the names Naymlap and Lambayeque.

Zevallos Quiñones (1944: 7) records <Ñampallæc> and registers Federico Villarreal's form for Lambayeque <Ñancaip> (Villarreal 1921: 126). He also proposes an adventurous etymology, suggesting tripartite segmentation of the toponym: <Ñam-p-allæc>. According to his interpretation, the segments would mean <ñam> 'smoke', <p(e)> 'place' and <allaec> 'cacique'. This way, the etymology of the place name would be 'place of the cacique's smoke'. In some odd way, Zevallos Quiñones forces the correspondence of this etymology with the legend of Naymlap, who flew away after his death. This etymology has problems because even though some place names include

the aforementioned ending, such as <Cɥiclaiæp>, <Firruñap>, <Morrope>, <Motupe> (Carrera 1644: n.p.), there is no record of an element <p(e)> in Mochica as a word meaning 'place'. Furthermore, the word for 'cacique' is recorded as <alæc> (Carrera 1644: 45) and not as <allaec>.

Urban & Eloranta (2017) claim that the idol name <Yampallec> seems to be relevant for the etymology of the name of Lambayeque. Urban & Eloranta (2017: 158) try to reconcile the form registered by Carrera (1644: 129), <Ñampaxllæc> 'to Lambayeque', with <Yampallec>. The connection is plausible, indeed. However, the authors see problems mainly in the translation 'to Lambayeque' and deduce that the ending <-æc> must be an unproductive locative case suffix, following Hovdhaugen (2004: 23). Due to concern with this supposed locative, the authors suggest the etymology of <Yampallec> to be 'at the osprey' or even 'osprey place' (Urban & Eloranta 2017: 159).

In this respect, I turn to the section where Carrera registers this toponym. Carrera (1644: 129) explains how to answer to the question <Iztæc>? 'Where do you go?' and gives several place names as journey destinations. Amongst those examples, he offers <Ñampaxllæc> 'to Lambayeque' and <Cɥiclaiæp> 'to Chiclayo'. First, in his explanation Carrera mentions that the names of towns, cities and cultivation fields have to be in accusative case with or without the presence of the verb 'to go'. Carrera (1644: 126) also registers the form corresponding to 'in Lambayeque' when answering the question <In>? 'Where are you?' and explains that the place names have to be either in the nominative or accusative. It is important to note that in Mochica one cannot distinguish nominative or accusative cases. In the end, both are the absolute form of the noun. Secondly, if the form <Cɥiclaiæp> 'to Chiclayo' is compared to the form that occurs as part of a list of places where Mochica was spoken, in the first pages of the *Arte*, one can observe that the forms are

identical. This evidence only confirms that although there are records of <Ñampaxllæc> as 'to Lambayeque' and 'in Lambayeque', it is the place name as well, with no extra locative case suffix present.

Torero (2002: 229) and Cerrón-Palomino (2008: 157, fn. 5) suggest that <paxllæc> 'lima bean' (*Phaseolus lunatus)*, which is known in the whole Peruvian territory as *pallar*, forms the second part of <Ñampaxllæc>. This word is actually not attested in Carrera (1644). Torero (2002: 229) establishes the relationship between the segment that is part of <ñam paxllæc> 'Lambayeque' (Carrera 1644: 129) and the <pexllæc> element without translation that forms part of the following sentence in (7).

(7)    <mit can moiñ pexllæc>                              (Carrera 1644: 116)

mit-      c-          an          moiñ        pexllæc

bring-   BEN-       IMP         1SG         pexllæc

'Bring me pexllæc'

The meaning 'lima bean' is inferred from the sentence in (7). One cannot be sure about such a meaning, and there is also another problem: the quality of the vowel of the first part of the syllable remains problematic, as noted by Urban & Eloranta (2017: 159). Cerrón-Palomino (2008: 157, fn. 5) accepts that <paxllæc> is present in the dynastic Mochica name <Ñaimpaxllæc[70]> and comments that the form <paxllær>[71], derived hypothetically from <paxllæc>, must be the origin of the word *pallar* that we know. In the same vein, Salas (2012b: 59) reconstructs <*paxllær> 'lima bean' or *pallar*.

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[70] Cerrón-Palomino (2008: 157) registers <Ñaimpaxllæc>, and Carrera (1644: 129) provides <Ñampaxllæc>.

[71] <paxllær>, which could be the possessed form of <paxllæc>

I agree with Urban & Eloranta (2017: 159) and consider this etymology semantically unconvincing. There is no non-linguistic evidence (archaeological, ethnohistorical, or iconographic) to assure that there is a connection with the 'lima bean' and Lambayeque. Nevertheless, in relation with the term <paxllæc>, I consider it of particular importance to present a third term that could contribute with the elucidation of <ñampaxllæc>. One of the non-translated texts in Carrera (1644: 209-210) is the Salve Regina prayer. In this prayer, I found evidence from a verb, that could be the origin of the nominalization that <paxllæc> represents, according to my interpretation. This verb has never been mentioned so far by any Mochica scholar, and since this is a *hapax legomenon,* it is difficult to be sure about its most adequate meaning. In spite of this, one can conclude that the verb <paxll-> in (8) is in the imperative form and may mean 'to return', 'to turn', 'to turn round', 'to turn back', 'to turn or direct somewhere' (Lewis & Short ([1879] 1958:464), as its corresponding Latin counterpart *converte* in the Latin version of the Salve Regina.

(8)    <paxll con mæich totna aio chang ñicopæco locɥ>        (Carrera 1644: 210)

paxll-        c-      on      mæich  totna        aio

turn-        BEN-   IMP    1PL      towards      DET.DIST


chang        ñico-        pæco        locɥ

2SG.POSS    to do good-   AG.NMLZ      eye

Lit.      'Turn towards us those eyes of yours that do us good'

         'Turn thine eyes of mercy toward us'

Taking this evidence into consideration, it is highly probable that the toponym that refers to Lambayeque does not have anything to do with the term known as lima bean or *pallar* as suggested by Torero (2002: 229) and Cerrón-

Palomino (2008: 157, fn. 5). <Paxllæc> is possibly segmented as <paxll-æc>, where the presence of the nominalizer <-Vc> is evident. Due to the fact that this suffix can be used to create both deverbal place and instrumental nominalizations (see chapter 7) <paxllæc> could mean, 'the place of (re)turn' or 'the one who (re)turns' / 'the one who converts (into)'. The existence of a verb <paxll-> in the Mochica language, which most probably did not have any relationship with the lima bean or *pallar,* and which is the plausible origin of a nominalization, supports this suggestion. Furthermore, the etymology for <ñampaxllæc> with a segment <paxllæc>, which would mean 'the one who converts into', acquires a very interesting nuance, especially when one takes into account the legend of the origin and foundation of the ruling dynasties of northern Peru, which involves someone's arriving from a distant place and developing wings and flying away after his death.

Combining the first segment <ñaim> 'bird' with <paxllæc> 'the one who converts into', I suggest that the meaning of Lambayeque is 'the one who turns (into) bird'. <Ñaimpaxllæc> would be an argument embedded headless relative clause structure that I analyze in (9):

(9)    <Ñaimpaxllæc>                                           (Carrera 1644: 129)

    Ñaim-    paxll-    æc

    bird-    turn-    NMLZ

    'the one who turns (into) bird'

There are several attested examples of such argument embedded headless relative clause structures in Carrera (1644). Let us consider, for instance, examples (10) and (11).

(10)    <lecɥ chipæc>                                    (Carrera 1644: 145)

     lecɥ    chi-    pæc

     head    be-    AG.NMLZ

     Lit.    'the head/principal being'

          'the adult'


(11)    <xllaxll mitapæc>                                (Carrera 1644: 145)

     xllaxll   mit-   (a)pæc

     money   bring-  AG.NMLZ

     Lit.    'the bringer of money'

          'the one who brings the money'

In this section, I have revisited earlier proposals of etymologies of Ñaimlap and Lambayeque and proposed an etymology, at least for Lambayeque. As stated in Urban & Eloranta (2017), there is a clear avian connection in the anthroponym Ñaimlap. Urban & Eloranta (2017: 162) argue that there is a general preoccupation with avian motives in Andean cultures (Fernández Alvarado 2004; Yakovleff 1932). Morever, the authors cite Makowski (2001: 146), who notes that transformation of anthropomorphic deities into birds is a frequent Andean theme (cf. Steele 2004: 107-108).

In general, etymologyzing names belonging to a dead language is a difficult task. Thus, the etymologies discussed and proposed here must be taken with criticism. However, I believe that the proposed etymology of Lambayeque not only respects the structure and syntax of the Mochica language, but its proposed meaning also responds perfectly to the legend of the foundation of the first ruling dynasty in the Mochica speaking area.

*Chapter 3. Orthography and Phonology*

# The "letters" and "sounds" of Colonial Mochica

The only colonial record of Mochica providing explicit information about its pronunciation is Carrera's (1644) grammar. As an extinct language, Mochica faces the fate of probably never being completely understood. Particularly, the phonological system can only be pieced together based on impressionistic descriptions by Carrera (1644) for the Colonial Mochica, and by Middendorf (1892) and Brüning (1905-1924a, b) for republican time Mochica[72]. In this chapter, I analyze the existing interpretations of the Colonial Mochica sounds offered by different scholars and offer my own interpretation, as well. Since there are no remaining speakers of Mochica and because the first phonological description of this language is attested in a colonial grammar, it is necessary to adopt a philological approach, taking into account the tradition and common practices of the colonial missionaries who wrote grammars and dictionaries of indigenous languages.

## 3.1.  Mochica orthography in the tradition of colonial grammatical descriptions of indigenous languages

Orthography is an important part of the grammatical descriptions produced during colonial time; very often the sounds of the language to be described are presented in the first introductory chapter or section of a colonial grammar. These sections on orthography include the first tentative descriptions of the sounds of the indigenous languages encountered by Spaniards. Phonological

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[72] Lehmann (1929a); (1929b); ([1929g] 1931) presents the Mochica sounds through his own orthographic representation, but he does not offer any kind of description of the sounds themselves.

description during colonial time in Spanish colonies was prolific, covering both North and South American and Asian languages.

When missionaries assumed the task of describing a language that had different sounds than the ones present in Spanish (or other languages known to them), they struggled, but on most occasions, they succeeded with remarkable results. There was probably no unfamiliar sound that remained undescribed. This concern for obtaining a one-to-one correspondence between the Spanish sounds and the sounds of the languages described, led the grammarians to note that many Spanish sounds were not present in the indigenous languages and *vice versa*. Thus, claims that the described languages "lack letters" in their alphabet or that the Spanish alphabet "lacks a letter", are frequent in colonial descriptions[73]. For example, the voiced stops, [b], [d] and [g] and the voiceless labiodental fricative [f] are often said to be missing from described languages. To represent new sounds that could not be represented by means of Spanish orthography, the missionaries had to design new orthographic notations. They often relied on symbols/letters from Spanish or Latin.

According to Smith-Stark (2005: 12), early grammarians employed five strategies for representing new sounds:

  a.  they used familiar letters with a novel sound
  b.  they created special combinations of letters
  c.  they used modified forms of conventional letters
  d.  they invented completely new letters, and

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[73] See the discussion of the extra vowel in Mochica in Carrera's (1644: n.p.).

e.   they borrowed letters from another non-Latin based writing system (this is evident in cases of description of Japanese (Smith-Stark 2005: 12, fn. 17).

To interpret missionary descriptions of the Spanish tradition, it is fundamental to have background information about the orthography of Spanish during the corresponding period. It is relevant to mention that the production of linguistic materials by missionaries occurred during a very special period of linguistic transformation of the Spanish language. Therefore, in order to approach Carrera's orthography in an appropriate way, it is crucial to understand the Spanish orthographic practice of Carrera's time. This requires tracing back certain phonological changes that had been taking place and developed between the 16th and 17th centuries. Any attempt to interpret Carrera's orthography without a proper understanding of what was going on in Spanish remains in vain.

## 3.2. Correspondence of letters and sounds

Hovdhaugen (1992: 121) suggests that Carrera's grammar is a grammar with no tradition but, on the contrary, one can state that the symbols represented in the orthography used by Carrera (1644) follow a clear pattern and a specific tradition. In general, it is necessary to understand that the Mochica grammar constitutes a manifestation of a tradition of describing indigenous languages that was very well established in the colonial times. The spelling of indigenous languages is motivated by Spanish orthographic conventions for Spanish phonetic categories. Spanish has a clear phonemic writing system with an alphabetic character whose graphic system is framed in the Greco-Latin alphabets (Pujol 2001-2002: 194). This explains why the missionaries, when faced with the task of describing languages with sounds that could not be

found in the Spanish language, tried to represent them simply following the orthographic tradition of the Spanish language (Cerrón-Palomino 2006: 149).

Historiographic evidence from other indigenous languages attested during colonial time representing the high central unrounded vowel /ɨ/, supports the idea that Carrera's effort to represent this sound using the Latin ligature <æ>[74], was not isolated. Various indigenous languages that were described during colonial time have vowels with qualities distinct from the five standard vowels found in Spanish. For instance, Zoque has a sixth vowel, the high central unrounded vowel /ɨ/, which was represented with several symbols such as <æ>, <ę> and <œ> in colonial descriptions. The symbols <æ> and <ę> were familiar from the tradition of writing Latin, where both are derived from the sequence <ae> (Smith-Stark 2005: 20, fn 33). The same Latin diphthong or ligature was used to describe the high central unrounded vowel /ɨ/ in Otomí (Guerrero Galván 2007: 123).

As can be seen, this high central unrounded vowel proposed for Mochica as <æ>, is represented in Zoque and Otomí with the same Latin ligature <æ>; this is, of course, only a coincidence, but it illustrates the tendency among grammarians to turn to known symbols to represent an unfamiliar vowel. The Chinantec /ɨ/ was represented with <ui> (Smith-Stark 2005: 21). The Mapudungun /ɨ/ was represented with <ù> (Valdivia 1684: 1; Febrés 1765: 2). In the cases of Mochica, Zoque and Otomí, a known graphic symbol/letter <æ> is used, but the sound that it represents is new. In the case of Chinantec, the symbol <ui> seems to be a phonemic spelling of some sort, and for

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[74] In Old English, this ligature <æ> was named *aesc* meaning 'ash-tree' (*æsc* in older spelling, pronounced /ˈæʃ/) after the name of the Anglo-Saxon rune æ (Baskervill, Grein, Groschopp & Harrison 1885: 11). It was used as a letter of the alphabet in Faroese and Icelandic (Bringhurst [1992] 2004: 288), Danish, Norwegian, Anglo-Saxon and Old Norse (Bringhurst ([1992] 2004: 301).

Mapudungun, Valdivia (1684) and Febrés (1765) use the backwards virgulilla <ù> to emphazise the fact that it is an unfamiliar sound.

Phonological reconstruction of an extinct language will always remain hypothetical. There have been several attempts to reconstruct the Mochica phonological system; the various interpretations are presented in Table 4. There is an overall consensus concerning most sounds in Mochica, but the problem arises when dealing with the "special sounds" of Mochica that Oré (1607) and Carrera (1644) tried to represent with special characters. Following Torero (2002: 300), it is relevant to mention that even though Oré's record of Mochica dates back to the beginning of the 17th century (1607), his orthography was probably still the one used during the late 16th century.

## 3.3. Mochica Vowel System

The vowel system of Mochica comprised six phonemic vowel qualities, with distinctive length contrasts. Carrera (1644 n.p.) states that he uses two diacritic marks to express vowel quantity: <´> for short vowels and <^> for long vowels. However, one cannot really find a systematic use of those symbols throughout his work. Nevertheless, Middendorf (1892: 48-49) supports the fact that length was a feature in the vowel system of Mochica attesting examples with short and long vowels. Length appears to be functional as a clear distinctive feature, as proven by Cerrón-Palomino (1995: 81-82), see also Adelaar ([2004] 2007a: 324). Cerrón-Palomino extracts minimal pairs from Middendorf's work to show that vowel length definitely distinguishes meaning. Middendorf uses the diacritic mark <‾> to express vowel length. Cases as <ñop-> 'to receive' / <ñōp-> 'to hope', 'to wait for' (Middendorf 1892: 89); <pok-> 'to enter' / <pōk-> 'to be named', 'to call' (Middendorf 1892: 89); and <rak> 'puma' (Middendorf 1892: 60) / <rāk> 'excrement' (Middendorf 1892: 62) are clear cases where vowel length is a distinctive

feature in Mochica. Regarding the Mochica vowels, Middendorf provides their different pronunciations depending on their contexts, comparing their sounds to German and English sounds in different realizations.

The symbol <i> deserves special attention because it does not only represent the close front unrounded vowel /i/ but phonologically seems to have had a glide's behavior, functioning as the voiced palatal approximant /j/. This was first proposed by Torero (1986: 531) and presented later on in Torero (1997: 119, 2002: 321). Hovdhaugen (2004: 10, 2005: 177) and Adelaar ([2004] 2007a: 322) adopt a similar approach. Moreover, Hovdhaugen identifies the contexts where <i> was most likely realized as an approximant and provides examples:

a)   in onset position, word initially in pre-vocalic position, #_V, as in the case of <yanà> 'servant' (Carrera 1644: 144) written alternatively also as <iana> (Carrera 1644: 165). I consider this example given by Hovdhaugen problematic because it is a Quechua loan. Moreover, the assumed occurrence of this glide in onset position is limited to very few examples. After inspecting the whole *Arte*, I could only find the following attested forms with initial <i> or <y>: <iactum[75]> 'coarse', 'vulgar' (Carrera 1644: 145), <iam[76]> 'desire' (Carrera 1644: 157) and <iai[77]-> 'to end' (Carrera 1644: 174, 194).

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[75] This form <iactum> (Carrera 1644: 145) alternates with another orthographic representation <yactæm> (Carrera 1644: 224).

[76] Salas' interpretation of this untranslated term attested in Carrera (1644: 157, 221, 225) is the adjective 'greedy' but according to my analysis it cannot always have a negative connotation, neither appears as adjective, but more like a noun probably meaning 'desire'.

[77] The attested form <iaiæp-> (Carrera 1644: 174, 194, 209, 226) alternates with <iayp-> (Carrera 1644: 210). Middendorf interpreted it as the verb 'to finish', 'to end' (1892: 87), and it is registered this way in Salas (2002: 14), as well. Nevertheless,

b) in coda position, V_#, like in the verb <ai-> (Carrera 1644: 148) suggested by Hovdhaugen. The search for more examples yielded only one more example: <pei> 'grass' (Carrera 1644: 22). Unfortunately, appearance in this position is limited to just these two examples.

c) in V_C context as in the case of <aid-> 'past participle of verb to do, i.e. done', reported by Hovdhaugen. Other examples that present <i> in this position are: <uiz> 'cultivation field' (Carrera 1644: 104), <eiñ> 'who' (Carrera 1644: 21), <eiz> 'child' (Carrera 1644: 144), <oiz[78]-> 'to smell' (Carrera 1644: 244), <uich-> 'to stretch' (Middendorf 1892: 90), <uid-> 'to swim' (Middendorf 1892: 90), <uij-> 'to give birth' (Middendorf 1892: 90), <uiñ> 'gourd container' (Middendorf 1892: 61), <uip-> 'to hide' (Middendorf 1892: 90), <uis> 'totora reef' (Middendorf 1892: 61), <ůiz> 'cloud'.

d) in V_V context, in this context I could find several examples, such as <aie> 'this way' (Carrera 1644: 124), <aio> '3SG' (Carrera 1644: 19), <aiung> '3SG.OBL', <aiin> 'there' (Carrera 1644: 125), <Chiclaiæp> 'Chiclayo' (Carrera 1644: 129), <aiapæc> (Carrera 1644: 243), <ajiçæc> 'workmanship', 'making', 'creature' (Carrera 1644: 24), etc.

When comparing Hovdhaugen's proposed contexts (a) and (b) with the ones illustrated in (c) and (d), one can observe that there exist very few examples

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according to my analysis, one can segment <iaiæp-> into <iai-> and <-æp>, where the last segment is a Mochica middle voice suffix (MID).

[78] Middendorf (1892: 89) registers the verb 'to smell', 'to sniff out' as <ōj->. Salas (2002) does not register the verb 'to smell' in his Mochica dictionary, but he does register <oiz-> 'to smell' in Salas (2009: 80). After my analysis of Carrera's non-translated texts (1644: 244), I also consider that the colonial Mochica term for the verb 'to smell' is indeed <oiz->.

for the former two groups, while the two latter ones offer a few more attested forms. Contemplating all the contexts proposed by Hovdhaugen (2004, 2005), we cannot be sure about the pronunciation of <i> in all contexts, at least one cannot assume that non-nuclear <i> may always be interpreted as a consonant.

Besides the proposed glide behavior of <i>, Torero (2002: 306) reflects on the presence of the vowel <i> in regard to palatality, which he considers one salient characteristic of the Mochica phonology. According to his analysis, palatality may divide Mochica's consonant system in palatalized and non-palatalized consonants. Thus, the vowel <i> is considered a palatality indicator first by Torero (1986: 531, 1997: 107-108, 2002: 305-308). Hovdhaugen (2004: 11-12, 2005: 177-178) supports this analysis, and so does Adelaar ([2004] 2007a: 326). According to this analysis, the vowel <i> may have indicated the palatal nature of the adjacent consonant. This palatality marker is found before or after palatal consonants. The case of <ñaiñ> 'hen' is an example where the vowel <i> may represent the palatality of <ñ>. We will never know, however, whether this word was pronounced as a bisyllabic root [ɲa-iɲ] or monosyllabic as [ɲaɲ].

Additionally, reflecting on the probable glide behavior of <u> and its representation as <v>, Hovdhaugen (2004: 11, 2005: 177) considers two issues. First, initial <v> is only found in Spanish loans such as *viernes* 'Friday', *virgen* 'virgin' and *vino* 'wine', and one cannot be sure how this <v> was pronounced. Second, he observes that <u> is not found in nuclear position in none of the following contexts V_#, V_V or V_C. With respect to the appearance of <u> as <v>, Hovdhaugen observes an orthographic alternation of the absolute form of the term <uiz> meaning 'farm' or 'cultivating field' (Carrera 1644: 104), which appears attested as <vizquic> (Carrera 1644: 107), <ù, iz quic> (Carrera 1644: 126) and <û, iz quic> (Carrera 1644: 128), where

<-quic> is a derelational suffix that I gloss as DEREL throughout this dissertation and discuss in 6.3.1.1. This orthographic alternation noted by Hovdhaugen makes me reflect more on the way this word may have been pronounced. If the orthographic representation meant the need of separating the syllables into <û-iz-quic>, we could be facing a clear example of the monosyllabic tendency of the Mochica words (see syllable structure in 3.9.1.). Besides, this could also shed some light on the hypothesis of the non-existence of diphthongs in Mochica.

### 3.4. Previous proposals of interpretation on the Sixth Vowel

In addition to five typologically common vowels /a/, /e/, /i/, /o/, /u/, Mochica had the so-called "sixth vowel" represented by <æ> in Carrera (1644). Oré (1607) does not dedicate any particular symbol to the sixth vowel, alternating between <e>, <u>, <o> and even <a>. Carrera (1644: n.p.), when describing his rules of Mochica pronunciation, initially claims that the Spanish alphabet lacks one vowel that was available to Mochica speakers: "To speak and pronounce this language, our alphabet is lacking a vowel that the Indians have additionally; and for there to be distinction and knowledge of this letter and for it not to clash with ours [letters], I make use of a Latin diphthong, which is the following: æ."[79] It is important to point out that the used Latin ligature that originally represented the Latin diphthong <ae>, [ai], does not necessarily represent a diphthong in Mochica or other language that adopted it as a letter of their alphabetic inventory.

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[79] "Para hablar, y pronunciar esta lengua, falta a nuestro abecedario vna vocal, que los Indios tienen demas, y para que aya distincion, y conocimiento desta letra, y no se encuentre con las nuestras, me valgo de vn diphtongo latino, que es el siguiente. æ" (Carrera 1644).

Following Stark (1968: 25), Cerrón-Palomino (1995: 76), Torero (1997: 107; 2002: 305) and Hovdhaugen (2004: 11, 2005: 174-175), I assume, that it is very difficult to be certain of the existence of diphthongs in Mochica. Besides, it seems clear that Carrera considered this vowel to be a simple vowel, not a diphthong. He explicitly says that he uses the Latin diphthong, that is, the symbol <æ> itself, to represent a vowel that does not exist in the Spanish inventory. Going back to the strategies proposed by Smith-Stark (2005: 12), one can remark that Carrera used a familiar letter for a novel sound. Carrera (1644) claims that it is very difficult to explain how to pronounce this vowel but still attempts to do so, stating that "[…] it starts as an E and ends as a U, so that it is two vowels in one […]". At the end of his explanation, he just adds that it would be better to consult the literate Natives because he had taught them the equivalence he had established between the symbol and the sound.

While Carrera (1644) describes the sixth vowel as only one vowel, Middendorf (1892: 49) distinguishes two variants of the sixth vowel: <ä> and <ů> and considers them two "impure diphthongs". In this respect, it is valid to note, that the Mochica language described by Carrera (1644) may have been pronounced differently from the Mochica described by Middendorf (1892). Middendorf mentions that both of the impure diphthongs are related to each other in the sense that the sounds of both <ä> and <ů> are similar "[…] start[ing] with a [ɛ], [ø], or [e] and end[ing] with an [u] […]." His description of the sound of <ä> specifies that the ending [u] is very soft and that in fast speech one cannot even hear it at all; one basically hears a sound similar to the German <ä> [ɛ] or <e> [e].

Moreover, he offers an explanation of the sounds corresponding to <ů>. He claims that the ending [u] is more dominant and then he explains that its sound is reminiscent of (a) the Swabian diphthong, of which the starting target is a

low front unrounded vowel and the end target a near high back rounded vowel /aʊ[80]/ and (b) the impure diphthongs present in Hamburger Platt (Middendorf 1892: 49). Since Hamburger Platt is a variety of Northern Low Saxon or Low German, it seems that Middendorf was referring to the diphthong /ɑʊ/, which starts as a low back unrounded vowel and ends as a near high back rounded vowel. In spite of Middendorf's efforts to compare these sounds with those of Germanic languages, such as Svabian and Northern Low Saxon, and assuming that it was a diphthong, he accepts that he never succeeded at pronouncing it correctly and therefore only provoked amusement among his listeners (Middendorf 1892: 49-50). This fact gives support to the hypothesis that it was most probably not a diphthong, but a single vowel with a very distinctive sound. If this sound had been a diphthong similar to those of Swabian or Low Saxon, his attempts at pronouncing it would have been more successful.

The occurrence of Middendorf's impure diphthong <ů> is limited to about 15 lexical items, as first noted by Torero (1997: 125; 2002: 327). Its distribution seems to be restricted to the initial syllable of the root as first noted by Stark (1968: 25) and confirmed by Torero (1997: 125; 2002: 327) and Adelaar ([2004] 2007a: 323). Yet, in contrast to the scarce occurrence of <ů>, the diphthong <ä> is more frequent, being found both in initial syllable and as the nucleus of final syllables CVC of polysyllabic roots. With regard to the distribution of <ů> and <ä>, Torero (1997: 125; 2002: 328) believes to have discovered, amongst Middendorf's attested forms, a minimal pair that would support the claim that the difference between the two impure diphthongs was functional, representing a contrastive feature, that is, distinguishing a difference in meaning.

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[80] Middendorf (1892: 49) says that the sound is reminiscent of the pronunciation of <au> as pronounced by Svabians when saying the word "Gaul".

The minimal pair Torero establishes is <ûp> 'salt' / <äp> 'chili pepper' (Torero 2002: 328). It needs to be noted that Torero (2002: 326) uses the symbol <û> to represent Middendorf's <ů>. Nevertheless, when inspecting the sources, one can see that Middendorf (1892: 62) registers <up> 'salt' and <äp> 'chili pepper' (Middendorf 1892: 61). This means that Middendorf's attested form for 'salt' <up> appears originally without the impure diphthong's symbol <ů>. In spite of this, Adelaar ([2004] 2007a: 323) assumes Torero's minimal pair to be valid and, after consulting Schumacher de Peña (1991: 7, 27, respectively), provides his own minimal pair extracted from Lehmann[81] ([1929a]1937; 1929b): <ǽp> 'chili pepper' / <u̯ǔp> 'salt'. Lehmann's word for 'salt' does not include Middendorf's impure diphthong <ů>. Lehmann's orthography instead suggests that the sequence <u̯ǔ> in <u̯ǔp> may have represented a long /u/.

As can be observed, Torero's minimal pair offers no proof for establishing the distinction between the two impure diphthongs proposed by Middendorf. First, Middendorf does not utilize the symbol <ů> for representing 'salt'. Secondly, if this minimal pair was to demonstrate that the vowel sounds involved in the terms for 'salt' and 'chili pepper' are contrastive, the meanings of these two words are not so distant from each other. Third, there is a verb <ûp-> 'to thresh' attested by Middendorf that, according to my analysis, may constitute, with <äp> 'chili pepper', the searched minimal pair. Furthermore, a relevant minimal pair that represents the distinction between <æ> and <u>

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[81] Lehmann ([1929a]1937; 1929b) utilized a "strongly differentiated phonetic transcription", which is detailed in Lehmann (1920), in the first volume of his work Zentral-Amerika (Schumacher 1991: 4; Dürr 1993: 175). He used several special diacritics. Schumacher (1991: 27) clarifies that Lehmann writes <u> instead of <ui>.

would be the one I establish between <pæp> 'thread' (Carrera 1644: 172) and <pup> 'wood', 'stick' (Carrera 1644: 102).

As seen at the beginning of this section, both Carrera (1644) and Middendorf (1892) attempt to describe the pronunciation of the Mochica sixth vowel. Interestingly, also in Brüning's legacy, one also finds another impressionistic description of this vowel's sound. Brüning (1905-1924a: n.p.) describes the sound of the sixth vowel of the Eten variety. The symbol he chooses to represent it with is the same as the one proposed by Middendorf, <ů>, and he describes the sound as "a special word of Mochic that almost sounds like <ui> but pronounced as if one would be burping[82]". This description probably explains why Salas (2002) represents Brüning's <ů> as [uʔi], adding a glotal stop, e.g., <kůts> ['ku ʔits] 'wind' (Salas 2002: 29). Yet, oddly he also interprets the same <ů> as a long /uː/, as in the case of <ůts> ['uːts] 'drizzle' (Salas 2004: 69).

All these vague articulatory descriptions have led to intense debate in the academic community as to the pronunciation of this vowel. Each author argues for a different phonetic realization of the vowel, based on different interpretations of the aforementioned descriptions. Mochica is an extinct language with no available sound recordings; this is one reason why all existing articulatory descriptions of the pronunciation of the sixth vowel are impressionistic and vague. This is also why the phonetic realization of <æ> cannot be fully reconstructed and will remain hypothetical.

Some Mochica scholars observe allomorphic variation affecting the vowel <æ>. While Stark (1968), Torero (2002) and Salas (2002) adopt this approach,

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[82] "ů= un vocablo especial del mochic que casi suena como ui, pero pronunciándola como eructando" (Brüning 1905-1924a: n.p.).

Adelaar ([2004] 2007a) and Hovdhaugen (2004, 2005) consider the sixth vowel as a reduced variant of several vowels. In his turn, Cerrón-Palomino (1995: 75-84) describes it as a high-mid front rounded vowel, /ø/. Based on the information provided by Middendorf and Carrera, Stark (1968: 24-25) believes that allomorphic variation occurs in the Mochica sixth vowel. According to her analysis, there is a complementary distribution of Middendorf's impure diphthongs <ů> and <ä>. The sound represented with <ů> is present "in initial syllable preceding a bilabial nasal or alveolopalatal semivowel, or in the environment of a velar stop" (Stark 1968: 25), while <ä> occurs elsewhere. In conclusion to her analysis, this author proposes the sixth vowel to be a high-mid central rounded vowel [ɵ], (in her own words: mid-central rounded vowel) (Stark 1968: 24-25).

Torero (2002: 326) suggests that Carrera used <æ> to represent "at least two distinct phonemes and various sounds characteristic of Mochica that differed greatly from the Spanish vowels". This way, in addition to Middendorf's impure diphthongs <ů> and <ä>, Torero (2002: 326) contemplates two more sound manifestations of the sixth vowel, an allophone of /u/ represented in Carrera as <u> and the sound corresponding to Middendorf's "impure u", which, according to the German scholar, was pronounced short and close to [ö] or [a] (Middendorf 1892: 49). Notwithstanding, Torero's interpretation (2002: 323, 328) is that <æ> represented a high central unrounded vowel, /ɨ/. Salas (2002: 144-148) assumes that the sixth vowel was a diphthong with allophonic character with the starting target of a mid-central vowel or schwa and the end target of a near high back rounded vowel, /əʊ/.

Adelaar ([2004] 2007a: 323), considering that Middendorf's impure diphthong <ä> "occurred in endings presumably unstressed as well as in roots", posits the question whether it may have been the product of

neutralization of several full vowels, rather than an allophone of them. He observes that the Mochica morphophonemic rule of vowel loss in unstressed open syllables always affects <ä>, and postulates that the product of this neutralization may have been "a schwa type of vowel". Furthermore, Adelaar (personal communication, April 24, 2019) postulates that this schwa type of vowel would most probably be /ə/ when occurring as an epenthetic vowel and when representing a syllabic nucleus, it would be like the Dutch diphthong <ui>, /œy̯/, present, for example, in <huis>, meaning 'house'. Besides these interpretations of the impure diphthong <ä>, Adelaar proposes that the vowel represented as <uu> in Lehmann ([1929a]1937; 1929b) may have been a long /u/ like the one present in South African and some Flemish dialects, as in the word <boer>, i.e. /ʉ:/.

In the same vein, Hovdhaugen (2004: 10, 2005: 174-175) considers this sixth vowel to be a reduced variant of the other vowels except <a>. He enumerates several characteristics of this vowel. He observes that (a) <æ> never has an accent mark, which he observes as a sign for vowel length or stress; (b) <æ> is the only vowel that regularly is subjected to elision; and (c) <æ> may have been used as a buffer vowel in order to avoid unacceptable consonant groups. He concludes that the sixth vowel "seems most likely to have been a short, maybe reduced central vowel [ə]".

## 3.4.1. Phonological behaviour of the sixth vowel

The phonetic realization of <æ> has little consequence for the understanding of the Mochica grammar. An endeavor leading to more insight is to investigate the phonological behaviour of <æ>. By doing so, one can actually better understand the nature of this sound. In what follows, morphophonological and

typological evidence that sheds light on the phonological nature of the vowel will be presented.

As has previously been observed (Cerrón-Palomino 1995; Torero 2002), Mochica exhibits complex vowel alternations. Although thought to be components of a harmonic process, these alternations have not been explained previously. Let us begin by inspecting the cases of the vowel alternations in (12), triggered by genitivization. These cases, among others, are presented in Cerrón-Palomino (1995: 144). In the case of the demonstrative pronoun <mo>, the addition of the oblique-genitive suffix <-ng> seems to affect the vowel in the root. The suffix <-(i)ô> is, according to my interpretation, a possessive nominalizer (POSS.NMLZ), which I present in 4.1.4.2.1. The vowels of the interrogative pronouns <ech> and <eiñ>, inflected in oblique-genitive also differ from the vowel in the original root.

(12)

| | | | |
|---|---|---|---|
| <mo> 'this' | + | genitivization | <mung(ô)> 'this.GEN' |
| <tzhang> '2SG' | + | genitivization | <tzhæng(ô)> 'yours' |
| <ech> 'what' | + | genitivization | <ich(ô)> 'of what' |
| <eiñ> 'who' | + | genitivization | <iñ(o)> 'whose' |

As can be noticed in the examples, the vowel in the root gets raised: the high-mid front unrounded vowel /e/ is raised to become the high front unrounded vowel /i/, and the high-mid back rounded vowel /o/ becomes the high back rounded vowel /u/. The low front unrounded vowel /a/ becomes <æ>, which can safely be assumed to be a central vowel. Height harmony is the clear resulting phenomenon produced by the process of genitivization. Figure 6 illustrates this process.
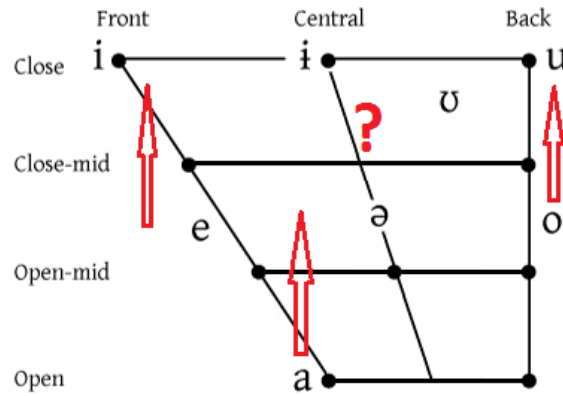
Figure 6. Representation of height harmony triggered by genitivization

The height specification of <æ> is revealed by another vowel alternation. The locative suffix <-æc> causes vowel raising, as shown in example (13). This case is also studied by Cerrón-Palomino (1995: 145), but so far no Mochica scholar has used this kind of information to establish the characteristics of <æ>.

(13)

| <ssol> | 'forehead' | + | <-æc> LOC > | <ssulæc> | 'on the forehead' |
| <loc> | 'foot' | + | <-æc> LOC > | <lucæc> | 'on the foot' |
| <fon> | 'nose' | + | <-æc> LOC > | <funæc> | 'on the nose' |

The added morpheme <-æc> must be able to raise the high-mid back rounded vowel /o/ to become the high back rounded vowel /u/. In this sense, it can be assumed to contain a [+high] feature, which spreads leftwards into the root. See Figure 7.
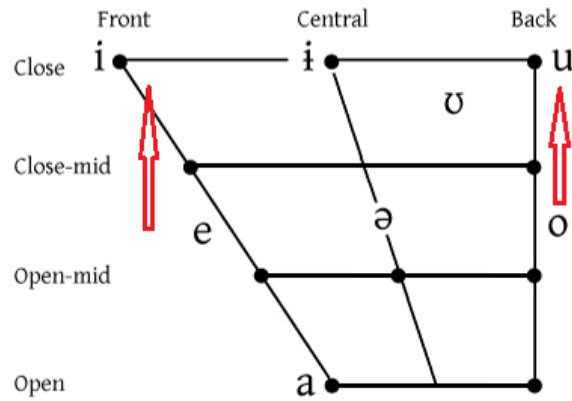
Figure 7.   Representation of mid vowel raising (to [+ high]) in Mochica

Therefore, the best way to describe this vowel phonologically is as a central, high vowel, as shown in Figure 8.
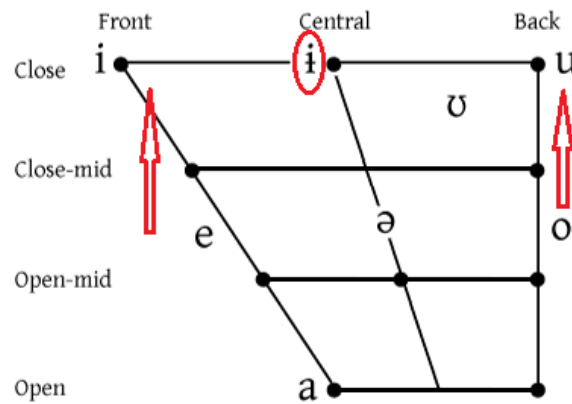


Figure 8.   Representation of Mochica's sixth vowel as a central high vowel

The discussion about the sixth vowel has been so far mostly centered around its phonetic realization. In reality, the phonetic realization is secondary. The phonological behaviour of this vowel is more revealing about Mochica grammar. By looking at vowel harmony alternations in Mochica, one can

argue that the sixth vowel is a phonologically high and central vowel and one can hypothesize that it may have been /ɨ/. This would not be surprising typologically because /ɨ/ is found overwhelmingly in the languages of Peruvian Amazonian area, eastern Ecuador, and southern Colombia.

According to Aikhenvald (2012: 70), a typical Amazonian vowel system includes this vowel. It has been identified as a robust areal feature of the region. Mochica was spoken at the edge of this region. It is therefore not implausible that it also shared this areal feature. Based on this morphonological evidence and the typological criteria, I interpret the sixth vowel as a high and central vowel: /ɨ/. The South American Phonological Inventory Database (SAPhon) includes the Mochica inventory. Based on the analysis by Cerrón-Palomino (1995) and Torero (1997)[83], Michael et al. (2015) opt for the same vowel as I propose: /ɨ/. They justify this conclusion based on their evaluation of the description of the vowel quality in Torero and the "frequency of occurrence of this phoneme in languages of this area".

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[83] Torero (1997) is presented in Torero (2002).

Table 4. Vocalic system of Colonial Mochica

| Carrera 1644 | Stark 1968 | Cerrón-Palomino 1995 | Torero 1997, 2002 | Salas 2002 | Hovdhaugen 2004, 2005 | Adelaar [2004] 2007a | Eloranta 2013b | Michael et al. 2015 |
|---|---|---|---|---|---|---|---|---|
| \<a\> | a, aː | a, aː | a | a | a | a, aː | a, aː | a, aː |
| \<e\> | e | e | e | e | e | e, eː | e, eː | e |
| \<i\> | i | i, iː | i | i | i | i, iː | i, iː | i, iː |
| \<o\> | o, oː | o, oː | o | o | o | o, oː | o, oː | o, oː |
| \<u\> | u, uː | u, uː | u | u | u | u, uː | u, uː | u, uː |
| \<æ\> | ɵ | ø | ʉ | ɵʊ | ə | ə, œ̯y | ɨ | ɨ |

Table 4 summarizes what has been revealed so far about the different interpretations of the Mochica vocalic system and its sixth vowel, showing each interpretation according to the IPA system.

## 3.5. Mochica consonantal system

Considering the changes affecting the sibilants and palatals in Spanish, aids in interpreting Carrera's orthographic representations. Specifically, the devoicing and dissimilation of the sibilants and velarization of the old palatal fricatives are evident in the orthography. Unfortunately, Spanish orthography was in a chaotic state during the time when Mochica was described. This graphic situation actually stayed chaotic until 1713 when the *Real Academia Española* (Royal Spanish Academy) was created. After the creation of the Royal Spanish Academy, the *Diccionario de Autoridades* (Dictionary of Authority) appeared in 1726, along with the *Ortografía de la Real Academia* (Orthography of the Royal Academy) in 1741 (Rivas Zancarrón, in press). This makes the task of Mochica scholars challenging, as one must take into consideration that it is practically impossible to be sure about the orthography

taken to the other side of the Atlantic (Rivarola 2001: 20-21; Rivas Zancarrón, in press).

In what follows, I present specific changes relevant to the sibilants in the two coexisting varieties of Spanish between the mid 16$^{th}$ and 17$^{th}$ centuries. Those varieties correspond to the areas with or without distinction of /s/ and /θ/. Table 5 is created according to my interpretation of the philological studies of Spanish phonology (Lloyd ([1987] 1993: 521-547); Quilis ([1997] 2012: 56-57); Cano (2004: 833-848) and Alarcos Llorach (2012: 217-228)). Furthermore, in terms of Spanish variety, it is important to mention that I assume that the Spanish spoken by Oré (1607) and Carrera (1644) was most probably of the variety that tends not to distinguish /s/ and /θ/ (as in Andalucia and Hispano-America).

Table 5.   Changes of Spanish sibilants and palatals during the mid 16th and mid 17th centuries

| old orthographic symbol | IPA symbols | | | |
|---|---|---|---|---|
| | changes in areas of seseo (no distinction of /s/ and /θ/) | | changes in areas with distinction of /s/ and /θ/ | |
| | mid 16th century | mid 17th century | mid 16th century | mid 17th century |
| <ç> / <z> (preceding e/i) | voiceless laminal dentalized alveolar sibilant /s̪/ | voiceless alveolar sibilant /s/ | voiceless laminal dentalized alveolar sibilant /s̪/ | voiceless dental fricative /θ/ |
| <s>, <ss> (initial position) <s> (intervocalic position) | voiceless apical alveolar sibilant fricative /s̺/ | | voiceless apical alveolar sibilant fricative /s̺/ | voiceless apical alveolar sibilant fricative /s̺/ |
| <x> <j>, <g> (preceding e, i) | voiceless palatal fricative /ʃ/, /ç/ | voiceless velar fricative /x/ | voiceless palatal fricative /ç/ | voiceless velar fricative /x/ |

## 3.6. Difficulties with some Mochica sounds

The phonemic interpretation of some Colonial Mochica orthographic symbols differs greatly; this is the case of, first, the sibilants which were in a process of stabilization during the 16th and 17th centuries. The sibilants were represented by the symbols presented in Table 5: <ç> / <z>; <s>, <ss> and, second, the consonants represented by the innovations designed by Carrera (1644): the digraph <cɥ> and the trigraphs <tzh> and <xll>. Taking into account the orthographic symbols in Table 5, I will first present the interpretations regarding the Mochica consonants that are represented with the symbols: <ç> / <z>; <s>, <ss> and <x>.

## 3.6.1. The graph <x>

The orthographic symbol <x> corresponds to the fricative voiceless postalveolar fricative /ʃ/, which is proposed by every Mochica scholar, as can be seen in Table 6. Stark (1968: 15-16) does not offer a separate description and explanation for the grapheme <x> as she does for the other consonants. Nevertheless, Stark (1968: 24) analyzes the word <moix> and, following the Americanist phonetic notation, also known as the North American Phonetic Alphabet, interprets <x> as /š/, which stands for /ʃ/.

## 3.6.2. The pair <ç> / <z>

These orthographic symbols do not really create much confusion. Almost all authors coincide in interpreting the sound of these symbols as the voiceless alveolar fricative /s/ except for Stark (1968) and Hovdhaugen (2004, 2005). Stark (1968: 14) interprets these graphs as representing allophones of the voiceless postalveolar fricative /ʃ/. She states that the <ç> represented the voiceless alveolo-palatal fricative /ɕ/, and <z> the voiced alveolo-palatal fricative /ʑ/. This author bases her interpretation on the fact that these consonants "are usually preceded or followed by a vowel, plus high front glide". Along the same lines, because of the combination of this phoneme with the vowel /i/, Hovdhaugen (2004: 12, 2005: 178) assumes a probable postalveolar or palatal(ized) pronunciation and proposes to represent it as /sʲ/. Torero (1997: 110, 2002: 309) assumes that <ç> / <z> both correspond to what he identifies as a "fricativa predorsodental sorda" or the voiceless predorsodental fricative /s/.

### 3.6.3. The pair <s>, <ss>

The orthography provided by Oré (1607: 403-408) does not include <ss>; it only records <s>. Carrera offers the pair <s> / <ss> and with respect to how <ss> is pronounced, either in initial or final position, Carrera 1644 (n.p.) says "they [ss] have to be pronounced between them both, hurting on the last one as in ssonto, amoss."[84] In this respect, it is important to try to clarify the meaning of the verb "to hurt" in Carrera.

One needs to turn to Nebrija (1492), who provided the model of description for colonial grammarians to look for the meaning of 'to hurt'. Nebrija (1492: n.p.) states in his *Gramática castellana*, in the first book about *Orthographía* (Orthography), third chapter: "they were called vowels because they have voice by themselves without mixing with other letters, the others were called consonants because they cannot sound without **hurting**[85] the vowels". The explanation given by Carrera (1644), enlightened by the information by Nebrija (1492), leads to the hypothesis that <ss> sounded only when the second (last) <s> would affect the contiguous vowel. Apparently, Carrera did not intend to describe a strange sound at all. According to Table 5 and following the orthography of his time, this <ss> would represent the voiceless apical alveolar sibilant fricative /s̺/ or even the voiceless alveolar sibilant /s/.

Stark (1968: 13) has another, anachronistic interpretation and suggests that <s> and <ss> symbolize the Old Spanish opposition between the voiced laminal alveolar sibilant fricative /z̺/ and the voiceless laminal alveolar sibilant

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[84] "Todas las dicciones que empeçaren, o acabaren cõ dos ss. se han de pronunciar entrãbasm hirie[n]do en la vltima como *ssonto, amoss.*" (Carrera 1644: n.p.).

[85] My own emphasis. Perona (2010: 28) mentions Nebrija's idea of "to hurt" exposed by Quilis.

fricative /ş/. This opposition was present during the 13<sup>th</sup> and 14<sup>th</sup> centuries. During the 15<sup>th</sup> century, there was no such opposition, and both letters symbolized only /ş/. During the 16<sup>th</sup> century, it was a voiceless apical alveolar sibilant fricative, /ş/ in both areas with and without a distinction between /s/ and /θ/. In the 17<sup>th</sup> century, in the areas with a distinction between /s/ and /θ/ it remained /ş/, but in the areas with *seseo* it became the voiceless alveolar fricative /s/, this latter one being the interpretation by Hovdhaugen (2004: 13, 2005: 178). Torero (2002: 309), Adelaar ([2004] 2007a: 329), and Eloranta (2013b) prefer to interpret <ss> as a voiceless apical alveolar sibilant, /ş/.

Interestingly, some interpretations, such as those of Salas (2002) and Michael et al. (2015) suggest a voiceless retroflex sibilant fricative /ş/, probably following Cerrón-Palomino (1995: 103), who understands the use of "to hurt" as meaning to produce a strident sound. In general, in several colonial grammars describing new sounds, the verb "to hurt" represents more a place of articulation where the tongue touches some part of the mouth, either the palate or the teeth, etc. Carrera (1644) does not give any further information about it and because of this, I prefer to follow the idea that Carrera's description, using the word "hurt" only meant that the second <s> in the segment <ss> was the sound that affected the contiguous vowel.

## 3.7. Special combinations of letters

### 3.7.1. The digraph <cɥ>

The digraph <cɥ> is a clear case of an orthographic invention using a known graph in an innovative way. Carrera (1644: n.p.) explains that he uses an inverted <h> to emphasize the fact that the sound represented by <cɥ> is different than the Spanish <ch>, which is the voiceless palato-alveolar affricate /t͡ʃ/. Carrera's weak description does not aid in the interpretation of

the sound, but with the information provided by Middendorf (1892: 51), one can assume that at least about two hundred years after Carrera's statement, the mentioned phoneme sounded "like <tj> in German".

According to Hovdhaugen (2004: 12, 2005: 179), this sound does not appear in a context preceding /i/, which leads him to conclude that it cannot be a palatalized affricate. Therefore, he proposes that it may be a voiceless retroflex sibilant affricate, /tʂ/. By contrast, Stark (1968: 11) suggests a voiceless palatalized alveolo-palatal /tʲ/, as does Salas (2002). Torero (1997, 2002) comes to the conclusion that the sound may have been a palatalized velar stop and proposes /kʲ/. Eloranta (2013b) and Michael et al. (2015) propose a voiceless palatal stop /c/. A voiceless alveolo-palatal affricate /tɕ/ is proposed by Cerrón-Palomino (1995: 96). Adelaar ([2004] 2007a: 327, 329), following interpretations by Middendorf (1892), Torero (1986, 1997) and Cerrón-Palomino (1995), includes the following interpretations for the digraph <cɥ>: /kʲ/, /tʲ/ and /tᶜ/. Adelaar believes that this sound may have been more like /tʲ/ (Adelaar, personal communication, March 8, 2019).

## 3.7.2. The trigraph <tzh>

Carrera (1644 n.p.) states this trigraph represents a sound which is difficult to produce, and, giving examples such as <tzhang>, <tzhæich> and <tzhecan>, he says: "These [words] one pronounces starting with T, hurting on the Z and on the vowel, that comes after H, so that it does not say *cha* but *tzha*." Moreover, he also mentions the place of articulation of this consonant, by stating that the tongue touches the palate next to the teeth (I assume, in alveolo-dental position). The information by Middendorf (1892: 51) is revealing since he explains that this sound is similar to the German <z>, that is, /t͡s/. As Adelaar [2004] 2007a: 326) states, there is probably no reason not

to assume that <tzh> was the voiceless alveolar affricate /t͡s/. The same interpretation is offered by Stark (1968: 11), Cerrón-Palomino (1995: 89-92), Salas (2002), Eloranta (2013b), and Michael et al. (2015). Torero (2002: 311-312) assumes /t͡s/, but he considers /tʲ/, as well. Hovdhaugen (2004: 13, 2005: 179) believes that it is a palatalized voiceless alveolar affricate, /tsʲ/.

### 3.7.3. The trigraph <xll>

Carrera (1644: n.p.) attempts to describe how to pronounce the sound represented with the trigraph <xll>: "The X preceding consonant has to be pronounced hurting between both in a soft way, attaching the tongue to the palate, in such a manner that the sound of the first letter, the vowel, may come out through one side and the other of the mouth, like in xllon, xllaxll, xllipcon, xllecna." Stark (1968: 15) assumes this consonantal sound to be a voiceless palatalized alveolo-palatal fricative, or /ɕʲ/. Torero (2002: 322) describes the sound as a voiceless post-palatal lateral, /ʎ̊/ but its representation in his work appears as the phonetic symbol of a (post) alveolar palatalized click [!j]. This must clearly be a printing error. Hovdhaugen (2004: 13, 2005: 178-179) considers that this sound may have been a retroflex fricative /ʂ/. Cerrón-Palomino (1995: 109) calls it pre-palatal lateralized fricative but the symbol he uses to represent it, <ç̃ˡ>, appears to be a velar fricative in Cerrón-Palomino (1995: 123), /ɬ/ in IPA; the same interpretation is offered by Salas (2002), Eloranta (2013b) and Michael et al. (2015). Adelaar ([2004] 2007a: 329) suggests a palatalized lateral fricative, /ɬʲ/.

### 3.8. General agreement on some Mochica sound interpretations

With regard to the interpretations of the other consonants of the Mochica phonological system, there is common agreement on the presence of:

- Voiceless stops: the voiceless bilabial stop /p/, the voiceless alveolar stop /t/, and the voiceless velar stop /k/[86]. In addition, Hovdhaugen (2004: 13, 2005: 173) includes the voiceless retroflex stop /ʈ/ in the group of voiceless stops, as an interpretation of the sequence <tr>.

- The voiced alveolar stop /d/, excluding Stark (1968: 10), who proposes a voiced dental stop, /d̪/, and Hovdhaugen (2004: 12, 2005: 173), who proposes a voiced dental fricative, /ð/, as does Adelaar ([2004] 2007a: 329).

- Nasals: the voiced bilabial nasal /m/, the voiced alveolar nasal /n/, the voiced palatal nasal /ɲ/ and the voiced velar nasal /ŋ/. Torero (2002: 320, 322) is an exception, claiming that <ñ> represents a pre-palatal nasal for which he uses the symbol /nj/.

- A rhotic: the voiced alveolar trill /r/. Even though Hovdhaugen (2004: 13, 2005: 173) suspects that "it may as well have been a tap", he opts to propose the existence of just a trill. Stark (1968: 18) and Cerrón-Palomino (1995: 117-118) interpret <r> as the voiced alveolar flap /ɾ/ and <rr> as the voiced alveolar trill /r/.

- A voiceless labiodental fricative is proposed by Stark (1968: 12), Torero (2002: 316-317), Salas (2002), Hovdhaugen (2004: 12, 2005: 173) and Michael et al. (2015). Instead of a labiodental, a voiceless bilabial fricative /ɸ/ is assumed by Cerrón-Palomino (1995: 97-98), although it is also labeled as a biliabial, but represented as a labiodental /f/ (Cerrón-Palomino 1995: 123). Cerrón-Palomino (personal communication, March 13, 2019) confirms his

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[86] In Carrera (1644) the voiceless velar stop is represented following the orthographic tradition of the Spanish language, that is, it is represented as <c> when followed by [a], [o], [u] and [æ], and as <qu> when followed by [e] or [i].

interpretation of <f> as /ɸ/, following two criteria: first, the Peruvian pronunciation of <f> and second, the way Spanish or Quechua loanwords with /w/ or /β/ have entered Mochica. Orthographically, they were represented with <f> or <v>. The same arguments are provided by Adelaar [2004] 2007a: 325), who proposes /f/ and /ɸ/. Eloranta (2013b), following Cerrón-Palomino and Adelaar, prefers the interpretation of the bilabial fricative /ɸ/.

- A glide: the voiced palatal approximant /j/.

- The fricative voiceless postalveolar fricative /ʃ/, which is proposed by all authors. Stark (1968: 15-16) does not offer a separate description and explanation for the grapheme <x> in the way she deals with the other consonants. Moreover, Stark (1968: 24) analyzes the word <moix> and interprets <x> as /š/, which is /ʃ/. For <x>, Stark (1968) offers two interpretations: /çʲ/ and /ʃ/.

- A voiceless palato-alveolar affricate, /t͡ʃ/, is proposed by everyone except for Stark (1968: 11), who proposes a "voiceless affricated alveolopatal stop" symbolized with /č/, which is the voiceless alveolo-palatal affricate, or /t͡ɕ/.

- Laterals: the voiced alveolar lateral approximant /l/ and the voiced palatal lateral approximant /ʎ/. Torero (2002: 318, 322) proposes /l/ and a "lateral cacuminal sorda", which I interpret as a retroflex lateral approximant, /ɭ/. In contrast to the voiced palatal lateral approximant proposed by the other Mochica scholars, Torero (2002: 318, 322) prefers to suggest a voiced pre-palatal lateral, /lj/.

In Table 6, I summarize the analysis of the phonological interpretations of Colonial Mochica prepared by various scholars.

Table 6.    Phonological interpretations of Colonial Mochica

| Carrera 1644 | Stark 1968 | Cerrón-Palomino 1995 | Torero 2002 | Salas 2002 | Hovdhaugen 2004, 2005 | Adelaar* [2004] 2007a | Eloranta 2013b | SAPhon 2015 |
|---|---|---|---|---|---|---|---|---|
| \<a\> | a, aː | a, aː | a | a | a | a, aː | a, aː | a, aː |
| \<e\> | e | e | e | e | e | e, eː | e, eː | e |
| \<i\> | i | i, iː | i | i | i | i, iː | i, iː | i, iː |
| \<o\> | o, oː | o, oː | o | o | o | o, oː | o, oː | o, oː |
| \<u\> | u, uː | u, uː | u | u | u | u, uː | u, uː | u, uː |
| \<æ\> | ɵ | ø | ʉ | ɘʊ | ə | ə, œ̥y | ɨ | ɨ |
| \<c/qu\> | k | k | k | k | k | k | k | k |
| \<ç/z\> | ɕ / ʐ | s | s | s | sʲ | s | s | s |
| \<ch\> | t͡ɕ | t͡ʃ | t͡ʃ | t͡ʃ | t͡ʃ | t͡ʃ | t͡ʃ | t͡ʃ |
| \<cɥ\> | tʲ | tɕ | kʲ | tʲ | tʂ | tʲ / tᶜ | c | c |
| \<d\> | d̪ | d | d | d | ð | ð / θ | d | d |
| \<f\> | f | ɸ | f | f | f | f / ɸ | ɸ | f |
| \<l\> | l | l | l, ɭ | l | l | l / ɫ | l | l |
| \<ll\> | ʎ | ʎ | lʲ | ʎ | ʎ | lʲ | ʎ | ʎ |
| \<m\> | m | m | m | m | m | m | m | m |
| \<n\> | n | n | n | n | n | n | n | n |
| \<ñ\> | ɲ | ɲ | ɲ | ɲ | ɲ | ɲ | ɲ | ɲ |
| \<ng\> | ŋ | ŋ | ŋ | ŋ | ŋ | ŋ | ŋ | ŋ |
| \<p\> | p | p | p | p | p | p | p | p |
| \<r/rr\> | ɾ/r | ɾ/r | r | r | r | ɾ/r | r | r |
| \<s/ss\> | z/s | ʂ | ʂ | ʂ | s | ʂ | ʂ | ʂ |
| \<t\> | t | t | t | t | t | t | t | t |
| \<tr\> | - | - | - | - | ʈ | - | - | - |
| \<tzh\> | t͡s | t͡s | t͡s / tʲ | t͡s | tsʲ | tˢ / tˢ | t͡s | t͡s |
| \<v\> | u | u | u | u | u | u | u | u |
| \<x\> | ʃ | ʃ | ʃ | ʃ | ʃ | ʃ | ʃ | ʃ |
| \<xll\> | ɕʲ | ɬ | ʎ̥ | ɬ | ʂ | lʲ | ɬ | ɬ |
| \<y, j, i\> | j | j | j | j | j | j | j | j |

\* Adelaar's column is based on Adelaar ([2004] 2007a: 321-329) but it also profited from Adelaar's revision and comments (Adelaar, personal communication, April 24, 2019).

I have standardized all interpretations using the symbols of the IPA. In the table, SAPhon (2015) corresponds to Michael et al. (2015) whose analysis is

based on the examination of the interpretations by Cerrón-Palomino (1995) and Torero (2002). Table 6 shows the Colonial Mochica sounds, interpreted on the basis of the information extracted from Carrera (1644).

## 3.9. Phonotactics and suprasegmental features

### 3.9.1. Syllable structure

Mochica has a (C)V(C) syllable structure and a tendency to have monosyllabic words. The language does not allow onset or coda consonant clusters while initial and medial syllabic consonant sequences do occur, as correctly first stated by Cerrón-Palomino (1995: 126-127) and followed by Hovdhaugen (2004: 15). It was first noted by Cerrón-Palomino (1995: 145-147), and formulated by Hovdhaugen (2004: 15), as well, that with regard to consonant sequences, a clear constraint prohibits the presence of /d/, (interpreted as /ð/ by Hovdhaugen, see Table 6.), as the second element in a consonant sequence. Considering, for instance, the past participle suffix <-do>, Cerrón-Palomino (1995: 145-146) (following Middendorf (1892: 141-142) and followed by Hovdhaugen (2004: 15)) states that an illicit consonant sequence in the case of a verb base ending in consonant and followed by /d/ would be avoided by the appearance (epenthesis) of an extra vowel. This vowel depends on the vowel of the root (Middendorf (1892: 141-142); Cerrón-Palomino (1995: 145); Hovdhaugen (2004: 15)). Other distributional constraints in Mochica were also first identified by Cerrón-Palomino (1995: 126) and followed by Hovdhaugen (2004: 15). The consonants <ng> /ŋ/ and <d> /d/ cannot occur word initially.

## 3.9.2. Stress

In relation to stress, the inconsistent use of the accent marks in all sources leads to various tentative interpretations. Stark (1968: 27) considers stress in Mochica unpredictable and therefore phonemic. She nevertheless assumes that it most often occured on the penultimate syllable. Cerrón-Palomino (1995: 133-138), after going over all Mochica material available, both from colonial and republican times (Oré 1607, Carrera 1644, Martínez Compañón 1783, Middendorf 1892, Brüning 1905-1924a, Brüning 1905-1924b and Lehmann 1929) concludes that the stress had a fixed, antepenultimate position. Hovdhaugen (2004:14) tries to interpret the use of accents by Carrera (1644) and determines that the stress fell on the vowel of the initial syllable. Cerrón-Palomino's antepenult and Stark's penult depart from assuming that the Mochica word had three syllables. I prefer to adopt Hovdhaugen's approach taking into consideration Mochica's preference for monosyllabic words which would explain that the accent may have always been on the root syllable.

## 3.9.3. Morphophonology

Cerrón-Palomino (1995: 139-150) identifies several morphonological processes, both vocalic and consonantal. This author concludes that nouns and verbs exhibit vowel alternations. Hovdhaugen (2004: 15-16) develops this topic very briefly. Cerrón-Palomino's seminal analysis of the Mochica morphophonological phenomena is the basis for my own analysis. In what follows, I adapt Cerrón-Palomino's analysis and add my own interpretation. Hereafter I will present the following processes: unstressed vowel syncope, vowel height harmony, epenthesis, apocope, and consonant alternation.

*3.9.3.1. Vowel <æ> syncope*

As Cerrón-Palomino (1995: 141) states, the process of genitivization or genitive inflection affects a root containing <æ> appears, causing syncopation. In (14) the examples clearly show how the root vowel gets elided after genitivization. Suffixes <ærr> / <ær> and <-e> are oblique-genitive suffixes. As stated in 3.4.1, the suffix <-(i)o> is a possessive nominalizer.

(14)

| | | | | |
|---|---|---|---|---|
| <mecherræc> | + | <-ær(ô)> | <mecherrcærr(ô)> | (Carrera 1644: 10-11) |
| | | | 'the woman's' | |
| <ñofæn> | + | <-ær(ô)> | <ñofnær(ô)> | (Carrera 1644: 7) |
| | | | 'the man's' | |
| <onæc> | + | <-ær(ô)> | <oncærr(ô)> | (Carrera 1644: 20) |
| | | | 'the one's' | |
| <izçæc> | + | <-ær(ô)> | <izcær(ô)> | (Carrera 1644: 24) |
| | | | 'everything's' | |
| <macɥæc> | + | <ær(ô)> | <macɥcær(ô)> | (Carrera 1644: 144) |
| | | | 'the idol's' | |
| <ocæn> | + | <-e(io)> | <ocne(io)> | (Carrera 1644: 178) |
| | | | 'the arm's' | |
| <motzhæn> | + | <-e(io)> | <motzhne(io)> | (Carrera 1644: 178) |
| | | | 'the elbow's' | |

Except for <mecherræc> all examples in (14) are bisyllabic words. Cerrón-Palomino (1995: 142) notices that not all words containing <æ> undergo apocopation when genitivized, see (15). According to Cerrón-Palomino's analysis, the constraint to the morphophonological rule of syncopation of vowel <æ> is determined by the context where it appears. Cerrón-Palomino suggests that the vowel does not get elided when more than one consonant

precede it. He gives the examples presented in (15) to support this constraint rule proposal (Cerrón-Palomino 1995: 142). In the following examples the vowel <æ> certainly does not collapse.

(15)

| <focaltæc> | + | <-ær(ô)> | <focaltæcær(ô)> | (Carrera 1644: 178) |
|---|---|---|---|---|
| | | | 'the shoulder's' | |
| <facatæc> | + | <-ær(ô)> | <facatæcær(ô)> | (Carrera 1644: 179) |
| | | | 'the groin's' | |
| <ñotæn> | + | <-e(iô)> | <ñotæne(iô)> | (Carrera 1644: 177) |
| | | | 'the eyebrow's' | |
| <chucæss> | + | <-e(iô)> | <chucæsse(io)> | (Carrera 1644: 179) |
| | | | 'the knee's' | |

Still, the proposed constraint rule gets violated in the following examples (16) presented in Cerrón-Palomino (1995: 142).

(16)

| <fæpiçæc> | + | <-ær(ô)> | <fapizcær(ô)> | (Carrera 1644: 144) |
|---|---|---|---|---|
| | | | 'the dream's' | |
| <catæn> | + | <-e(iô)> | <catne(iô)> | (Carrera 1644: 177) |
| | | | 'the vagina's' | |
| <nossæn> | + | <-e(iô)> | <nossne(iô)> | (Carrera 1644: 177) |
| | | | 'the knee's' | |

Due to scarcity of examples, it is difficult to establish a reformulated rule that would complement Cerrón-Palomino's observation. Nevertheless, after examing the examples in (15) and (16), I conclude that the cluster, which would arise on syncope is illicit with regard to Mochica phonotactics because this would be the boundary syllable's onset. Mochica does not accept onset

consonant clusters. The resulting consonant sequence in the case of syncope of <æ> in the case of <focaltæc> 'shoulder' and <facatæc> 'groin' is <tc>. The same happens with several other body part terms that are formed with the locative nominalizer suffix <-tæc> / <-tærr> like <altærr> 'throat' (Carrera 1644: 178), <xemetæc> 'armpit' (Carrera 1644: 178), <xllontærr> 'stomach' (Carrera 1644: 180) and <caxlltæc> 'bladder' (Carrera 1644: 180), where their oblique forms do not have syncopation of <æ>. Moreover, Cerrón-Palomino (1995: 142) considers another more decisive factor that would generate this process of syncopation: the position of the vowel. Cerrón-Palomino suggests that vowel <æ> would be in an unstressed syllable. This suggestion matches perfectly with unstressed vowel loss, which is a common phonological process.

### 3.9.3.2. Vowel height harmony

Vowel height harmony is triggered by genitive inflection and the addition of the locative case suffix <-Vc>. A way to generalize this is to say that case (oblique and locative) causes vowel height harmony. The harmony caused by genitivization, however, differs from the one produced by the locative case marker. In genetivization, the vowel involved gets raised, as in example (17), while in the locative, the vowel involved undergoes a vowel height harmony process (18). The quality of this vowel gets raised through assimilation to the height of the vowel present in the locative suffix <-Vc>, which contains a [+high] feature. This [+high] feature spreads leftwards onto the root, see example (18). This suffix has different allomorphs, all of them containing a high vowel: <-ic>, <-ec> and <-æc>. With regards to the locative case, it needs to be said that it appears in Mochica to be non-productive (Hovdhaugen 2004: 23) prevailing in some lexicalized items such as spatial relation markers that

will be explained later in (6.4.2.2.). The examples in (18) all exhibit spatial relation markers.

Example (17) shows genitivized pronouns. The root vowel gets raised because of the effect of the genitivization process.

(17)

| | | | | | |
|---|---|---|---|---|---|
| &lt;moiñ&gt; | '1SG' + | genitivization | &lt;mæ[87]iñ(ô)&gt; | 'mine' | (Carrera 1644: 16) |
| &lt;tzhang&gt; | '2SG' + | genitivization | &lt;tzhæng(ô)&gt; | 'yours' | (Carrera 1644: 17) |
| &lt;çio&gt; | '3SG' + | genitivization | &lt;çiung(ô)&gt; | 'his' | (Carrera 1644: 18) |
| &lt;mo&gt; | 'this' + | genitivization | &lt;mung(ô)&gt; | 'of this' | (Carrera 1644: 18) |
| &lt;aio&gt; | 'that' + | genitivization | &lt;aiung(ô)&gt; | 'of that' | (Carrera 1644: 19) |
| &lt;eiñ&gt; | 'who' + | genitivization | &lt;iñ(o)&gt; | 'whose' | (Carrera 1644: 21) |
| &lt;ech&gt; | 'what' + | genitivization | &lt;ich(ô)&gt; | 'whose' | (Carrera 1644: 21-22) |

Spatial relation markers, which are lexicalized items, are shown in (18). These spatial relation markers consist of body part terms in combination with the locative suffix &lt;-Vc&gt;. The quality of the vowel of the locative suffix determines the quality of the vowel of the noun root. There is not much information about the actual meaning of these spatial relation markers, which function as adpositions according to Carrera (1644: 161). Carrera's texts inform us that &lt;funæc&gt;, literally, 'on the nose' and &lt;lucɥæc&gt;, literally, 'in the eyes' mean 'according to' and 'between', respectively.

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[87] Even though the change &lt;o&gt; > &lt;æ&gt; does not appear an obvious case of vowel raising, I suspect that the vowel could have been heard like an /u/. Moreover, I believe, this example may support the idea that &lt;æ&gt; was not a diphthong but rather a simple vowel.

(18)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| <ssol> | 'forehead' | + | <-æc> LOC | > | <ssulæc> | 'on the forehead' |
| <loc> | 'foot' | + | <-æc> LOC | > | <lucæc> | 'on the foot' |
| <fon> | 'nose' | + | <-æc> LOC | > | <funæc> | 'on the nose' |
| <locɥ> | 'eye' | + | <-æc> LOC | > | <lucɥæc> | 'in the eyes' |

### 3.9.3.3. Vowel epenthesis

In Cerrón-Palomino's analysis (1995: 145-148), this phenomenon is interpreted as harmony ("armonía"). Nevertheless, I consider it to be a clear case of epenthesis in both contexts analyzed by Cerrón-Palomino. Mochica phonotactics appears to force vowel epenthesis in order to break consonant clusters. According to Cerrón-Palomino's analysis, this is exemplified by the addition of the past participle suffix (PTCP) <-(V)d(o)> (see examples in (19)) and the agentive nominalizer suffix (AG.NMLZ) <-(V)pæc> (see examples in (20)). However, it should be mentioned that the <-(V)çVc> / <-(V)ssVc> event nominalizer also triggers vowel epenthesis (see examples in (21)).

Verbal stems ending in a vowel take the past participle suffix <-(V)d(o)>, while the verbal stems ending in a consonant need to add a vowel after the consonant. In (19) the first two examples represent the only two attested verbal stems ending in a vowel. In such a case, the past participle suffix is added without vowel epenthesis. The remaining examples are stems ending in consonant, where epenthesis occurs breaking consonant clusters.

(19)

| | | | |
|---|---|---|---|
| <chi- | d(o)> | 'been' | (Carrera 1644: 32) |
| <funo- | d(o)> | 'eaten' | (Carrera 1644: 70, 119) |
| <man- | **a**d(o)> | 'eaten', 'drunk' | (Carrera 1644: 153, 167) |
| <al- | **a**d(o)> | 'descended' | (Carrera 1644: 219) |
| <t- | **e**d(o)> | 'come' | (Carrera 1644: 32, 118) |
| <ton- | **o**d(o)> | 'killed' | (Carrera 1644: 167) |
| <pui- | **u**d(o)> | 'ascended' | (Carrera 1644: 214) |
| <ai- | **æ**d(o)> | 'done' | (Carrera 1644: 148) |
| <fañ- | **æ**d(o)> | 'lied' | (Carrera 1644: 149) |
| <ñieñ- | **æ**d(o)> | 'played' | (Carrera 1644: 151) |
| <xemæc- | **æ**d(o)> | 'taken (away)' | (Carrera 1644: 155) |
| <eng- | **æ**d(o)> | 'said', 'wanted' | (Carrera 1644: 155) |
| <quesseç- | **æ**d(o)> | 'nailed', 'crucified' | (Carrera 1644: 213) |

As the examples in (19) show, the verbal stems ending in a vowel do not require an epenthetic vowel, while the ones ending in a consonant do. The vowel can be either <a>, <e>, <o>, <u> or <æ>. The majority of the cases show an epenthetic <æ>.

The addition of the agentive nominalizer <-(V)pæc> to the verbal stem also triggers vowel epenthesis (20). When the verbal stem is a vowel, there is no epenthesis. When the verb stem ends in a consonant, there is need to break the consonant cluster. Therefore, vowel epenthesis occurs.

(20)

| | | | |
|---|---|---|---|
| \<chi- | pæc> | 'the one who is' | (Carrera 1644: 36) |
| \<funo- | pæc> | 'the one who eats' | (Carrera 1644: 141) |
| \<fam- | **a**pæc> | 'the one who cries' | (Carrera 1644: 141) |
| \<mit- | **a**pæc> | 'the one who brings' | (Carrera 1644: 53) |
| \<fil- | **a**pæc> | 'the one who sits' | (Carrera 1644: 141) |
| \<ai- | **a**pæc> | 'the creator' | (Carrera 1644: 143) |
| \<cʉum- | **a**pæc> | 'the drunk' | (Carrera 1644: 111) |
| \<tun- | **a**pæc> | 'the killer' | (Carrera 1644: 44) |
| \<ac- | **a**pæc> | 'the one who hears' | (Carrera 1644: 44) |
| \<chim- | **a**pæc> | 'the dancer' | (Middendorf 1892: 92) |
| \<eng- | **a**pæc> | 'the one who says' | (Middendorf 1892: 92) |
| \<kall- | **a**pæc> | 'the one who smiles' | (Middendorf 1892: 92) |

The epenthetic vowel in all the cases presented in (20) is \<a>. Interestingly, \<a> vowel epenthesis is not the only morphophonological process occurring. It is clear that the verb root vowels in \<mit-apæc>, \<fil-apæc> and \<tun-apæc> have undergone a vowel height harmony process where the vowel's quality is assimilated to the quality of the vowel present in the agentive nominalizer suffix \<-Vpæc>, which contains a [+high] feature. The original verb roots are: \<met-> 'to bring', \<fel-> 'to sit' and \<ton-> 'to kill'.

When the event nominalizer \<-(V)çVc> / \<-(V)ssVc> gets suffixed to verbal stems and the verb ends in a vowel, epenthesis does not occur. The verb stem ending in consonant triggers vowel epenthesis, as can be observed in (21). It is important to mention that there is orthographic variation between \<-(V)çVc> and \<-(V)ssVc>. Besides, in Carrera's texts there is alternation in the use of the orthographic representation \<j> present in \<aijçæc> (21), which could be used for the voiced palatal approximant /j/ or for the high front unrounded vowel /i/. The examples shown in (21) are all event nominalizations, I have translated most of them using an English -*ing* form.

(21)   &lt;chi-         çæc&gt;           'existence'          (Carrera 1644: 209)

&lt;funo-        çæc&gt;           'eating'             (Carrera 1644: 238)

&lt;ac-          **a**ssæc&gt;         'seeing'             (Carrera 1644: 241)

&lt;man-         **a**ssæc[88]&gt;        'drinking'           (Carrera 1644: 251)

&lt;met-         **e**ssæc[89]&gt;        'bringing'           (Carrera 1644: 25)

&lt;fæp-         **i**çæc&gt;           'dream'              (Carrera 1644: 144)

&lt;læm-         **i**çæc&gt;           'death'              (Carrera 1644: 229)

&lt;xam-         **i**çæc&gt;           'sign'               (Carrera 1644: 198)

&lt;ap-          **i**çæc[90]&gt;         'teaching'           (Carrera 1644: 206)

&lt;ai-          **j**çæc&gt;           'creation'           (Carrera 1644: 237)

&lt;tæp-         **æ**ssæc&gt;         'flogging'           (Carrera 1644: 219)

&lt;t-           **æ**çæc&gt;           'coming, arrival'    (Carrera 1644: 233)

The following words violate the vowel epenthesis rule breaking up consonant clusters: &lt;cꞯumepssæc&gt; (Carrera 1644: 255), &lt;rru cꞯup ssæc&gt; (Carrera 1644: 219), &lt;mañapssæc&gt; 'reciting' (Carrera 1644: 206), &lt;llop ssæc&gt; 'stealing, theft' (Carrera 1644: 224), &lt;nam ssæc&gt; 'fall' (Carrera 1644: 241) and &lt;ælssæc&gt; 'sickness' (Carrera 1644: 216). Excepting the last case, these examples present the voiceless bilabial stop /p/ or the voiced bilabial nasal /m/ as the coda of the syllable preceding the event nominalizer. These consonants share the same place of articulation: bilabial. In the case of &lt;ælssæc&gt;

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[88] In Carrera (1644: 238) &lt;manassæc&gt; 'drinking' appears also registered as &lt;maniçæc&gt;.

[89] In Carrera (1644: 25) &lt;metessæc&gt; 'bringing' appears also registered as &lt;metiçæc&gt;.

[90] The event nominalization of verb &lt;ap-&gt; 'teach' is also registered as &lt;apaçæc&gt; in Carrera (1644: 219).

'sickness' the coda consonant of the syllable preceding the nominalizer is the voiced alveolar lateral approximant /l/.

### 3.9.3.4. Apocope of <e>

Mochica has three invariant copulas as will be shown in 5.2. One of the three copulas is <fe> 'to be', which often appears apocopated as <-f>. In the case of the copula appearing apocopated it gets cliticized, as Cerrón-Palomino (1995: 149) states. Carrera (1644: 113) explains that, in order "to speak elegantly", one has to use this verb "syncopated". Carrera refers, in this manner, to the loss of the final vowel <e> of the verb <fe>. After apocope of <e>, the verb becomes a clitic <-f> phonologically dependent on the host it is attached to. Attested examples show the presence of this clitic bound to pronouns (22a) and (22b) and nouns (23). However, its most recurrent occurrence is when attached to the first element of the correlative conjunction that pairs up negative options, <ænta/ezta>, 'neither/nor' (24).

(22a)  <Mofmæiñó>                                      (Carrera 1644: 113)

    Mo            =f        mæiñ-        ó

    DEM.PROX      =COP      1SG.OBL-     POSS.NMLZ

    'This is mine'

(22b)  <Aiof chido>                                    (Carrera 1644: 33)

    Aio           =f        chi-      do

    DEM.DIST      =COP      be-       PTCP

    'That (he) has been'

(23)   <Pedrongof>                                     (Carrera 1644: 113)

    Pedro-  ng-     o                =f

Pedro-   OBL-   POSS.NMLZ   =COP

'It is Pedro's'

The translation of <Æntaf ezta> (24) is registered in Carrera (1644: 160) as 'It is not'. This correlative conjunction is constituted of two elements, namely <ænta> and <ezta>. Carrera (1644: 124) registers the meaning of the first element <ænta> 'no', the second element remains untranslated. However, I believe that the most appropriate translation is 'It is neither nor'. The acopocopated form of the verb <-f> appears always bound to the the first element.

(24)   <Æntaf ezta>                                    (Carrera 1644: 113)

Ænta          =f      ezta

Neither       =COP   nor

'It is neither nor'

### 3.9.3.5. Consonant alternation

Cerrón-Palomino (1995: 149-150) proposes three consonant variations: the change <c> > <r>, the variation <ss> > <l> and the alternation of the valence changing suffixes <æm>, <ær> and <æp>. This proposal is problematic because the suggested <ss> > <l> change does not really occur. Cerrón-Palomino's proposal is based on the misinterpretation of two nominalizers as a single one. Cerrón-Palomino assumes that <-(V)ssVc> and <lVc> are two representations of the same form. The latter one is actually a grammatical nominalizer that serves an adverbial function. With regard to the assumption of all the valence changing suffixes as variations is not adequate either, because they are actually three different suffixes.

The only case of consonant alternation, I consider here is the change <c> > <r>. It corresponds to the final consonant-changing rule <c> > <r>, which applies to three nominalizers, namely (a) <-Vc> place and instrumental nominalizer, see example (25), (b) <-(V)çVc> / <-(V)ssVc> event nominalizer, see example (26) and (c) <-tVc> locative nominalizer, see example (27). This rule applies to the final <c> of the involved nominalizer suffixes which become <r> when found possessed in a possessive construction.

The locative nominalizer <-tVc> is a segmental part of several body parts. Body parts are registered in Carrera (1644: 177-181) and some of the body part terms appear registered with the locative nominalizer variants <-tær>, <-tærr>. These are in fact possessed forms ending in <-r> that are registered without being in a possessive construction. This registration pattern seems to be common with regard to body part terms and gets explained because of the relational character of these terms that establish a part-whole relation, i.e. body part term-possessor's body relation.

In the *Arte* there are no examples of possessive constructions containing place and instrumental nominalizations, nevertheless Carrera (1644: 5) offers the pairs shown in (25) explicitly stating that the forms ending in <-r> are the possessed forms.

(25)    **non-possessed form**               **possessed form**

| | non-possessed form | | possessed form | |
|---|---|---|---|---|
| | <filuc> 'chair' | | <filur> | (Carrera 1644: 5) |
| | <ñeñuc> 'toy' | | <ñenur> | (Carrera 1644: 5) |
| | <cunuc> 'blanket' | | <cunur> | (Carrera 1644: 5) |
| | <catæc> '?' | | <catær> | (Carrera 1644: 5) |

In contrast to the place and instrumental nominalization, examples of <-(V)çVc> / <-(V)ssVc> event nominalizations in possessive constructions are common, as in (26). In (26) <læmiçæc> 'death' appears possessed with the final <c> converted into <r>.

(26)   <Iesu Christong læmiçær>                                    (Carrera 1644: 229)

Iesu Christo-     ng        læm-     içær

Jesus Christ-     OBL       die-     EVENT.NMLZ

'the death of Jesus Christ'

Examples in (27) illustrate some of the body part terms registered in Carrera (1644: 177-180). One can notice that some of them are registered as possessed because of the ending <r>.

(27)   <caxlltæc>        'bladder'                          (Carrera 1644: 178)

       <facatæc>        'groin'                            (Carrera 1644: 178)

       <pitær>          'esophagus'                        (Carrera 1644: 178)

       <xllontærr>      'stomach'                          (Carrera 1644: 180)

       <altærr>         'throat'                           (Carrera 1644: 178)

*Chapter 4. Nouns, adjectives and pronouns*

In Mochica, nouns, adjectives, and pronouns all function as referring expressions. Nouns and adjectives are open word classes, while pronouns represent a closed word class.

## 4.1. Noun

Mochica nouns serve as heads of noun phrases, which in turn function as subjects and objects of clauses. Nouns may occur with modifiers such as adjectives or demonstratives. Features of number and case are the only grammatical features expressed on Mochica nouns. There is no morphological mark for gender. However, in 4.1.2., I present the strategies Mochica speakers deployed to refer to female and male entities. Possessability is a respect in which classes of nouns may be distinguished (Payne 2006: 102). Following this criterion, Mochica establishes a distinction between alienably and inalienably possessed nouns. I present Mochica noun classes and subclasses in 4.1.1.

### 4.1.1. Noun classes and subclasses

Mochica nouns cannot simply be classified as alienably and inalienably possessed nouns. 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 divided in two groups based on the type of relational marking they accept. I develop the topic of nominal possession significantly in Chapter 6.

Normally, inalienably possessed nouns appear morphosyntactically marked in their absolute form (Lehmann 2003: 53; Kockelman 2009: 25), and they do not need morphological marking when they are possessed (Lehmann 2003: 53). However, with regard to the absolute form, one can identify two

grammatical classes of inalienably possessed nouns, namely those that are obligatorily possessed, i.e. that remain inabsoluble, and those that are absoluble, that is, those that can appear as absolute. Furthermore, the third subclass of inalienably possessed nouns consists of the group of nouns that present double-marking.

### 4.1.1.1. Absoluble inalienably possessed nouns

Absoluble inalienably possessed nouns include linear kinship terms, that is, terms that express relationships between direct descendants: father, mother, son, culturally relevant elements such as 'food', 'cultivating field', and some body parts. The body part terms included in this group are somehow special as they can be found grammaticalized as concepts of spatial relations.

### 4.1.1.2. Inabsoluble inalienably possessed nouns

Inabsoluble inalienably possessed nouns present zero marking when they are possessed, and their absolute form is impossible or at least does not appear to be attested in the *Arte*: <ssap> 'mouth', 'order', 'commandment'; <cul> 'blood' and <oc> 'name'. In this group, one can find other nouns that appear to be grammaticalized, including in their form the relational suffix <-æng> / <-ng>. Among these nouns are certain affinity terms: <ssonæng> 'wife', <ñang> 'husband', and some terms expressing consanguinity of collateral line kin, such as <chang> "brother, sister, nephew or niece of younger age" (Carrera 1644: 146). Also, included in this group are certain consanguinity and collateral line kin terms that are somewhat more distant from the ego.

*4.1.1.3. Double marked inalienably possessed nouns*

The marking appears on both the dependent in the oblique-genitive case and on the head by the suffix <-æng> or <-eng>. In addition to certain body part terms, certain nominalizations also occur with double possessive marking.

*4.1.1.4. Alienably possessed nouns*

In an alienable possessive construction, the possessed element is non-relational. Alienably possessed nouns require morphological marking inside of a possessive construction. This marking has a relational function. For this purpose, Mochica makes use of two suffixes, namely <-Vd> and <-(V)ss. The alienable possession relational suffixes <-Vd>, with the variants <-æd>, <-ad>, and <-(V)ss> are found in complementary distribution. According to Carrera (1644: 5-6), the affix <-Vd> attaches to nouns ending in a consonant, and the affix <-(V)ss> attaches to nouns ending in a vowel.

Table 7.    Grammatical and semantic classes of nouns in Mochica

| class | subclass | absolute form | possessed form | semantic class |
|---|---|---|---|---|
| inalienably possessed | inalienable possession (absolute obligatory possession) | <-quic> | N zero mark | • some lineal consanguinity kinship terms<br>• some body part terms<br>• bio-culturally relevant terms such as cultivation field, food |
| | inalienable possession (inabsoluble, obligatory possession) | N | N | • some collateral and affinity kinship terms<br>• mouth, blood, name, etc. |
| | double marking | <-quic>/<ic> | <-æng> | • some body parts |
| | | <-ic>/<-uc><br><-Vc> | <-ir>/<-ur><br><-Vr> | • nominalizations |
| alienably possessed | | N | <-Vss> | • nouns ending in a vowel<br>• animals<br>• objects |
| | | N | <-æd> | • some nouns ending in a consonant<br>• animals<br>• objects |

Source: Based on the work on Possession in Yucatec Maya by Lehmann (2003)

## 4.1.2. Nominal gender

Gender is not marked in Mochica. Mochica makes use of the following words to refer to male individuals: <ñangcu> 'male' and <ñofæn> 'man'. To refer to a female, one uses <mecherræc> 'female' 'woman' (Carrera 1644: 28-29). Carrera provides two examples for 'male horse': <ñangcuio col> and <ñofæno col> 'male horse, stallion', which shows that most probably there

was no semantic distinction between these two words (Carrera 1644: 28-29). For 'mare' Carrera (1644: 29) registers <mecherræco col>. Middendorf (1892: 51-52) complements the information on gender specification provided by Carrera (1644), stating that the opposing pair <ñofæn> / <mecherræc> is used when referring to humans, like in <ñofæn chisi> 'boy' and <mecherræc chisi> 'girl', while the opposition <ñangcu> / <mecherræc> is used when referring to animals.

## 4.1.3. Nominal number

With regard to number, singular is not marked in Mochica. The plural is marked with the suffix <-æn>. The plural marker is not obligatory, and according to Carrera (1644: 10), it is used rarely. In addition, the plural ending does not only appear in combination with nouns, but can also be attached to adjectives, pronouns and demonstratives, and numerals.

Example (28) shows the plural ending attached to the noun <eng> 'mother', to form the plural <eng-æn> 'mothers'.

(28)    <engæn>                                              (Carrera 1644: 13)

    eng-     æn

    mother- PL

    'mothers'

Hovdhaugen (2004: 18) believes that the suffix <-æn> can be directly attached to the nominal stem, as seen in example (28), or "to the oblique[91] stem of nouns and pronouns if the stem ends in vowel" (Hovdhaugen 2004: 18). To illustrate this, this author gives <cųolu> 'boy or girl' as example and claims

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[91] Hovdhaugen (2004) uses the term "oblique" instead of genitive.

that this word, which ends in a vowel, needs the oblique case marker <-ng> in order to receive the plural marker: <cʮolu-ng-æn>. However, based on the information provided by Carrera (1644: 12), the attested plural form of <cʮolu> is actually <cʮoluæn>. Another case of a noun ending in vowel without the presence of the oblique marker, is the Spanish loan word *artículo* 'article', presented by Carrera as <articulo-æn> (Carrera 1644: 215).

## 4.1.4. Case

In Mochica, overt marking of case is present only in the oblique case. Mochica otherwise presents numerous cases expressed through adpositions. For this reason, I have decided to deal with the adpositions as case markers; the Mochica adpositional case system is presented in 4.1.4.3.

### *4.1.4.1. Morphological case according to Carrera (1644)*

When describing the Mochica noun, Carrera (1644: 10-15) follows the Greco-Latin tradition and presents declension paradigms attributing the same inflectional category-system of the Latin nouns to Mochica. Unlike Latin paradigms, of which there are five, he offers three different paradigms for Mochica, based on the type of genitive marking these groups of nouns accept. According to Carrera, the nouns belonging to the first declension end in a consonant and have the genitive ending <-ærô>, such as <mecherræc> 'woman', <mecherrc-ærô> 'of the woman'; the second declension comprises nouns ending in vowel that have the <-ngô> genitive ending, like <cʮolu> 'youngster, boy or girl', <cʮolungô> 'of the youngster'; the third declension includes nouns ending in either a vowel or a consonant with <-eiô> genitive endings like <eng> 'mother', <engeiô> 'of the mother'. Throughout the *Arte,*

several other oblique-genitive endings can be found, which I present in 4.1.4.2.1.

Example (29) illustrates Carrera's (1644) presentation of the second declension. For each case, I have translated the author's Spanish-Mochica correspondences into English and followed Leipzig glossing rules to refer to his proposed cases.

(29)

| | | | |
|---|---|---|---|
| NOM | \<cɥolu\> | 'the youngster, boy or girl' | (Carrera 1644: 12) |
| GEN | \<cɥolungô\> | 'of the boy' | |
| DAT | \<cɥolung opæn\> | 'for, to the boy' | |
| ACC | \<cɥolu\> | 'the boy' | |
| VOC | \<cɥolu\> | 'boy!' | |
| ABL | \<cɥolu\> \<len\> or \<tana\> | 'with the boy' | |

It was common practice for Carrera, as for all colonial missionary grammarians, to force the described language data to fit the Greco-Latin descriptive patterns, and even though the language in question did not exhibit inflectional case suffixes for every single case, they would accommodate the data to the Latin case system. In the paradigm shown in (29), one can observe that the dative form \<cɥolung opæn\> differs from the basic form of the noun (direct case), this case being expressed with the adposition \<pæn\> and the oblique form \<cɥolungô\>. Interestingly, the adposition \<pæn\> has two different uses and behaviors. It can be used as nominal inflection to express a "dative" as registered by Carrera in his declension paradigms, meaning 'to' or 'for' according to the *Arte*. It can also be used as a non-inflecting adposition meaning 'as', expressing essive case according to my own interpretation (see

4.1.4.3.2.4.4.). Middendorf (1892: 97, 100) also recognizes both uses and behaviors, respectively. In order to stick to the Latin paradigm, Carrera (1644: 12) includes two postpositions <len> and <tana> as expressing ablative case. I interpret <len> and <tana> as comitative case adpositions (see 4.1.4.3.2.2.4. and 4.1.4.3.2.2.5., respectively).

### 4.1.4.2. Case inflectional system

Middendorf (1892: 96) and Adelaar ([2004] 2007a: 332) propose a case system with a "clear nominative-genitive distinction" for the Mochica language. According to Iggesen (2013) a two-term case system is based on a binary opposition (minimal pair). The inflectional system of Mochica is represented by a minimal case paradigm that contains two members. A binary opposing case system in a language implies an overtly marked case category expressing a specific function (oblique case) and a corresponding zero-marked base form, used as "default case" or "direct case", even if it has no specific grammatical function (Iggesen 2013). After examining the Mochica data, I surmise that it is more appropriate to refer to it as a direct-oblique distinction. I prefer to use the direct-oblique distinction because even though "genitive" is the only overtly marked case, it has several functions depending on the context in which it appears. The oblique marker behaves as (a) a relational in combination with some adpositions (see example 30), (b) a genitive when expressing possession (see example 31), and (c) an ergative when expressing agentivity in ergative constructions (see example 32). I will use the gloss OBL for the oblique-relational and the oblique-genitive functions, and ERG for the oblique-ergative function.

Example (30) shows the behavior of the oblique as a relational between the noun <pol> 'heart' and the adposition <nic>, which expresses inessive case:

(30)    &lt;polenic&gt;                                          (Carrera 1644: 158)

pol-      e-        nic

heart-    OBL       INE

'in the heart'

Example (31) shows the personal name Pedro with the oblique marker &lt;-ng&gt;, which has a genitive function:

(31)    &lt;Pedrong colæd&gt;                                    (Carrera 1644: 6)

Pedro-  ng                col-    æd

Pedro-  OBL               horse-  REL

'Pedro's horse'

Finally, example (32) shows the oblique suffix with an ergative function:

(32)    &lt;Pedrong az xllip quem&gt;                            (Carrera 1644: 70)

Pedro-  ng                az     xllip-  qu-    em

Pedro-  ERG               2SG    call-   BEN-   VAL<sub>EM</sub>

'Pedro is calling me'

### 4.1.4.2.1. Oblique suffixes

According to the information provided by Carrera (1644), and to the examples provided in the *Arte,* one can find more oblique suffixes than those presented in Carrera's three nominal declensions. Specifically, I will present the following endings: &lt;-ær(ô)&gt;, &lt;-(V)ng(ô)&gt;, &lt;-e(iô)&gt;, &lt;-i(iô)&gt;, &lt;-u(iô)&gt;, &lt;æ&gt; and &lt;-en&gt;. However, before doing so, it is necessary to explain the nature of the recurrent element &lt;-ô&gt;, which follows the oblique forms in many cases. Carrera (1644: 1) informs us that this &lt;ô&gt; / &lt;o&gt; has to be pronounced independently. This is the reason why, as anticipated by Adelaar ([2004]

2007a: 334), this element "has to be assumed as a grammatical element of its own". In his analysis of this element, Adelaar suggests that <ô> / <o> indicates the predicative character of the genitive noun. Adelaar ([2004] 2007a: 333-334) considers it an adjectivizer and glosses it as AJ. In the same vein, Hovdhaugen (2004) glosses <ô> as ADJR (adjectivizer). However, this interpretation does not explain the independent character provided by the suffix <ô>. I consider this suffix a nominalizer, in particular, a possessive nominalizer, because it appears in combination with the oblique-genitive), creating a nominal that refers to a possessed item but does not directly modify the possessed item; see examples (33) - (37). The gloss I propose for this nominalizer is POSS.NMLZ. In fact, the possessive nominalizer can trigger the same kind of derivation with any noun in the oblique-genitive and the possessive adjectives, as in example (35), or the pronouns (in oblique-genitive), as in example (36).

I believe that the recording of the possessive nominalizer is motivated by the colonial grammarian's need to present the nouns according to the Latin grammatical tradition, that is, offering the nominative and genitive forms of each noun in order to fully classify the nouns in terms of declensions. The element <ô> appears suffixed to the oblique-genitive forms of Carrera's nominal and pronominal declensions. An important detail in this respect is that these are the citation forms. This means that the examples are cases of nouns outside a possessive construction or, better said, they stand by themselves and do not modify a possessed item directly but refer to it. This suffix presents two allophones whose selection is determined by the ending of the oblique marker. When the oblique marker ends in a vowel, it occurs as <-io> and when in a consonant, as <-ô>.

Example (33) shows the case of an oblique marker that ends in a consonant, occurring with the possessive nominalizer <-o>:

(33)    <cꝗolungô>                                            (Carrera 1644: 12)

cꝗolu-    ng-                ô

boy-      OBL-               POSS.NMLZ

'the boy's'

Example (34) illustrates an oblique marker ending in a vowel, followed by the possessive nominalizer <-io>. Note that the oblique mark shown in (34) has an accent mark. Carrera (1644) does not always mark this oblique marker and there does not seem to be a rule for its accentuation.

(34)    <ponéio>                                             (Carrera 1644: 145)

pon-              é-            io

sister in law-    OBL-         POSS.NMLZ

'the sister in law's'

Examples (35) and (36), respectively, show a possessive adjective and an interrogative pronoun with the oblique-genitive case function, in combination with the possessive nominalizer <-ô>:

(35)    <tzhæng ô>                                           (Carrera 1644: 17)

tzhæng            ô

2S.OBL            POSS.NMLZ

'yours'

(36)   <iñô>                                         (Carrera 1644: 21)

iñ-                ô

who.OBL        POSS.NMLZ

'whose?'

Example (37) is a clear case in which the predicative character mentioned by
Adelaar is shown. The noun is able to function as a predicate due to the
nominalization triggered by the suffixation of <-ô>.

(37)   <Mocɥilpi ang mæiñ eng eio>                    (Carrera 1644: 1)

Mo            cɥilpi  ang   mæiñ        eng   e-    io

DET.PROX      blanket COP   1SG.OBL     mother OBL-  POSS.NMLZ

'This blanket is my mother's'

*4.1.4.2.1.1. Suffix <-ær(o)>*

This suffix is used with nouns ending in a consonant (Carrera 1644: 10). See
example (38), in which <efquic> 'father' occurs with the suffix <-ær>. It is
important to note that the noun <efquic> is the absolute form of <ef> 'father',
in combination with the suffix <quic>, a derelational which makes it possible
to use this inalienably possessed noun in its absolute form.

(38)   <efquicær>                                     (Carrera 1644: 207)

ef-       quic-   ær

father-   DEREL-  OBL

'of the father'/'the father's'

*4.1.4.2.1.2. Suffix <-ng>*

This suffix is used with nouns that end in a vowel (Carrera 1644: 11). Most of the examples present <-ng> interacting with <ô> or <o> (like in example (33)). In example (39), <fanû> 'dog' occurs with the ending <-ng>:

(39)    <fanûng o>                                        (Carrera 1644: 145)

     fanû-    ng                o

     dog-     OBL               POSS.NMLZ

     'the dog's'

*4.1.4.2.1.3. Suffix <-e>*

Carrera (1644: 10) presents <-eio> as the suffix of his third declension, stating that it is used for nouns ending either in a vowel or a consonant. Confronting this information with the attested examples, it appears evident that the oblique suffix is not <-eio>, but only <-e>, as already noted by Hovdhaugen (2004: 22); see example (40). The search for examples of stems ending in vowel was fruitless. As stated by Hovdhaugen (2004: 22), the distribution of this suffix is wide among monosyllabic and polysyllabic nouns.

(40)    <cocædeio>                                        (Carrera 1644: 145)

     cocæd-   e-                io

     aunt-    OBL-              POSS.NMLZ

     'the aunt's'

This suffix <-e> seems to have allophones, namely <-i>, <-u> and <-æ> (4.1.4.2.1.4., 4.1.4.2.1.5. and 4.1.4.2.1.6., respectively). These allophones would be the result of a vowel harmony process triggered by genitivization. As seen in 3.4.1., Mochica exhibits complex vowel alternations. In chapter 3,

I examined how the addition of the oblique suffix <-ng> onto pronouns triggered vowel alternations in the root affecting the height feature of the vowel. Examining the case of the oblique suffix allophones here, one can conclude that genitivization definitely triggers height vowel harmony independently of the suffix involved.

*4.1.4.2.1.4. Suffix <-i>*

Carrera (1644: 8) reports the suffix <-i>, providing examples with <æix> (unknown meaning), <ixll> 'sin' and the Spanish loan word for 'God' <Dios>. Examining the *Arte*, one finds other examples with this suffix. The noun ending does not seem to affect the selection of this suffix. The noun may end in a consonant, as in (41) or in a vowel, as in (42). Nevertheless, in the case of <æix> (unknown meaning), <ixll> 'sin', and <ñaiñ> 'bird', the vowel <i> preceding the consonants <x>, <xll> and <ñ>, exhibits the same quality as this oblique marker <-i>. Genitivization of these words triggers height harmony; however, in this particular case, since the preceding vowel is already the high front unrounded vowel /i/, it cannot be raised more and thus stays as /i/. In any case, this does not apply to the following cases: <ñac> 'saliva', <rac> 'puma', <far> 'festivity', <sser> 'flatus', <ssel> 'mucus', <ñiet> 'excrement' and <cul> 'blood'.

(41)  <ñaiñiio>                                    (Carrera 1644: 144)

    ñaiñ-    i-             io

    bird-    OBL-        POSS.NMLZ

    'the bird's'

(42)    <çilôiô>                                              (Carrera 1644: 13)

    çilô-              i-              ô

    ?-                OBL-           POSS.NMLZ

*4.1.4.2.1.5. Suffix <-u>*

There are two nouns reported by Carrera that have the oblique suffix <-u>. The only two cases registered in the *Arte* are shown in (43) and (44). Carrera (1644: 7) mentions that there are very few other nouns that behave the same way, without registering them in his grammatical description or religious texts. In the following examples (43) and (44), the root vowel, i.e. the high-mid back rounded vowel /o/ is followed by the oblique suffix, which in its turn is the high back rounded vowel /u/.

(43)    <colûio>                                              (Carrera 1644: 7, 14, 120)

    col-         u-              io

    horse-      OBL-           POSS.NMLZ

    'the horse's'

(44)    <olu nic>                                             (Carrera 1644: 260)

    ol-         u              nic

    fire-       OBL            INE

    'in the fire'

*4.1.4.2.1.6. Suffix <-æ>*

Carrera (1644: 7, 9) registers the oblique suffix <-æ>, assigning it only to the noun <cɥap> 'roof'; see example (45). Nevertheless, one can find the same oblique ending attached to the numerals <tap> 'nine': <tapæio> (Carrera

1644: 182) and <çiæcҁ> 'ten': <çiæcҁæio> (Carrera 1644: 182), as Hovdhaugen (2004: 22) states correctly.

(45)  <cҁapæio>                                        (Carrera 1644: 7)

    cҁap-    æ-          io

    roof-    OBL-         POSS.NMLZ

In this case, the preceding low front unrounded vowel /a/ becomes the oblique suffix <æ>.

4.1.4.2.1.7. Suffix <-en>

Carrera (1644: 6, 9) registers the suffix <-en> as the third genitive of nouns that have <e(io)> as their first genitive. Regarding this topic, Carrera (1644: 4) claims that Mochica nouns bear three genitives. Carrera (1644) attempts to clarify what the first, second and third genitives refer to in the following way. Taking the noun <ef> 'father' as an example, the first genitive would be the nominal resulting from attachment of the oblique form to the possessive nominalizing suffix <ô> / <o>, presented in 4.1.4.2.1. The first genitive would thus be <ef-e-io>, 'the father's'. This first genitive represents Carrera's citation form. The second genitive would be the nominal with the oblique ending <-e>, after the possessive nominalizer <-io> has been removed, that is, <ef-e->. The third genitive corresponds to the special marker <-en>, which occurs with <ef> when it us used as the agent of an ergative construction, resulting in <ef-en> (Carrera 1644: 6, 9, 98). The colonial grammarian explicitly says that this ending is used with certain nouns, namely, kinship terms in passive constructions. Torero (2002: 353) considers this ending "a special agentive mark" and interprets this special marking as inverse marking. Adelaar ([2004] 2007a: 335) analyzes this ending as a "special case ending to indicate the agent in a passive construction".

The most original approach is that of Hovdhaugen (2004: 23), which terms this ending "agentive case" and segments it into two elements <-e-n>. According to Hovdhaugen's analysis, this suffix <-e-n> is composed of the oblique case marker <-e> and the agentive case marker <-n>. I adopt Hovdhaugen's proposal as his approach would also help to explain the rise of a new case marker (the ergative case marker), through a mechanism that has been called multilayer case marking (Kulikov 2009: 445) or case layering (Malchukov 2010: 140). Hovdhaugen's agentive marker <-n> attaches to the oblique form of the noun, ending in <-e>. In spite of the fact that it is difficult to be sure about the origin of this element <-n>, I hypothesize that it may be the oblique suffix <-ng> that typically attaches to nouns ending in a vowel (4.1.4.2.1.2.). The <-en> mark would be the result of a case layering mechanism in which the first layer would be the oblique suffix <-e> and the second layer would be the <-n> suffix. I speculate that this suffix <-n> would be the suffix <-ng> which is the voiced velar nasal /ŋ/ (3.8.). In case this would be actually the suffix <-ng>, it may have lost its velar feature and begun to be pronounced as the voiced alveolar nasal /n/.

A possible motivation for the use of an extra suffix like <-ng> would be to avoid ambiguity that could arise if the only available marker of ergative case were <-e> since <e> is one of the three invariant copulas in Mochica, which are shown in 5.2. In any case, the suffix <-ng> is used as an ergative marker when the noun ends in a vowel, see example (47b). As such, the innovative case marker <-en> can be interpreted as the ergative case marker that expresses the agent (A) of ergative constructions; see example (46). Carrera (1644: 12, 13, 98) mentions that it is attached to a very specific noun class: kinship terms and some other nouns that Carrera does not specify. Attested examples in Carrera (1644) show that pronouns marked as ergative have exactly the same form as the ones used in oblique case, see example (47a).

With other nouns or personal names, the attached ergative case markers are the same as the other oblique suffixes: <-ær> or <-ng>; see example (47b).

Example (46) shows the kinship term <eng> 'mother' occurring with the ergative case marker <-en>:

(46)   <Engen eiñ tzhacær>                                    (Carrera 1644: 11)

Eng-           en            =eiñ    tzhac-  ær

Mother        ERG          =1SG    take-   VAL<sub>ER</sub>

'My mother is taking me'

The following example (47a) demonstrates how the interrogative pronoun <eiñ> 'who' gets inflected with the oblique marker and functions as an agent.

(47a)  <iñ iñ xllip quèm?>                                    (Carrera 1644: 115)

iñ                =iñ    xllip    qu    èm?

who.ERG         =1SG   say     CAUS   VAL<sub>EM</sub>

'Who is calling me?

Example (47b) is the answer to the question posed in (47a) 'Who is calling me?'. The answer is 'Pedro (is calling me)'. The personal name 'Pedro' appears inflected through the oblique suffix <-ng>, signaling agency.

(47b)  <Pedrong>                                             (Carrera 1644: 115)

Pedro-ng

Pedro- OBL/ERG

'Pedro (is calling me).'

*4.1.4.3. Adpositional case system*

Hovdhaugen (2004: 21-25) identifies a direct, an oblique and an agentive case in Mochica, besides he identifies two Mochica adpositions: locative-allative <-nic> and ablative <-ich>. Adelaar ([2004] 2007a: 332-333) acknowledges that the postpositions "may be case suffixes rather than postpositions". In the same line, Torero (2002: 332) considers that "the case functions were accomplished through the use of genitivized postpositions". The use of descriptive labels for adpositions is common among descriptive linguists because adpositions have the same function as cases (Haspelmath [2008] 2012: 508). Adpositions are considered analytic case markers, in opposition to synthetic case markers (Blake [2001] 2004: 9). In this respect, adpositions are free forms that mark the relation between the dependent noun and the governor of the adposition (Blake [2001] 2004: 9, 196). Moreover, in languages where inflectional case and adpositions co-occur, the adpositional system offers much finer distinctions than the inflectional system (Blake [2001] 2004: 196). This is very well illustrated with Mochica data. One identifies several adpositions that attach to nouns in either the oblique or direct case.

In order to best showcase the available Mochica data concerning adpositional case, I prefer to present two classifications. The first level of my classification divides the many adpositions into two groups, the first group including inflecting adpositions and the second group including non-inflecting adpositions. The second level of my classification involves a subclassification of the case markers and the adpositions in abstract (grammatical) cases, concrete non-spatial cases, spatial cases and directional cases. A division similar to my first level of classification was made by Middendorf (1892: 96-100), who defined adpositions (*Postpositionen* for him) as those that occurred

with either genitive or accusative case. In this respect, it should be noted that there is no morphological accusative case suffix in Mochica. In the same line, Hovdhaugen (2004: 54-55) treats the adpositions in two groups, mentioning that they "govern either the direct or the oblique case form of the preceding noun or pronoun". He unfortunately does not account for them all. Torero (2002: 338-339) has a slightly different approach, classifying the adpositions in four groups: (a) simple suffixes (i.e. non-inflecting), (b) compound suffixes, (c) postpositions that attach to the noun in the genitive and (d) the privative *pir*.

### 4.1.4.3.1. Inflecting and non-inflecting adpositions

The following classification (Table 8) was constructed based on the information provided by Carrera (1644: 120-134); this classification also takes into account the inflectional properties of the adposition.

Table 8.   Inflecting and non-inflecting Mochica adpositions

| Inflectional adpositions-oblique | example | Noninflectional adpositions-direct | example |
|---|---|---|---|
| \<nic\> 'inside' | \<Iglesiang nic\> 'in the church' (Carrera 1644: 120) | \<tim\> 'because of, for' | \<ixllæss tim\> 'for (our) sins' (Carrera 1644: 213) |
| \<capæc\> 'on top' | \<colu capæc\> 'on the horse' (Carrera 1644: 120) | \<pæn\> 'as' | \<alcalde pæn\> 'as mayor' (Carrera 1644: 121) |
| \<lecɥæc\> 'on top' | \<messang lecɥæc\> 'on the table' (Carrera 1644: 121) | \<na\> 'through' | \<Limacna\> 'through Lima' (Carrera 1644: 131) |

| Inflectional adpositions-oblique | example | Noninflectional adpositions-direct | example |
|---|---|---|---|
| <ssecæn> 'under' | <chilping ssecæn> 'under the blanket' (Carrera 1644: 121) | <len> 'together with' | <Dios len> 'with God' (Carrera 1644: 240) |
| <lec> 'toward', 'at' | <Pedrong lec> 'to Pedro's' (Carrera 1644: 121) | <tana> 'with' | <Dios tana> 'with God' (Carrera 1644: 122) |
| <lucчæc> 'among' | <mechercær lucчæc> 'among women' (Carrera 1644: 121) | <fæiñ> 'with' (when mixing) | <æp fæiñ> '(mixing) with salt' (Carrera 1644: 122) |
| <pæn> 'for', 'to' | <mecherrcærô pæn> 'for the woman' (Carrera 1644: 10) | <tot> 'with' | <Dios i eng tot> 'with the mother of God' (Carrera 1644: 206) |
| <er> 'with' | <lactung er> 'with whips' (Carrera 1644: 118) | <ich> 'from' | <enec ich> 'from home' (Carrera 1644: 128) |
| <tutæc[92]> 'in front of', 'before' | <justiciang tutæc> 'before the grand jury' (Carrera 1644: 165) | <mæn> 'because of', 'according to[93]' | <Ponçio Pilatong ssap mæn> 'according, because of Pontius Pilate's order' |
| <turquich[94]> 'behind' | <llemking turkich> 'behind the mountain' (Middendorf 1892: 97) | | (Carrera 1644: 207) |

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[92] <tutæc> is mentioned in Carrera (1644: 160).

[93] Middendorf (1892: 99).

[94] <turquich> is mentioned in Carrera (1644: 159), but I could not find an example in use. One finds the case of <ich turquich> 'why?' (Carrera 1644: 124).

| Inflectional adpositions-oblique | example | Noninflectional adpositions-direct | example |
|---|---|---|---|
| <funæc[95]> 'according to' | <Dios i ssap e fænæc> 'according to God's commandment' (Carrera 1644: 246) | <totna> 'towards' | <Mucup totna> 'towards Mócupe' (Carrera 1644: 132) |
| <lequich> 'from inside' | <efe lequich> 'from (inside) my father's home' (Carrera 1644: 128) | | |

Source: Carrera (1644: 120-134)

In this table I do not include the only attested preposition in the *Arte*: <pir> 'without' (Carrera 1644: 122), which does not correspond to case inflection. An example with <pir> would be <pir moix> 'without soul' (Carrera 1644: 122). In Table 8, one can see different adpositions attested. It seems that all adpositions of Colonial Mochica were not registered, Carrera (1644: 123) claiming that it would be to "proceed ad infinitum" if all the adpositions (in his words, prepositions) would need to be registered and suggesting that one learn them by using the language. Furthermore, he asserts that there are more adpositions that govern the oblique case and that there are some rare ones that behave as prepositions.

### 4.1.4.3.2. Classification of the morphological case markers and the adpositions

Case and adpositions are closely related. They express similar functions; they both code semantic roles. While case markers are affixes and attach to their hosts, adpositions can be seen as independent constituents (Kittilä, Västi &

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[95] <funæc> is mentioned in Carrera (1644: 161).

Ylikoski 2011: 3). As a generalization, Kittilä, Västi & Ylikoski (2011: 4) claim that there are clear differences in the nature of the roles expressed by cases versus those expressed by adpositions: adpositions are semantically more specific, and cases are more abstract in nature. As proposed in 4.1.4.2., the Mochica case system is a direct-oblique distinction. Nevertheless, there are several adpositions that behave in the same way as case markers. In this regard, it needs to be said that I consider the adpositions (all of the registered ones being postpositions apart from one) difficult to define, their register and description being, to some extent, quite vague. One counts on Carrera's (1644) orthography, which can be misleading in many cases. I believe that some postpositions function as case markers, and not only as postpositions. In this section, my intention is to classify the attested case markers and adpositions. In this manner, I will present abstract cases in 4.1.4.3.2.1., concrete non-spatial cases in 4.1.4.3.2.2., spatial cases in 4.1.4.3.2.3., and directional cases in 4.1.4.3.2.4.

### 4.1.4.3.2.1. Abstract cases

Abstract cases are also called grammatical cases. Examples include nominative, accusative, absolutive and ergative. These cases express grammatical relations: subject and object (Kittilä, Västi & Ylikoski 2011: 4). In this respect, abstract cases in Mochica consist of the following: direct DIR, oblique OBL and ergative ERG. Direct case corresponds to absolutive case used to mark subjects of intransitive verbs and objects of transitive verbs. I also include the adposition used to express dative DAT <pæn> 'for' in this group of abstract cases.

*4.1.4.3.2.2. Concrete non-spatial cases*

The postpositions I present in this section express more concrete cases, but not spatial cases. In what follows, I briefly attempt to describe each of them, offering corresponding examples.

*4.1.4.3.2.2.1. Instrumental (INS) <fæiñ> 'with'*

Only one example with this adposition is attested in the *Arte*, along with a brief explanation of its meaning 'with' and how it is used to describe something having been mixed with another. Example (48) shows how <fæiñ> is used.

(48)   <nucon æp fæiñ, cio [sic] xllac>                    (Carrera 1644: 122)

     nuc-    on    æp    fæiñ    cio    xllac

     bring-    IMP    salt    INS    ANA    fish

     'Bring that fish (mixed) with salt'

*4.1.4.3.2.2.2. Instrumental (INS) <-er> 'with'*

Carrera himself (1644: 122) calls <-er> an "instrumental", offering several examples. This postposition is found throughout the *Arte*; see example (49).

(49)   <puper of cætzh cædo moiñ>                    (Carrera 1644: 122)

     pup-    er    o    =f    cætzh-    c-    ædo    moiñ

     stick-    INS    REL$_1$    =COP    hit-    BEN-    PTCP    1SG

     'I was hit with stick(s)'

*4.1.4.3.2.2.3. Comitative (COM) <tot> 'with'*

This postposition does not occur with an oblique form of the noun it gets attached to; see (50). Based on all the attested examples in the *Arte*, one can conclude that it is used with nouns, in general animate nouns, like people or God, and pronouns.

(50)    <Maria miñæp tot>                                (Carrera 1644: 189)

      Maria    miñæp tot

      Maria    miñæp COM

      'with Maria Miñæp[96]'

This adposition seems to constitute a part of adverbs such as <çæctotna> 'downwards' (Carrera 1644: 125) and <olecɥtotna> 'upwards' (Carrera 1644: 125) and <totna> itself (Carrera 1644: 132), which is not an adverb but a postposition expressing allative case, meaning 'towards' (ALL).

*4.1.4.3.2.2.4. Comitative (COM) <len> 'with'*

The postposition that expresses comitative case is similar to <tot> in the sense that it is used mainly with animate nouns and pronouns; see example (51).

(51)    <tzhang len>                                    (Carrera 1644: 205)

      tzhang  len

      2SG      COM

      'with you'

---

[96] Miñæp is a Mochica surname.

*4.1.4.3.2.2.5. Comitative (COM) <tana> 'with'*

The postposition <tana> has the same meaning as <tot> and <len>. After checking all occurrences of all three comitative adpositions, I conclude that <tana> differs from the other two mainly because it appears in combination with pronouns, as well as animate and inanimate nouns. Example (52) shows a case of <tana> with the inanimate noun <ærc[97]> 'flesh'.

(52)    <ærqueng tana>                                    (Carrera 1644: 209)

    ærc-     eng     tana

    flesh-   DEREL   COM

    'with flesh'

*4.1.4.3.2.2.6. Abessive (ABESS) <pir> 'without'*

This is the only attested adposition in Mochica that is a preposition. It has been called "privative" by Torero (2002: 339). I personally take it to express abessive case. Interestingly, this preposition demands some relationality from the noun it attaches to. For instance, nouns that can be possessed alienably, need to adopt the relational suffix. The examples I have collected are the Spanish loans <Baptismo> 'christening' (Carrera 1644: 220) and <Bulla> 'Bula' (Carrera 1644: 251) and the Mochica word <ixll> 'sin'. These nouns need a relational suffix <-Vss> when combined with <pir>; see example (53). In the case of a nominalization used in a context in combination with <pir>,

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[97] For stems that terminate in /k/, I transcribe the underlying form with <c> to maintain consistency, even though it is written <qu> when followed by a suffix beginning with [e] or [i]. See similar examples in (52), (56), (71), (77), (153), (154), (166), (186) and (194).

the nominalizer's final <c> becomes <r>; see example (54), which is the corresponding form of a nominalization in its possessed form.

(53)   <pir Baptismoss>                                    (Carrera 1644: 220)

pir        Baptismo-        ss

ABESS    Christening-    REL

'without Christening'

(54)   <pir chiçær>                                         (Carrera 1644: 255)

pir        chi-        çær

ABESS    be-        EVENT.NMLZ

'without judgement'

*4.1.4.3.2.2.7. Similative <mæn> 'as'*

The meaning of this postposition is difficult to determine. Carrera (1644: 160) offers two meanings, namely, 'through' and 'as'. Example (55) shows <mæn> when meaning 'as'.

(55)   <Dios efquic mæn>                                  (Carrera 1644: 198)

Dios      ef-        quic        mæn

God        father-    DEREL    SIM

'as God the Father'

Nevertheless, the attested examples in the *Arte* show clearly that this postposition also means 'according to' (see 4.1.4.3.2.2.10.).

*4.1.4.3.2.2.8. Causal-final (CAU) <tim> 'for the purpose of', 'because of'*

According to Carrera's account (1644: 121), <tim> means 'for the purpose of' or 'because of'. The missionary grammarian explains, as well, that it can sometimes be attached to the postposition <na> 'through', with the same meaning as that of the original <tim>. See (56) for an example of <tim>. This postposition can appear with nouns and pronouns.

(56)   <tzhæng choquiçær tim>                     (Carrera 1644: 256)

     tzhæng           choc-    içær              tim

     2SG.OBL       rise-    EVENT.NMLZ   CAU

     'because of your Resurrection'

*4.1.4.3.2.2.9. Acolytive <funæc> 'according to', 'following'*

Acolytive is a label I coined myself after the Greek noun ἀκόλουθος which means 'assistant' or 'follower'. I decided to use this label to describe the meaning of the adposition <funæc> 'according to' or 'following'. I assume this meaning based on the attested examples in the *Arte*. The adposition <funæc>, also represented as <fænæc> in the *Arte,* is one of the several spatial relation markers the Mochica language presents. It requires the noun to be in the oblique case. The origin of this adposition is a body part term: <fon>, 'nose'. This way, <fun-æc> can be segmented into [nose-DEREL]. Example (57) shows the use of <funæc> orthographically represented as <fænæc>:

(57)   <Espiritu Santong ssap efænæc>              (Carrera 1644: 217)

     Espiritu Santo- ng     ssap- e       fænæc

     Holy Spirit-   OBL    mouth-OBL   ACOL

     'according to the Holy Spirit's word'

*4.1.4.3.2.2.10. Acolytive <mæn> 'according to', 'following'*

The postposition <mæn> also means 'according to', 'following'; see example (58). The difference between <mæn> and <funæc> is that <mæn> does not demand the noun in combination to be in the oblique case as <funæc> does.

(58)    <santa madre Iglesiang ssap mæn>                    (Carrera 1644: 189)

       santa    madre  Iglesia-      ng      ssap    mæn

       holy    mother church-    OBL    mouth  ACOL

       'according to the Holy Mother Church'

*4.1.4.3.2.3. Spatial (local) cases*

*4.1.4.3.2.3.1. Inessive/allative INE/ALL <nic> 'inside' / 'to', 'towards' 'goal of motion'*

The postposition <nic> (59) has been proposed as a case marker by Hovdhaugen (2004: 24). Hovdhaugen identifies this suffix as a locative/allative suffix. However, I believe that <nic> can be segmented into two elements: <n-ic>. The first element would correspond to the oblique marking that Carrera represents as <-ng>, and <-ic> would be a rudimentary locative marker <-ic>, which sometimes appears as <-ic> alone, and sometimes as <-æc>. This suffix <-ic> seems to be a non-productive locative case marker which is lexicalized, for instance, in this postposition.

(59)    <cuçiang nic>                                        (Carrera 1644: 191)

       cuçia-          ng    nic

       heaven-      OBL    INE

       'in the heaven'

*4.1.4.3.2.3.2. Adessive (ADE) <lec> 'by', 'at'*

Adessive case expresses presence or adjacency/proximity: 'at' or 'near' (Blake [2001] 2004: 195). The postposition that expresses this case in Mochica is <lec>. Nouns that combine with this postposition inflect for the oblique case (60).

(60)    <Pedrong lec>                                    (Carrera 1644: 121)

      Pedro-  ng                lec

      Pedro-  OBL               ADE

      'at Pedro's'

*4.1.4.3.2.3.3. Antessive (ANTE) <tutæc> 'in front of'*

This postposition finds its origin in a body part term, <tot>, which means face. This way, <tut-æc> can be segmented into [face-DEREL]. Nouns that combine with this postposition inflect for the oblique case, as shown in (61).

(61)    <justiciang tutæc>                               (Carrera 1644: 165)

      justicia-        ng      tutæc

      justice-         OBL     ANTE

      'in front of justice'

*4.1.4.3.2.3.4. Postessive (POSTE) <turquich> 'behind'*

A postessive case marker indicates position behind something. This use is an extended meaning, as the example provided (62) is a metaphor, not a spatial position. In Mochica, the postessive case is expressed by the postposition <turquich>. This postposition can be segmented into two elements <turq-ich>, the second element is the ABL postposition <-ich>, while the first element

remains unknown. The postposition is part of the question word 'why', as exemplified in (62). <Turquich> governs the oblique case; in (62), the interrogative pronoun 'what' <ech> appears in the oblique case <ich>, in combination with <turquich>.

(62)    <ich turquich>                                      (Carrera 1644: 124)

ich                       turquich

what.OBL                  POSTE

'why'

*4.1.4.3.2.3.5. Superessive (SUPE) <capæc> 'on top'*

The superessive case expresses a meaning of 'on top of', 'over, 'above'. This is expressed in Mochica by the postposition <capæc>, which demands the use of oblique, as shown in (63).

(63)    <mo æizi capæc>                                     (Carrera 1644: 202)

mo              æiz-    i       capæc

DET.PROX        earth-  OBL     SUPE

'on this earth'

*4.1.4.3.2.3.6. Superessive (SUPE) <lecɥæc> 'on top'*

This postposition can actually be better understood as a spatial relation marker, its origin being the body part term for 'head' <lecɥ>. This way, <lecɥæc> can be segmented into [head-DEREL].

(64)    <messang lecɥæc>                                    (Carrera 1644: 121)

messa-  ng      lecɥæc

table-  OBL     SUPE

'on the table'

### 4.1.4.3.2.3.7. Subessive (SUBE) <ssecæn> 'under'

Subessive case is expressed in Mochica with the postposition <ssecæn> 'under'. There are only two examples of the use of <ssecæn>. Example (65) illustrates one of these two examples.

(65)   <cɥilping ssecæn>                           (Carrera 1644: 121)

    cɥilpi-         ng         ssecæn

    blanket-       OBL       SUBE

    'under the blanket'

### 4.1.4.3.2.3.8. Intrative (INTRT) <lucɥæc> 'among'

The intrative case expresses the notion of the preposition 'amidst'. In Mochica, this is expressed by the postposition <lucɥæc>, which is derived from the body part term <locɥ> 'eye'; this way, <lucɥ-æc> can be segmented into [eye-DEREL], as shown in example (66). Salas (2012b: 148-149) offers an iconic interpretation of this postposition.

(66)   <mechercær lucɥæc>                         (Carrera 1644: 121)

    mecherc-       ær         lucɥæc

    woman-        OBL       INTRT

    'amongst women'

*4.1.4.3.2.4. Directional cases*

*4.1.4.3.2.4.1. Ablative/elative (ABL/ELA) <ich> 'from'*

This case is expressed with the aid of the postposition <ich>. Hovdhaugen (2004: 25) identifies this suffix as an ablative case marker. See example (67).

(67)    <Ñam paxllæcich>                              (Carrera 1644: 128)

    Ñam paxllæc-   ich

    Lambayeque-   ABL

    'from Lambayeque'

*4.1.4.3.2.4.2. Allative (ALL) <totna> 'towards'*

This postposition seems to be composed of two adpositions: <tot> and <na> and expresses allative case (direction towards).

(68)    <Mucup totna>                                 (Carrera 1644: 132)

    Mucup            totna

    Mocupe           ALL

    'towards Mocupe'

*4.1.4.3.2.4.3. Perlative (PER) <na> 'through'*

Hovdhaugen (2004: 53) analyzes <na> as adverbializer; nevertheless, the examples and explanation by Carrera (1644: 131) suggest that it is not. Carrera's own translation is the Spanish word "por" 'through'. This postposition expresses perlative case, the meaning of 'through' or 'along', according to Blake ([2001] 2004: 153).

(69)     <Xllapcæpna>                                    (Carrera 1644: 131)

Xllapcæp-        na

Mochumi-        PER

'through Mochumi'

*4.1.4.3.2.4.4. Essive (ESS) <pæn> 'as'*

Finnish is another language that has the essive case, where among other functions, it expresses a state of being. Based on the attested examples in the *Arte,* the postposition expresses the meaning of 'as'.

(70)     <ñang pæn>                                      (Carrera 1644: 189)

ñang                pæn

husband            ESS

'as husband'

*4.1.4.3.2.4.5. Elative (ELA) <lequich> 'out of', 'from (the inside of)'*

This postposition is definitely the result of the combination of ADE <lec> and ABL <ich>. Carrera (1644: 128) explains that <lequich> can be used to express 'from the home of', as illustrated in (71).

(71)     <Pedrong lequich>                               (Carrera 1644: 130)

Pedro-  ng        lec-      ich

Pedro-  OBL        ADE       ABL

'from Pedro's home'

*4.1.4.4. Multilayer postpositional compounds*

In Mochica, one finds what I call multilayer postpositional compounds. These compounds are innovated adpositions that are the result of the combination of three layers of case-marking elements: (a) the inflectional case, i.e. the oblique case, (b) a primary postposition, which according to the attested examples, can be the locative/allative postposition <nic> (spatial adposition) and (c) a secondary postposition, which is in all attested examples, the ablative postposition <ich> (directional adposition). Examples (72) - (74) show cases of multilayer postpositional compounds; in all of these examples, the third element <u> is only there as an orthographic convention, following Spanish orthography rules. The phonetic sequence [ki] is spelled <qui> in Spanish. Thus, the structure of the compound present in examples (72) - (74) can be represented as [OBL-INE-ABL]. In (73) the oblique form is <-ng>, in (73) it is <-i>, and in (74) it is <-e>.

(72)    <infiernong niquich>                                (Carrera 1644: 205)

infierno-        ng        niquich

hell-            OBL       INE.ABL

'from inside hell'

(73)    <Ixllinquich>                                       (Carrera 1644: 228)

Ixll-     i-       nquich

sin-      OBL-     INE.ABL

'from amidst the sin'

(74)    <eng e pol en quich>                                (Carrera 1644: 198)

eng-     e               pol-     e-              nquich

mother- OBL              womb-  OBL-            INE.ABL

'from inside his mother's womb'

## 4.2. Adjectives

An adjective is a word that can be used in a noun phrase to specify some property of the head noun of the phrase (Payne [1997] 2003: 62). There are very few attested adjectives, both in colonial and post-colonial Mochica sources. Adjectives precede the nouns modifying them, many times needing the presence of the relational suffix <-o>, which I label REL1 (75). The relational REL1 is attached to the adjective, and in the case of a plural form, it gets attached to the noun after the plural suffix (76). Adjectives inflect like nouns for number (77) and case (78), but there are very few examples that prove this last statement. In this respect, Carrera (1644: 109) states that the adjectives can inflect for case when they appear by themselves, that is, without modifying a noun.

(75)  <ûtzho col>                                          (Carrera 1644: 15)

ûtzh-       o          col

big-        REL1       horse

'big horse'

Since plural marking is not mandatory in Mochica, adjectives do not always inflect for number; however, there are examples where the plural suffix appears in combination with adjectives, as in the case of (76), where the plural marker <-æn> is attached to the adjective <ûtzh> 'big'. Note that in this example the plural suffix is attached to the adjective and not to the noun, the adjective being the only and sufficient plural marking for the whole noun phrase, which means that it was not necessary to mark both adjective and noun with the plural marker.

(76)    <ûtzhæno col>                                          (Carrera 1644. 135)

    ûtzh-      æn-      o          col

    big-       PL-      REL1       horse

    'big horses'

There are some examples in which adjectives seem to behave as nouns, even accepting the multilayer postpositional compound <-inquich>, constituted of the oblique <-i>, the contracted form of <nic>, i.e. <nq(u)>, which expresses inessive case, and the postposition <ich>, which expresses ablative case (this was noted first by Hovdhaugen, 2004: 27); see example (77). Interestingly, all attested examples occur with the adjective <piss> 'bad', 'evil'.

(77)    <pissin quich>                                         (Carrera 1644: 205)

    piss-      i-       nc-        ich

    bad-       OBL-     INE-       ABL

    'from evil'

Furthermore, in the *Arte* there are several examples of noun phrases and prepositional phrases, such as in example (78), where the prepositional phrase, made up of the preposition <pir> and the relational REL1, becomes a modifier for the noun and behaves as an adjective.

(78)    <pir ssonæng ò ñofæn>                                  (Carrera 1644: 171)

    pir              ssonæng        ò          ñofæn

    ABESS            wife           REL1       man

    'man without wife' (single)

## 4.2.1. Gradation of adjectives

### 4.2.1.1. Comparative and superlative

Carrera (1644: 109-111) explains the formation of the comparative and superlative constructions and offers examples. He states that these two constructions do not differ much from each other. Judging on the basis of the attested examples, I conclude that the structures are similar, but differ from each other as can be seen in (79) and (80). In a comparative construction we will find the element <lecɥna> 'more' as the first element followed by the adjective involved. The personal marker clitic gets attached to the adjective. After the clitic comes the main element that is being compared. The final element of the comparative construction is the amalgamation of the noun expressing the standard of comparison, in the oblique case, and the elative postposition <lequich>. Thus, a comparative construction can be represented as [lecɥna ADJ=CLITIC- main compared element referent-OBL.ELA].

(79)   <lecɥna tarroz tzhang Pedrong lequich>              (Carrera 1644: 110)

   lecɥna        tarr          =oz    tzhang  Pedro-ng        lequich

   more          strong        =2SG   you     Pedro-OBL       ELA

   'You are stronger than Pedro'

(80)   <lecɥna tzhu toz tzhang mæin [sic] lequich>          (Carrera 1644: 110)

   lecɥna        tzhut   =oz    tzhang          mæiñ          lequich

   more          small   =2SG   you             1SG.OBL       ELA

   'You are smaller than me'

*4.2.1.2. Superlative*

According to attested examples, the superlative construction can be formed as follows. First, as can be observed in (81), the relative pronoun <can> occurs preceding the adjective, in this case <peñ> 'good'. Attached to the adjective comes the clitic <=az> 'you are'. This whole first part of the structure in (81) would then mean 'you are the good one'. The second part of the structure means 'amongst all women' where <izçæc> means 'all'. The whole structure in (81) would then mean 'you are the good one amongst all women' or 'you are the best amongst all women'.

(81)   <canpe ñaz tzhang, izçæc mecher çær [sic] lequich>        (Carrera 1644: 205)

can              peñ    =az    tzhang izçæc mecherc-       ær

who/that         good   =2SG   2SG    ALL   woman-         OBL


lequich

ELA

'you are the good/best amongst all women'

## 4.3. Pronouns

Pronouns in Mochica are free forms that can fill the position of a noun phrase in a clause.

## 4.3.1. Personal pronouns

Mochica personal pronouns inflect for number and case. In relation to number, only the third person plural receives the suffix <-æn>; the other personal

pronouns (1PL and 2PL) have a distinct plural marking: <-ich>. The case of the third person plural <aiong-æn> shows how an element ending in a vowel, such as <aio>, needs the presence of <-ng> to accept the plural ending <-æn>. The question in this case is whether this <-ng> suffix is the oblique marker or just a hiatus filler. Regarding case marking on pronouns, the personal pronouns inflect for oblique case and function as possessive adjectives or ergative agents in ergative constructions; see Table 9.

Table 9.    Personal pronouns in Mochica

|  | **Personal pronouns in direct case** | **Personal pronouns in oblique case** |
|---|---|---|
| 1SG | <moiñ> | <mæiñ(ô)> |
| 1PL | <mæ**ich**> | <mæ**ich**(ô)> |
| 2SG | <tzhang> | <tzhæng(ô)> |
| 2PL | <tzhæ**ich**> | <tzhæ**ich**(ô)> |
| 3SG | <aio> | <aiung(ô)> |
| 3PL | <aiong **æn**> | <aiong **æn**(ô)> |

Even though there is typically no overt marking for accusative case in the language, Carrera (1644:17) registers two alternatives for the accusative of the first person plural, namely <mæich> 'us' and <ñof> 'us'. This second alternative <ñof> appears in the religious texts and in the *Our Father* and *Salve Regina* prayers. Example (82) is extracted from the *Salve Regina*:

(82)    <ñô quecan ñof>                                      (Carrera 1644: 210)

    ñôque-    c-       an      ñof

    show-    BEN-   IMP    1PL.ACC

'Show us!'

## 4.3.2. Demonstratives

Demonstratives inflect for number and case. Carrera (1644: 18-21), presents three demonstratives, but he does not explain the criteria for the election of his terminology when referring to them. He uses the Latin terms *hic, iste, ille* and *is* in a confusing way. He presents <mo> as the equivalent to the first and second person demonstratives, i.e., he translates <mo> as both *hic* 'this' and *iste* 'that', and he presents <aio> as the demonstrative for the third person, *ille* 'that which is farther away', 'that over there'. As can be seen, the third person pronoun <aio> shares the same form as the demonstrative <aio>.

Moreover, Carrera presents <çio> as *is,* which in Latin refers to 'this or that already mentioned', i.e., it does not have reference in space but in the conversation (Lewis & Short [1879] 1958: 1003). Carrera's way of presenting the demonstratives has led to two different interpretations. Adelaar ([2004] 2007a: 331) prefers to classify <mo> as "close", <çio> as "neutral" and <aio> as "far", while Hovdhaugen (2004: 30-31) assumes <mo> is 'this', <aio> is 'that' and <çio> is "he, she, it".

Although Carrera's (1644) description of the demonstratives has led to some confusion, it nonetheless seems to indicate that the system had only the distinction between proximal and distal demonstratives in relation to the expression of distance of the referred object and the speaker. The third demonstrative, very often used in the religious texts by Carrera (1644), was used when referring to something or someone already mentioned or about to be mentioned. In comparison with the other two demonstratives, <çio> cannot be used without a context. In this fashion, the Mochica demonstrative system consists of two demonstratives related to space, <mo> and <aio>, which I call

spatial demonstratives, and one demonstrative that refers to something/someone mentioned or about to be mentioned in a context; I have decided to call this third demonstrative a discourse or anaphoric demonstrative.

Mochica demonstratives behave as pronouns and as adjectives, depending on the context in which they appear; see examples (83) and (84), respectively.

(83)  &lt;pir ñang o çio&gt;                                    (Carrera 1644: 170)

pir      ñang          o       çio

ABESS    husband       REL₁    ANA

'that one/she without husband' (single)

(84)  &lt;mo cuicaca&gt;                                         (Carrera 1644: 112)

mo       cuicaca

PROX     skull

'this skull'

The demonstratives in Mochica inflect for number, and the suffix represented orthographically as &lt;-ng&gt; is needed for attachment of the plural ending, as shown in Table 10.

Table 10. Mochica demonstratives

| Spatial demonstratives | Singular | Plural |
|---|---|---|
| proximal | &lt;mo&gt; 'this' (PROX) | &lt;mongæn&gt; |
| distal | &lt;aio&gt; 'that' (DIST) | &lt;aiongæn&gt; |
| **Anaphoric demonstrative-** | **Singular** | **Plural** |

| | |
|---|---|
| <çio> 'that' (ANA) | <çiong**æn**> |

Demonstratives inflect for case, as well. In Table 10, I present the demonstratives inflected for oblique case. Nevertheless, I need to add information provided by Carrera (1644: 18-20), who claims that the demonstratives inflect for accusative case, as well. Accusative case is otherwise not a productive case in Mochica, but it seems to be that it affects both the demonstratives and the first person plural pronoun, as seen in 4.3.1. With regard to demonstratives, the accusative forms would be as follows: <mo> DIR, <moss> ACC; <aio> DIR, <aioss> ACC and <çio> DIR, <çioss> ACC.

## 4.3.3. Interrogative pronouns

Interrogative pronouns inflect for case, but not for number; see Table 11. There are three interrogative pronoun roots: <eiñ> 'who', <ech> 'what' and <in> 'where'.

Table 11. Mochica interrogative pronouns

| Interrogative pronouns-direct case | Interrogative pronouns-oblique case |
|:---:|:---:|
| <eiñ> 'who?' | <iñ> |
| <ech> 'what?' | <ich> |
| <in> 'where?' | <eiñ> |

Examples (85) - (87) show the use of these interrogative pronouns.

(85)  <Eiñ æz?>                                                  (Carrera 1644: 21)

    Eiñ              =æz

    Who.DIR        =2SG

    'Who are you?'

(86)  <Icho pæn ong mo?>                                   (Carrera 1644: 22)

    Ich-        o      pæn-   o    =ng    mo

    What.OBL-   REL1   DAT-  REL1  =COP  PROX

    'What is the purpose of this?

(87)  <inong loc?>                                         (Carrera 1644: 126)

    in-      o    =ng   loc

    where-  REL1  =COP  be

    'Where are you?'

## 4.3.4. Indefinite pronouns

I could find three distinct indefinite pronouns in the *Arte*: <onæc> 'one', which inflects only for case (oblique), having no plural form at all (Carrera 1644: 20), and <timo> 'other' (Carrera 1644: 23) and <izçæc> 'everything, all' (Carrera 1644: 24), which inflect both for case and number, as illustrated in Table 12.

Table 12.  Indefinite pronouns

|  | **Indefinite pronouns-direct case** | **Indefinite pronouns-oblique case** |
|---|---|---|
| **Singular** | <onæc> 'one' | <oncærr(ô)> 'one's' |
| **Singular** | <turræc> 'some' | ? |
| **Singular** | <tim(o)> '(the) other' | <tim nang (ô)> '(the) other's' |
| **Plural** | <tim nang æn> 'the others' | <tim nang æn (ô)> 'the others'' |
| **Singular** | <izçæc> 'all' | <izcær(ô)> |
| **Plural** | <izçæcæn> 'all' | <izcær æn (ô)> |

Examples (88) - (91) exemplify the use of these indefinite pronouns as indefinite determiners. In spite of the fact that Carrera registers these elements as pronouns within their entire declension paradigms, there are no attested examples in the *Arte* of the use of these words being used as free pronouns.

(88)    &lt;onæc pelen&gt;                                        (Carrera 1644: 123)

onæc    pelen

one     day

'one, some day'


(89)    &lt;Az manado turræc casaro mecherræc?&gt;          (Carrera 1644: 167)

Az      man-   ado     turræc  casaro          mecherræc

2SG     eat-   PTCP    some    married         woman

'Have you had sex with a/some married woman?'


(90)    &lt;Manapcoz turræc, fanu, cabra, yegua, timo aninalæzta?  (Carrera 1644: 168)

Man-   ap-    c-    o      =z      turræc  fanu    cabra   yegua

Eat-   MID-   BEN-  REL₁   =2SG    some    dog     goat    mare


tim-   o      animal          æzta

other- REL₁   animal          NEG

'Do not you fornicate with some dog, goat, mare or other animals?'


(91)    &lt;izçæc      mecherræc&gt;                         (Carrera 1644: 15)

Izçæc       mecherræc

All         woman

'all women'

## 4.3.5. Relative pronoun <can> / <canang>

Carrera (1644: 15) explicitly states that there is only one relative pronoun available, but he records two forms: <can> and <canang>. However, one can be certain that the relative pronoun is <can> alone, as the form <canang> clearly contains the third person clitic, <=ang>. Example (92) is another example of <can> functioning as a relative pronoun. In this case, the second person clitic <=az> appears attached to <can>, as Carrera chose to illustrate the pronoun.

(92)    <mosso næng, canaz piicæm Dios çiec en>            (Carrera 1644: 15)

mo          ssonæng      can      =az     pii-    c       æm      Dios

DEM.PROX    wife          RELA    =2SG    give-   BEN     VAL_EM  God


çiec      en

lord      ERG

'this wife that the Lord God gives to you'

Carrera (1644: 16) goes further with the explanation of <can>, stating that in order to create a relative clause, one should deploy a participial construction: in Mochica, nominalizations serve relativizing functions, as will be presented in Chapter 7, which is dedicated to nominalizations.

## 4.3.6. Quantifiers

Quantifiers are expressions whose meanings involve the notion of quantity, such as the ones resembling English *several*, *every, each, all, every,* and so forth (Gil 2013b, 2015: 707). Hovdhaugen (2004: 32-33) decides to call them "words meaning each, own". He includes <çifçif> 'each one' and <çifa

'own, each' in his classification. I personally suggest that the following items be classified as quantifiers: <tunituni> 'many' (Carrera 1644: 15; example (93) and <çif(a)> 'each one' (Carrera 1644: 124; example 94). Based on the attested examples, I do not consider <çifçif> a quantifier. Rather, <çifçif> is better translated as the Spanish term "sendos", which has a distributive character, meaning "one for each one of the persons or items already mentioned" (DPD 2005).

(93)   <tunituni ñofæn>                                    (Carrera 1644: 15)

     tunituni          ñofæn

     many              man

     'many men'

(94)   <çifa ixllæs tim>                                    (Carrera 1644: 235)

     çifa      ixll-    æs       tim

     each     sin-     REL      COM

     'with each (one) sin'

## 4.4. Numerals and numeral classifiers

### 4.4.1. Numerals

Mochica has a decimal system with two forms of numerals, namely, the free forms that are used to enumerate and calculate, as in abstract counting, and a set of bound forms that are used in combination with numeral classifiers (Table 13).

Table 13. Free and bound numerals in Mochica

|  | Ten-based numerals<br>Carrera (1644: 181) | Bound forms<br>Carrera (1644: 185) |
|---|---|---|
| 'one' | <onæc> | <na> |
| 'two' | <atput> | <pac> |
| 'three' | <çopæt> | <çoc> |
| 'four' | <nopæt> | <noc> |
| 'five' | <exllmætzh> | - |
| 'six' | <tzhaxlltzha> | - |
| 'seven' | <ñite> | - |
| 'eight' | <langæss> | - |
| 'nine' | <tap> | - |
| 'ten' | <çiæcɥ> | - |

The following examples show the use of these free (95) and bound forms (96):

(95)   <onæc ñaiñ>                                                              (Carrera 1644: 103)

   onæc    ñaiñ

   one      hen

   'one hen'


 (96)   <çoc pong cɥelû>                                                     (Carrera 1644: 186)

   çoc                  pong                cɥelû

   three.bound     NUM.CLF.ten     hawk

   'thirty hawks'

There are a couple of important things to consider regarding the numerals; first, one has to consider the possibility of fossilized numeral classifiers, which

is suggested by some of the free form numerals of Mochica. The Mochica numeral <onæc> 'one' may have been a lexicalized item <-Vc> (segmentable as <on-æc>). Taking into account the following other numerals <a(t)put> '2', <çopæt> '3' and <nopæt> '4', one discovers another potential ending <-pæt>[98]. The word for 'tree' in Mochica is <nepæt>, which is a plausible etymology of this potential classifier. These numerals '1' to '4' are free forms — in contrast to their coexisting Mochica bound forms, that are attached to numeral classifiers. As stated above, these free forms are used for citing or reckoning.

In languages that have classifiers, it is common to find numerals recorded with extra morphology (for an example from Hibito and Cholón, see Eloranta, 2017). One piece of evidence for this conclusion is that, cross-linguistically, general classifiers tend to be attached to the citation form of numerals, probably because speakers tend not to count in abstract terms, but rather conceptualize numbers as reckoned items or objects. Therefore, one can suggest that the elements <-æc> and <-pæt> were likely nominal elements such as nominal classifiers that remain fossilized in the numerals[99].

## 4.4.2. Numeral classifiers

Mochica has a set of attested morphemes, called "ways of counting" by Carrera (1644: 181-188), which are in fact numeral classifiers. They are used to count in pairs: <luc> and <felæp>; in tens <pong>, <ssop>, <cɥo(quixll)>

---

[98] Variation between <u>, <æ> and <i> is very common in the Mochica colonial representations.

[99] Numeral classifiers occur in numerical or quantifying expressions, and noun classifiers occur independently of other modifiers in a noun phrase (Aikhenvald 2000: 90).

and <cæss>; in hundreds, <palæc> and <chiæng>; and in thousands, <cunô>. There are also two mensural classifiers, <col> and <ñofæn>. The classifier <xa>[100] is used for counting times. In (97) I offer an example of a noun phrase containing a numeral classifier, namely <pong>, which is used to count in tens. Chapter 8 is dedicated to the explanation of the Mochica numeral classifier system.

(97)   <exllmætzh pong cuculì>                                                (Carrera 1644: 183)

exllmætzh          pong                cuculì

five                  NUM.CLF             dove

'fifty doves'

## 4.5. Word formation

I have identified the following word formation mechanisms in the Mochica language: compounding (4.5.1.), derivation (4.5.2.) and reduplication (4.5.3.).

## 4.5.1. Compounding

A compound is a word formed from two or more different words. The dominant semantic property of compounds is that the meaning of a compound is either more specific than or completely different from the combined meanings of the words involved in the compound (Payne [1997] 2003: 92-92). In relation to the process of compounding, I have identified two types of compounds: adjective-noun compounds (4.5.1.1.) and noun-noun compounds (4.5.1.2.).

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[100] Hovdhaugen (2004: 26) considers <xa> an ordinal and a frequentative suffix. Salas (2011b) calls this element both a quantifier and an operator.

### 4.5.1.1. Adjective-noun compound

The single example of an adjective-noun compound noun is presented in (98). It is the case of \<tzhuted\> 'uvula' (Carrera 1644: 180), which can be segmented in \<tzhut\> 'small', 'little' and \<ed\> 'tongue', which shows that 'uvula' in Mochica meant 'little tongue', most probably because of its shape.

(98)    \<tzhuted\>                                          (Carrera 1644: 180)

    tzhut-    ed

    small-    tongue

    'uvula'

### 4.5.1.2. Noun-noun compound

There are two ways of forming a noun-noun compound in Mochica. The first strategy is to attach one noun to the other with the aid of an oblique marker; see example (99). The other strategy of attaching two nouns is pure juxtaposition; see example (100). The following cases exemplify noun-noun compounds: \<locɥe chiçis\> (Carrera 1644: 181), \<locɥe catæn\> 'lacrimal' (Carrera 1644: 180), \<cul xllang\> 'sunset' (Carrera 1644: 187), \<lecɥ chipæc\> 'adult' (Carrera 1644: 145).

(99)    \<locɥe chiçis\>                                     (Carrera 1644: 181)

    locɥ-    e        chiçi-    s

    eye-    OBL      girl-    REL

    'pupil of the eye[101]'

---

[101] In Spanish, the "girl of the eye" is the literal translation of the "pupil of the eye". It is questionable whether this term for pupil was originally a Mochica term, as it looks very much like a calque from Spanish.

(100)   \<cul xllang\>                                                    (Carrera 1644: 187)

     cul       xllang

     blood   sun

     'sunset'

## 4.5.2. Derivation

Derivation in word formation implies addition of affixes; in what follows I present several derivational affixes of Mochica.

### 4.5.2.1. Preposition \<pir\>

I have found in the *Arte* the following examples of new words that constitute the result of the combination of the preposition \<pir\>, which means 'without' and a noun. For instance, we have \<pir ssonæng\> which means 'single man' (literally 'without wife') where \<ssonæng\> means 'wife' (Carrera 1644: 146); \<pir ñang\> 'single woman' or literally 'without husband' where \<ñang\> means 'husband' (Carrera 1644: 146) and \<pŭrchópok\> which means 'the evil' (Middendorf 1892: 58). The case of this last example is interesting because it is represented with different orthography than the one used by Carrera (1644). In Middendorf's orthography the word \<pir\> 'without' appears written as \<pŭr\> and the noun following, i.e. \<chópok\> is the result of the process of nominalization derived from verb \<chi-\> 'to be' and the agentive nominalizer \<-pæc\>. The word \<chipæc\> had several meanings according to the *Arte*, such as 'the being', 'judgement', 'grace', etc. Satan, the evil, would be 'the one without grace'.

*4.5.2.2. Suffix <–cu>*

The suffix <-cu> seems to be a productive derivational suffix that helps to create new nouns, but its semantics are not clear. The following nouns are the result of the affixation of <-cu> to an existing noun: <ñangcu> 'male' (Carrera 1644: 28), <quichcu> 'pinkie' (Carrera 1644: 178), <lecцcu[102]> 'thumb' (Carrera 1644: 178), <eizcu[103]> 'abdominal cavity' (Carrera 1644: 178). Let us take example (101) to illustrate this derivation with the aid of <-cu>. In this case, <ñangcu> can be segmented into two elements: <ñang> and <-cu>, <ñang> meaning 'man' (Carrera 1644: 145) and <-cu> remaining unknown.

(101)   <ñangcu>                                          (Carrera 1644: 28)

     ñang-   cu

     man-   cu

     'male'

*4.5.2.3. Suffix <-mæd>*

The suffix <-mæd> means "to do something in company with" (Carrera 1644: 26). This suffix, according to Carrera (1644: 26), gets affixed to a verb, resulting in a nominal that refers to the person who does something together with others or the act of being together with others (Carrera (1644: 26);

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[102] The word <lecцcu> can be segmented into <lecц> and <-cu>, where the first element <lecц> means 'head'.

[103] The word <eizcu> can be segmented into <eiz> and <-cu>, where the first element <eiz> means 'child'. Note that the same element is present in the word for 'uterus' <eiztic> (Carrera 1644: 180) where the first element is <eiz> 'child' and the second element <-tic> is a locative nominalizing suffix, as will be presented in 7.1.1.3. The element <eiz> means 'child'.

Hovdhaugen (2004: 68)). Example (102) shows the case of the nominal resulting from the affixation of <-mæd> to the verb <ñeiñ-> 'to play'.

(102)   <ñeiñmæd>                                             (Carrera 1644: 27)

    ñeiñ-    mæd

    play-    mæd

    'the one who plays in company with'

Hovdhaugen (2004: 68, fn 58) suspects that this suffix is also present in the word 'brother' <cɥecɥmæd> and, following the pattern for nouns derived from verbs after affixation of <-mæd>, he wonders which verb this word derives from. My suspicion is that this word does not derive from a verb, but rather from another noun <cɥecɥ>, which corresponds to the body part term for 'cheek'. The same kind of process, that is the affixation of <-mæd> to a noun, seems to have occurred in the formation of the words registered by Middendorf: <chächmäd> 'sister's sister' (Middendorf 1892: 58) and <kässmäd> 'cousin' (Middendorf 1892: 58).

### 4.5.2.4. Derivation with negation suffix <-un(o)>

The affixation of the suffix <-un(o)> consists of a derivational process which results in a new lexical item that expresses negation. Under the rubric of negation, the concept involved in this process is privation rather than merely contrary negation. The examples and translations provided by Carrera (1644: 139-140) clarify that this suffix means 'without doing something'. The derivational suffix is actually only <-un>, the vowel <-o> being the relational REL$_1$; see example (103). The cases where this form <-o> appears are the ones in which the resulting form has an attributive function, as an adjective modifying the noun.

Besides this relational, the <-un> suffix accepts the ending <-ta>, as well; see example (104). This element <-ta> occurs regularly in combination with the negative suffix <-un> / <-æn> as <unta> / <ænta>, and according to multiple attested examples in the *Arte*, one can infer that this form mainly appears when accomplishing a predicative function, as can be seen in (104).

(103)  <quemuno Maria>                                      (Carrera 1644: 210)

      quem-           un-       o       Maria

      maculate-     NEG-    REL$_1$   Maria

      'immaculate Maria'

(104)  <Dios i eng æpæc çæn que munta>                      (Carrera 1644: 261)

      Dios-    i       eng     æpæc çæn    quem-       unta

      God-    OBL   mother always too    maculate-   without

      'mother of God always immaculate'

## 4.5.2.5. Lexical nominalization

Mochica is rich in nominalizations, both lexical and grammatical. I dedicate Chapter 7 to nominalizations. In this section, I will just mention the four nominalizing suffixes, which fill the function of creating nouns from verbs in Mochica. For this purpose, I have created Table 14, which categorizes the nominalizers by type and provides an example of each.

Table 14. Mochica deverbal nominalizing suffixes

| Form | Type of nominalizer | Example | Section |
|------|---------------------|---------|---------|
| <-(V)çVc> / <-(V)ssVc> | event | <læm-> 'to die' <br> <læmiçæc> 'death' | 7.1.1.1. |
| <-(V)pVc> | agentive | <chi-co-> 'to be-CAUS' = 'to create' <br> <chicopæc> 'creator' | 7.1.1.2. |
| <-tVc> | instrumental | <caxll-> 'to urinate' <br> <caxlltæc> 'bladder' | 7.1.1.3. |
| <-Vc> | locative, instrumental, etc. | <man-> 'to drink' <br> <manic> 'drinking vessel' | 7.1.1.4. |

## 4.5.3. Reduplication

Total reduplication is a common and productive word formation process of
Mochica. Total reduplication doubles the entire word or stem, as can be
observed in the following examples in 4.5.3.1. (nouns), 4.5.3.2. (adjectives)
and 4.5.3.3. (pronouns). I have decided to divide the reduplication cases into
these three groups even though one cannot be sure that, for instance,
reduplication of nouns necessarily involves nouns as the input for
reduplication. The lack of information on vocabulary makes this task
speculative. Moreover, one cannot be sure of the specific function of these
reduplications, whether they expose pluralization of the nouns, or
intensification of the adjectives. However, the case of reduplication of
pronouns (4.5.3.3.) clearly deals with pronouns as input; this can be assured
because one can clearly see the pronominal forms in the attested
reduplications.

*4.5.3.1. Reduplication of nouns*

As already stated, one cannot be sure about the original word class that was the base of this reduplication. One only knows the resulting form, which is a noun. The most probable scenario is that the base form is also a noun that gets reduplicated. Considering <poc poc> 'soothsayer-bird' in (105), one can suspect that it is an onomatopeic animal name. The form of the reduplication in (106) is the noun <tuni> meaning 'world', 'town'. Interestingly, after reduplication, this noun conveys the meaning of 'a lot of' or 'many'and I have considered it a quantifier (4.3.6.).

(105)

| | | |
|---|---|---|
| <çac çac> | 'hair' | (Carrera 1644: 177) |
| <lam lam> | 'liver' | (Carrera 1644: 180) |
| <puf puf> | 'lung' | (Carrera 1644: 177) |
| <poc poc> | 'soothsayer-bird' | (Carrera 1644: 144) |
| <rreng rreng> | 'trachea' | (Carrera 1644: 177) |
| <kochkoch> | 'seaweed' | (Middendorf 1892: 61) |
| <semsem>/<somsom> | 'tail' | (Middendorf 1892: 62) |
| <tektek> | 'wing' | (Middendorf 1892: 62) |

(106)

| | | |
|---|---|---|
| <tunituni> | 'a lot', 'many' | (Carrera 1644: 15) |

*4.5.3.2. Reduplication of adjectives*

Even though we do not always know the base form that originates these reduplications, the resulting form after reduplication is an adjective. The best

bet is to suggest that reduplication in this case conveys intensification of the probable original adjective.

(107)

| | | |
|---|---|---|
| <irrirr> | '(very) big' | (Carrera 1644: 194) |
| <tzhic tzhic> | 'inmense' | (Carrera 1644: 194) |

### 4.5.3.3. Reduplication of pronouns

The reduplication of the pronouns <eiñ> 'who', <ech> 'what' and <çif> 'each one' results in some of the forms obtaining a distributive function, see (108). Such a distributive function has been reported for Tamil reduplicated pronouns (Nadarajan 2006: 50). The distributive function implies that the resulting forms "specify different kinds of objects or links to different objects within a relationship". This is the explanation for the formation of <çifçif> and its distributive character, presented in 4.3.6.

(108)

| | | |
|---|---|---|
| <eiñ eiñ> | 'whoever' | (Carrera 1644: 144) |
| <ech ech> | 'everything' | (Carrera 1644: 160) |
| <çifçif> | 'one for each one of the persons or items already mentioned' | (Carrera 1644: 124) |

## 4.6. Noun Phrase structure and word order

### 4.6.1. Noun Phrase structure

The head of a phrase is the element that determines its syntactic function, and the rest of the elements are generally considered dependents (Payne [1997] 2003: 31). Some languages mark the relationship between the head and the dependent on the head, while others mark it on the dependent (Payne [1997] 2003: 31); still others combine both strategies or use none at all (Nichols 1986: 56). Nichols (1986) carried out a typological study based on numerous languages, managing to establish certain patterns of morphological marking that become a consistent choice of marking in the morphosyntax of each language (Nichols 1986: 66; Payne [1997] 2003: 31). Her analysis is based on two concepts: the concept of "headedness" and the concept of presence/location of the morphemes that mark the syntactic relationships (Nichols 1986: 56). A noun phrase's head is a noun that can be modified by several elements. In this section, I will present the modifiers that can can modify the head of the Mochica noun phrase and will account how these elements interact within the NP. In this manner, I will deal briefly with demonstratives in 4.6.1.1., adjectives in 4.6.1.2., numerals and numeral classifiers in 4.6.1.3., quantifiers in 4.6.1.4., and oblique-genitive modifiers in 4.6.1.5.

#### 4.6.1.1. Demonstratives

As stated in 4.3.2. the three demonstratives in Mochica (the proximal PROX <mo>, the distal DIST <aio> and the anaphoric ANA <çio>) can behave as demonstrative pronouns and demonstrative adjectives. When they behave as pronouns, they can themselves function as the head of the NP. When they behave as adjectives, they can be modifiers of the head within anc NP. In

relation to demonstratives, the preferred order in Mochica is [DEM-N], as exemplified in (109).

(109)  <mæiñ efeio angmo cꞟilpi>                        (Carrera 1644: 107)

| mæiñ | ef- | e- | io | ang | mo | cꞟilpi |
|------|-----|----|----|-----|----|--------|
| 1SG.OBL | father- | OBL- | REL₁ | COP | DET.PROX | blanket |

'This blanket is my father's.'

## *4.6.1.2. Adjectives*

There are extremely few attested adjectives in the *Arte.* Adjectives in Mochica appear in the pre-head position. Amongst the few examples of adjectives, there are adjectives behaving as head modifiers and adjectives behaving as independent heads of NPs. Example (110) shows the adjective <peñ> 'good' functioning as the modifier of <nepæt> 'tree'.

(110)  <peño nepæt>                                     (Carrera 1644: 15)

| peñ- | o | nepæt |
|------|---|-------|
| good- | REL₁ | tree |

'good tree'

## *4.6.1.3. Numerals and numeral classifiers*

Numerals and numeral classifiers were presented briefly in 4.4.1. and 4.4.2., respectively. A numeral can either modify the head of an NP or itself be the head of an NP. In general, there are very few examples of numerals modifying an NP head because the manner of counting in Mochica demands the use of numeral classifiers. Both numerals and numeral classifiers occupy the pre-head position when modifying within an NP. In what follows, I present

examples of both a numeral (111) and a numeral classifier (112) modifying an NP.

(111)  <Aio mang metonæc ñaiñ>                        (Carrera 1644: 103)

    Aio     m-     ang     met    onæc    ñaiñ

    DIST   OPT-   COP   bring   one   hen

    'He may bring one hen'

(112)  <noc pong mecherræc>                           (Carrera 1644: 183)

    noc          pong          mecherræc

    four.BOUND   NUM.CLF.ten   woman

    'forty women'

### 4.6.1.4. Quantifiers

Quantifiers precede nouns in Mochica, as in example (93), repeated here as (113).

(113)  <tunituni ñofæn>                               (Carrera 1644: 15)

    tunituni       ñofæn

    many          man

    'many men'

### 4.6.1.5. Oblique modifiers in possessive constructions

Alienable and inalienable possessive constructions include a marked possessor noun in the oblique-genitive case (I offer an exhaustive analysis of nominal possession in chapter 6). Examples (114) - (117) illustrate possessive constructions. The constructions illustrated by (114) and (115) are cases of inalienable possession in Mochica: the possessed noun in both structures is

the same term of consanguinity, 'son', which, in this language, is expressed as possessed by way of the inalienable possession construction.

(114)   <Heuãg eizæn>                                         (Carrera 1644: 210)

      Heua-  ng      eiz-    æn

      Eva-   OBL    child-  PL

      'Eva's children'

(115)   <tzhæng eiz>                                          (Carrera 1644: 205)

      tzhæng        eiz

      2SG.OBL      boy/child

      'your child'

In (114) the possessor is the genitive nominal phrase <Heuãg> 'of Eva', and the head of the construction is <eizæn> 'children'; in (115), on the other hand, the possessor is <tzhæng>, 'you', corresponding to the oblique form of the 2SG, and <eiz> 'son' is the head. Based on examples (114) and (115), it can be determined that the order of the possessor noun/pronoun and the possessed noun is of the GenN type or "genitive preceding head noun" (Dryer 2013).

The examples in (114) and (116) are constructions with a nominal possessor, while those in (115) and (117) have a pronominal possessor. Thus, from these examples, it can be stated that in Mochica there is no deviation from the GenN order, unlike in some languages, where pronominal possession implies a distinctive construction that requires a different word order[104].

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[104] Such alternations in word order occur in French, in which the NGen word order of the nominal genitive ("le père de Jean" 'the father of Jean') contrasts with the word order of the pronominal genitive ("son père" 'his/her/their father') (Dryer 2013).

The GenN order not only occurs in cases of inalienable possessive constructions, but also in alienable possessive constructions, both with nominal and pronominal possessors. The examples in (116) and (117) show alienable possessive constructions:

(116)   <Pedrong colæd>                                    (Carrera 1644: 6)

Pedro-  ng      col-    æd

Pedro-  OBL     llama-  REL

'Pedro's horse/llama'

(117)   <mæiñ colæd>                                       (Carrera 1644: 104)

mæiñ            col-    æd

1SG.OBL         llama-  REL

'my horse/llama'

Crosslinguistically there are numerous strategies used to express possession. In some languages, the possessor occurs with an affix in the genitive case (Croft 1990: 29, Dryer 2013), as can be seen in Mochica. Thus, on the basis of these examples and, as a summary, it can be said that the oblique-genitive case marked on the possessor is a morphosyntactic means (or strategy) that Mochica uses to establish the relationship of possession between two NPs. In addition to the oblique-genitive case marked on the possessor, Mochica employs morphemes suffixed to the head of the possessive phrase that function as relationals, as in (116) and (117). These suffixes suggest that double marking also represents a strategy of expressing possession in this language.

## 4.6.2. Word order in NPs

Table 15 offers a summary of the distribution of the noun modifiers within noun phrases. As can be seen, the only possibility is that all modifiers have a pre-head position.

Table 15.  Distribution of NP modifiers

| type of modifier | pre-head | post-head |
|---|---|---|
| demonstratives | + | - |
| adjectives | + | - |
| numeral | + | - |
| numeral classifiers | + | - |
| quantifiers | + | - |
| modifying nouns | + | - |
| attributive possession | + | - |

*Chapter 5. Verb*

## 5.1. Verbal personal marking in Mochica

Mochica does not deploy verbal affixes for marking person. Instead, this language makes use of special affixes that can be interpreted as clitics, taking into consideration both their promiscuous attachment (they can attach to a range of hosts) and their regular occurrence in second position, as shown in examples (118), (119), (120a), (120b), (120c) and (121). In his attempt to explain these clitics, Carrera (1644: 99-100) presents them as the conjugated forms of the "only one verb in Mochica", that is the "verbum substantivum". Verbum substantivum is the verb 'to be' in the Greco-Latin tradition. As a matter of fact, the affixes he refers to as its declinations are part of a system of non-verbal copulas in Mochica. Adelaar [2004] 2007a: 329-330) refers to these affixes as verbal personal reference markers. Hovdhaugen (2004: 35) calls them personal copula particles. I interpret the markers <-eiñ>, <-az>, <-ang>, <-eix>, <-azchi>, <-ænang> as verbal personal clitics (see Table 16).

Table 16. Mochica verbal personal clitics

|  | regular form | reduced form |
|---|---|---|
| 1SG | =eiñ | =(i)ñ |
| 1PL | =eix | =ix |
| 2SG | =az | =z |
| 2PL | =az-chi | =z-chi |
| 3SG | =ang | =ng |
| 3PL | =ænang | =ng |

The forms that I consider the regular forms are the ones that appear most often in the attested examples in the *Arte*. Those affixes are attached to verbs ending in a consonant. The reduced forms appear attached to verbs ending in a vowel,

which are fairly uncommon. These personal verbal clitics seem to be historically related to the personal pronouns. This hypothesis finds support in the constraint that clearly forbids the use of the personal pronouns in combination with a verb and these clitics. In order to conjugate a verb in the presence of the personal pronouns, one needs to use any of the three invariant copulas, which are presented in 5.2. Examples (118) - (120c) help to clarify this rule. In (118), the presence of the pronoun corresponding to the first person singular <moiñ> makes the example ungrammatical in combination with a conjugated form of the verb <met-> 'bring' and the corresponding verbal personal clitic <=eiñ>.

(118)   *<moiñ meteiñ>                                          (Carrera 1644: 95)

    moiñ    met    =eiñ

    1SG    bring   =1SG

    *'I bring'

In order to create a grammatical example conveying the meaning 'I bring', one has several options. These options are shown in examples (119), (120a), (120b) and (120c). Example (119) demonstrates how the verb is sufficient when combined with the verbal personal clitics. If using the personal pronoun, one needs to combine the verb with a non-verbal copula ((120a), (120b) or (120c)).

(119)   <meteiñ>                                                 (Carrera 1644: 95)

    met    =eiñ

    bring   =1SG

    'I bring'

(120a) <moiñ ang met>                                    (Carrera 1644: 95)

    moiñ     ang     met

    1SG      COP    bring

    'I bring'

(120b) <moiñ e met>                                      (Carrera 1644: 95)

    moiñ     e      met

    1SG      COP    bring

    'I bring'

(120c) <moiñ fe met>                                     (Carrera 1644: 95)

    moiñ     fe     met

    1SG      COP    bring

    'I bring'

Besides this evidence, the forms of the personal pronouns <moiñ> 'I' and <tzhang> 'you', can easily be analyzed as containing these clitics attached to the proximal <m(o)> and anaphoric <ç(io)> demonstratives/determiners, respectively. That is, one could segment these pronouns as <m(o)=iñ> 'this I am' and <tzh=ang> 'that you are' where <tzh-> may be a reduced form of <ç(io)> 'that'.

The following examples (121), (122), (123) and (124) show the promiscuity of the personal verbal clitics. Example (121) shows the 1SG personal verbal clitic <=eiñ> attached to the verb <met-> 'to bring'. As can be seen, the regular form of the clitic is attached to this consonant-final verb.

(121)  <Meteiñ xllac>                                    (Carrera 1644: 98)

    met    =eiñ    xllac

    bring    =1SG    fish

    'I bring fish'

Example (122) shows the second person singular 2SG verbal personal clitic <=az> attached to the adpositional phrase <Dios len> 'with God':

(122)  <Dios len az loc>                                 (Carrera 1644: 210)

    [Dios    len]    =az    loc

    [God    COM]    =2SG    be

    'You are with God'

Example (123) shows the second person singular 2SG verbal personal clitic <=az> attached to the determiner phrase, which contains <pup> 'wood', 'stick' as its head.

(123)  <Mo pupaz    mitæc    moiñ>                        (Carrera 1644: 65)

    [Mo        pup]    =az    mit-    æc    moiñ

    [DET.PROX    stick]    =2SG    bring-    BEN    1SG

    'You bring me this wood'

The following example (124) shows the first person singular 1SG personal verbal clitic attached to the noun phrase constituted by the agent nominalization <çiam chipæc>, which means 'human being'.

(124)  <çiam chipæc eiñ>                                          (Carrera 1644: 45)

    [çiam    chi-    pæc]              =eiñ

    [live     be-     AG.NMLZ]         =1SG

    'I am a human being'

## 5.2. Invariant copulas

Mochica has a system of copulas, which consists of the clitics presented above in Table 16 and a subsystem of three invariant copulas, namely <e>, <fe/-f> and <ang> (see Table 17). These three invariant copulas can alternate with one other without altering the meaning, as Carrera (1644: 31) clarifies with examples. There does not seem to be a clear principle governing their alternation. See examples (125), (126) and (127).

(125)  <Moiñ e>                                                    (Carrera 1644: 30)

    Moiñ    e

    1SG      COP

    'I am'

(126)  <Moiñ ang>                                                  (Carrera 1644: 30)

    Moiñ    ang

    1SG      COP

    'I am'

(127)  <Moin[sic] fe>                                              (Carrera 1644: 30)

    Moin    fe

    1SG      COP

    'I am'

The copula <ang> seems to have a direct **morphological** relation to the third person clitic <=ang>. The copula <ang> is attested in some examples with the following variants: <ng>, <ong>, <æng> (Hovdhaugen 2004: 34).

Table 17.  Nonverbal copulas in Mochica

| <e> |
| --- |
| <fe>, <=f> |
| <ang> |

## 5.3. Copular verbs

Furthermore, Mochica has two copular verbs, namely, <chi> 'to exist', 'to be' and <loc> 'to be', 'to stand' (see Table 18).

Table 18.  Copula verbs in Mochica

| <chi-> 'to exist, to be' |
| --- |
| <loc-> 'to be', 'to stand' |

These two copular verbs occur with the verbal personal clitics. Because the verb <chi-> ends in a vowel, it takes the clitics in their reduced forms (see (128)), and because <loc-> ends in a consonant, it accepts the regular full forms of the clitics (see (129)). The copular verb <loc-> functions as an auxiliary verb when the verb in question is a Spanish loan word, as shown in (130); see Carrera (1644: 147).

(128)  &lt;chi=ñ&gt;              1SG    'I am'                    (Carrera 1644: 37)

      &lt;chi=z&gt;              2SG    'you are'

      &lt;chi=ng&gt;             3SG    'she/he is'

      &lt;chi=jx&gt;             1PL    'we are'

      &lt;chi=zchi&gt;           2PL    'you are'

      &lt;chingæn=ang[105]&gt;    3PL    'they are'

The function of verb &lt;loc&gt; as auxiliary is clearly explained in Carrera (1644: 147), where the colonial grammarian claims that &lt;loc&gt; does not have a proper meaning of his own but takes on the meaning of the verb it combines with; see example (130). Throughout the *Arte,* this verb &lt;loc&gt; does not appear attested conjugated according to all grammatical persons; those attested are shown in (129).

(129)  &lt;loqu=eiñ&gt; / loc=aiñ    1SG                (Carrera 1644: 147)

      &lt;loc=æz&gt; / loc=az       2SG

      &lt;loc=æng&gt;               3SG

Example (130) shows how &lt;loc&gt; behaves as an auxiliary to the Spanish loan verb &lt;confesar&gt; 'to confess'.

(130)  &lt;confessar eiñ loc&gt;                        (Carrera 1644: 147)

      confessar      =eiñ    loc

      confess        =1SG    AUX

      'I am confessing'

---

[105] Adelaar (personal communication, April 24, 2019) suggests that in &lt;chingæn=ang&gt;, the segment &lt;ngæn&gt; may be a hiatus filler.

## 5.4. Tense, Aspect and Mode

It is challenging to fully understand the Mochica verbal paradigm because Carrera (1644) follows the Latin tradition strictly and appears to force the Mochica language to fit its paradigm. Moreover, Carrera's orthographic representation of words is misleading. In order to determine if there is a suffix or an independent particle involved with the verb stem, I follow a simple principle: I take the position of the verbal personal clitic as a reference. Taking the verbal stem into account, I consider suffixes all the elements that attach to it before the clitic is attached. I consider the elements that come after the clitic, to be particles. In this respect, following Carrera (1644), one can summarize that the Mochica verb codes tense, aspect and mode by means of suffixes and separate non-inflecting particles or separate words. The natures or origin of these particles are obscure. Tense, Aspect and Mode "are operations that anchor or ground the information expressed in a clause according to its sequential, temporal, or epistemological orientation" (Payne [1997] 2003: 253). In what follows, I record the forms Carrera (1644) reports in terms of tense, aspect and mood.

### 5.4.1. Tense and Aspect

There are two basic ways in which one can relate an event to a time line. First, by locating events relative to the present moment; in this sense, time location is an essential concept to the linguistic category of Tense. Second, one can discuss a situation's internal temporal contour (whether it is to be represented as a point on the time line, or as a stretch of the time line). This refers to aspectual operations in languages. Aspect is closely related to Tense. While Tense refers to the grammaticalized expression of location in time, Aspect refers to the "grammaticalization of expression of internal temporal

constituency" (Comrie 1985: 6; Dahl & Velupillai 2013; Payne [1997] 2003: 238). Following Carrera's account, I have decided not to tease apart Tense and Aspect and present both in this section. In relation to Tense, I follow the grammarian's proposal and offer a tense system divided into past, present and future.

### 5.4.1.1. Present tense

Present tense refers to the relation between the time an event takes place and the moment the clause has been uttered. In Mochica, present tense was located in a time slot reported in Carrera's account. Carrera's information deals with the concept of past (events) in this language. Carrera (1644: 65) reports that the Mochica speakers considered an event belonging to the past only after ten to twelve hours had passed. This information worried the colonial grammarian, which may have influenced his description of the language following patterns that did not apply to Mochica grammar. The fact that in Mochica there was no grammatical device for expressing all tenses as in Spanish or Latin does not mean that Mochica speakers had a different concept of time. In what follows, I record the forms Carrera (1644) reports concerning tense, aspect and mood.

The present tense is expressed with the basic verb stem and the corresponding verbal personal clitic attached to it; see example (131).

(131)  <Meteiñ xllac>                                     (Carrera 1644: 98)

     Met     =eiñ    xllac

     Bring   =1SG   fish

     'I bring fish'

*5.4.1.2. Past Tense*

In comparison to the present tense, past tense is characterized by the presence of some overt markings that distinguish different past forms in Mochica. Carrera (1644) registers, following the Spanish past forms, the following forms in Mochica: the imperfect indicative ("pretérito imperfecto", see 5.4.1.2.1.), the perfect indicative ("pretérito perfecto", see 5.4.1.2.2.) and the past perfect or pluperfect ("pretérito pluscuamperfecto"; see 5.4.1.2.3.).

5.4.1.2.1. The imperfect (indicative)

The imperfect is expressed through the basic form of the verb attached to the verbal personal clitic (like in the present tense) and the particle <piñ>. Based on both the name Carrera attributes to this tense and on the translation he offers, I suggest this form to have an imperfective aspect. I propose that the particle <piñ> may be an imperfective marker. Hovdhaugen (2004: 57-58) believes that the imperfective character of this particle is only valid with the invariant copula <e> as in <moiñ e piñ> 'I was' (Carrera 1644. 31), and with the copular verb <chi-> as in <chiñ piñ> 'I was' (Carrera 1644: 37). However, example (132) shows how another verb, namely <met-> 'to bring', occurs with the first person verbal personal clitic and the particle <piñ>.

(132) &lt;meteiñ piñ&gt;                                        (Carrera 1644: 47)

     met     =eiñ   piñ

     bring   =1SG   IPFV

     'I was bringing'

5.4.1.2.2. The perfect (indicative)

This tense is expressed with the aid of the participial morpheme <Vd(V)> suffixed to the verb stem; after this suffix, the verbal personal clitic is attached, as presented in example (133). This tense has a perfective aspect.

(133)  <metedaiñ>                                          (Carrera 1644: 48)

met-      ed        =aiñ

bring-    PTCP    =1SG

'I have brought'

5.4.1.2.3. The past perfect or pluperfect

The pluperfect or past perfect is expressed through the perfect (indicative) forms, presented in 5.4.1.2.2., along with the particle <piñ>. This tense has a perfective aspect.

(134)  <metedaiñ piñ>                                      (Carrera 1644: 48)

met-      ed        =aiñ     piñ

bring-    PTCP    =1SG    IPFV

'I had brought'

*5.4.1.3. Future Tense*

There are two ways to express the future in Mochica: with the future particle <ca> (5.4.1.3.1.) and with the aid of grammaticalized verb 'to go' <t-> (5.4.1.3.2.).

5.4.1.3.1. Future particle <ca>

When explaining the future form, Carrera (1644: 33) offers examples with the element <ca>. Considering the distribution of <ca>, I conclude that it is not a

suffix, but rather a particle. The examples provided by Carrera (1644) concern the copular verb <chi-> (135) and the invariant copula <e> (136). Other verbs than those presented in (135) and (136) do not occur with the particle <ca>; the verb <met-> 'bring' and all other verbs behave following the pattern shown below in (138).

(135)   <chiñ ca>                                                    (Carrera 1644: 39)

    chi        =ñ        ca

    be         =1SG      FUT

    'I will be'

(136)   <moiñ e ca>                                                  (Carrera 1644: 33)

    moiñ              e        ca

    1SG.DIR           COP      FUT

    'I will be'

5.4.1.3.2. Verb <t-> 'to go'

Payne ([1997] 2003: 253) and Dahl & Velupillai (2013) claim that future tense markers often derive historically from free-standing verbs meaning 'want', 'come' or 'go'. In Mochica, the verb 'to go' <tæ-> seems to be grammaticalized, as <t-> functions as a future prefix; it preceds the verb stem, which is then followed by the future particle <ca> (137). Example (138) shows how the particle <ca> can be used to express the future tense with verbs other than copular ones. Carrera (1644: 49) explains that the addition of the particle <ca> does not affect the meaning of the future construction in (137).

(137)  \<Tiñ met\>                                    (Carrera 1644: 49)

| T   | =iñ  | met   |
|-----|------|-------|
| go  | =1SG | bring |

'I will bring'

(138)  \<tiñ metca\>                                  (Carrera 1644: 80)

| t   | =iñ  | met   | ca  |
|-----|------|-------|-----|
| go  | =1SG | bring | FUT |

'I will bring'

## 5.4.2. Mode

According to Payne ([1997] 2003: 244), "mode describes the speaker's attitude toward a situation, including the speaker's belief in its reality, or likehood".

### 5.4.2.1. The optative mode

Dobrushina, van der Auwera and Goussev (2013) refer the term optative to "an inflected verb form dedicated to the expression of the wish of the speaker". In Mochica, one discovers the optative form \<ma-\>, which seems to be a verb, as shown in 5.4.2.1.1. Moreover, these authors consider the subjunctive, the desiderative and the imperative as categories related to the optative. That is why I include the imperative category under the optative mood in 5.4.2.1.2.

5.4.2.1.1. The optative form \<ma-\>

The element \<ma-\> appears between the verb stem and the personal verbal clitic. Adelaar ([2004] 2007a: 337) interprets it as desiderative. Middendorf (1892: 139-140) assumes this \<ma-\> morpheme to be a subjunctive form (the

German Konjunktiv) serving as optative. Hovdhaugen (2004: 45-46) sees <ma-> as an irregular verb and refers to it as the "optative-subjunctive verb". I consider the approach that treats this element to be a verb the most appropriate with respect to the position <ma-> occupies and its status as a clitic hosting element. In relation to <ma->, I prefer to think of its function as expressing optative mode. Example (139) shows the paradigm presented by Carrera (1644: 40) with the copular verb <chi-> 'to be'. The same pattern occurs with other verbs, such as <met-> 'to bring''; see (140).

(139)    <chi ma=iñ>          'I may be'                    (Carrera 1644: 40)

           <chi ma=z>          'you may be'

           <chi ma=ng>         'she/he may be'

           <chi ma=ix>          'we may be'

           <chi ma=zchi>       'you may be'

           <ching æn m=ang>    'they may be'

(140)    <met-ma=iñ>         'I may bring'              (Carrera 1644: 81-82)

           <met-ma=z>         'you may bring'

           <met-ma=ng>       'she/he may bring'

           <met-ma=ix>        'we may bring'

           <met-ma=zchi>     'you may bring'

           <met-æn-m=ang>    'they may bring

Interestingly, when the personal pronoun is present in the structure, the formation of the optative is slightly different, due to the constraint rule seen in (118). The presence of the pronoun does not allow the presence of the verbal personal clitic. This way, the verb <ma-> only accepts the ending of one of the invariant copulas <-(a)ng>, as shown in (141).

(141)  <moiñ mang chi>                                    (Carrera 1644: 34)

    moiñ            m     =ang   chi

    1SG.DIR        OPT   =COP   be

    'I may be'

### 5.4.2.1.2. The imperative

Imperatives serve to express the speaker's wish about a future state of affairs. In this respect, they are like optatives; but in contrast to these, they convey an appeal to the addressee(s) to help make the future state of affairs true (van der Auwera, Dobrushina & Goussev 2013).

In general, one can state that Mochica presents a dedicated morphological marker <-an> for the second person singular imperative; this is shown in example (142). For the second person plural imperative, the marking is <an-chi>, as shown in example (143). Interestingly, Carrera (1644: 50) registers the use of the optative for the second person and third person singular and plural as imperative forms; see examples (144a) and (144b). With the small sample of examples with the imperatives formed with the optative forms, one cannot affirm that there would be imperative morphology dependent on the type of verb. The use of the optative in the examples in (144a) and (144b) is probably just the option of weakening the imperative mode when presenting wishes or demands.

(142)  <Metan>                                            (Carrera 1644: 50)

    Met-     an

    bring-   2SG.IMP

    'Bring!'

(143)  <Metanchi>                                        (Carrera 1644: 50)

Met-    an-            chi

bring-  2SG.IMP-       PL

'Bring!'

(144a) <metmaz>                                          (Carrera 1644: 50)

met-    m      =az

bring-  OPT    =2SG

'Bring!' ('You may bring')

(144b) <metmang>                                         (Carrera 1644: 50)

met-    m      =ang

bring-  OPT    =3SG

'He/She may bring'

Carrera (1644: 117-118) explains that the particle <an> can also precede the base form of the verb, when it is in the singular; see example (145). In the plural, the structure changes and the verb comes in between <an> and the pluralizing element <chi>; see example (146). The resulting structures recorded in the *Arte* have an imperative meaning, as noted by Adelaar ([2004] 2007a: 337) and can be translated as 'Come to [verb in infinitive]!'. Adelaar ([2004] 2007a: 337) proposed 'Come and …!' as the translations of these expressions.

(145)  <An man>                                          (Carrera 1644: 138)

An      man

IMP     eat

'Come to eat!'

(146)   &lt;An metchi&gt;                                    (Carrera 1644: 138)

     An     met-   chi

     IMP    bring-  PL

     'Come (PL) to bring (it)!'

## 5.5. Verbal derivation suffixes

In this section, I concentrate on valency markers in Mochica. Mochica presents five valency changing devices: two increasing valency grammatical morphemes, namely, the causative &lt;-co&gt; and the benefactive-applicative &lt;-(æ)c&gt;, and three decreasing valency markers, which I identify and gloss as: valency marker &lt;-æp&gt;, valency marker &lt;-er&gt; and valency marker &lt;-em&gt;. The most common morphological valency decreasing operations are reflexives, reciprocals, passives and antipassives. I prefer to simply call the two latter markers valency markers in spite of their clear origin as passive markers. The valency markers &lt;-er&gt; and &lt;-em&gt; are considered passive marker traces in the discussion of ergativity in 5.6.

### 5.5.1. Valency increasing marker: causative &lt;-co&gt;

The grammatical devices for expressing the general notion of causing someone to perform a certain action, deployed by many languages, are referred to as "causatives" (Palmer 1994: 214). Some languages present a special morphological causative affix, which attaches to the base verb (Palmer 1994: 214; Kulikov 2001: 887). Mochica has a morphological causative suffix &lt;-co&gt;, previously identified by Torero (2002: 358), Adelaar ([2004] 2007a: 339) and Hovdhaugen (2004: 40). Causative constructions can be formed on the basis of intransitive (147) and transitive verbs (148). Example (147) shows the case of the intransitive verb &lt;chi-&gt; 'to be' with the causative &lt;-co&gt;, forming &lt;chico-&gt; 'to create', and example (130) shows the case of the

causative suffix <-co> attached to the transitive verb <met->, creating the form <metco-> meaning 'to make someone bring'.

(147)  <chicopæc>                                            (Carrera 1644: 5)

      chi-     co-     pæc

      be-     CAUS-  AG.NMLZ

      'the creator'

(148)  <metecoiñmola>                                        (Carrera 1644: 65)

      Met(e)- co    =iñ    mo         la

      bring-  CAUS  =1SG  DET.PROX    water

      'I make (someone else) bring this water'

Moreover, the causative appears very often in combination with the decreasing valency marker <-em>, as shown in (149). Hovdhaugen (2004: 40) and Adelaar [2004] 2007a: 339) recognize the frequent occurrence of the combination of both markers and assume the resulting marker to be a "portmanteau form *-quem*". Furthermore, the causative suffix appears in combination with the applicative-benefactive <-(V)c>, as shown in (150).

(149)  <Tzhæng eiñ funoquem>                                 (Carrera 1644: 71)

      Tzhæng      eiñ        funo-  qu-    em

      2SG.OBL     1SG.DIR     eat-   CAUS-  VAL$_{EM}$

      'You make me eat'

(150)  <ixllæss ef quec çæc>                                 (Carrera 1644: 209)

      ixll-    æss    ef-       qu-    ec-    çæc

      sin-    REL    forgive-   CAUS-  BEN-  EVENT.NMLZ

      'forgiveness of sins'

## 5.5.2. Valency increasing marker: applicative-benefactive suffix
<-(V)c>

According to Payne ([1997] 2003: 186), an applicative is a valency increasing operation that brings a peripheral participant into one more central role by making it a direct object. In an applicative construction, "the number of object arguments selected by the predicate is increased by one with respect to the basic construction" (Polinsky 2013). Thus, an applicative construction is an instance of a double object construction. Torero (2002: 352) and Adelaar ([2004] 2007a: 339) have previously called the suffix <-(V)c> applicative, while Hovdhaugen (2004: 40) prefers to call it benefactive. In my analysis, the suffix in question is an applicative, and its semantic role is mainly that of a benefactive. Example (151) shows a benefactive construction with the applicative suffix <-(V)c> attached to verb <met-> 'bring'. The vowel /e/ in <met-> gets raised to /i/, probably by the presence of the benefactive suffix <-(V)c>.

(151)  <mitcan moiñ pei>                                        (Carrera 1644: 109)

      mit-    c-     an     moiñ  pei

      bring-  BEN-  IMP    1SG    grass

      'Bring the grass to me'

## 5.5.3. Valency decreasing marker: Valency marker <-er>

The suffix <-er>, along with its variant <-ær>, is presented in Carrera (1644: 53-59) as a passive marker. I nonetheless have decided not to refer to it as a passive marker. The reason behind this decision lies in the fact that the trace of a passive marking function can be observed in ergative-like constructions.

In a fully developed ergative alignment, such a trace would no longer be identifiable. See example (152) for an ergative construction in Mochica.

(152)  <Engen eiñ tzhacær>                                    (Carrera 1644: 11)

    eng-         en         eiñ    tzhac-  ær

    mother-    ERG       1SG    take-  VAL$_{ER}$

    'My mother takes me.'

## 5.5.4. Valency decreasing marker: valency marker <-em>

The suffix <-em> with its variant <-æm> is presented in the *Arte* as a passive marker. According to the colonial grammarian's explanations and examples (Carrera 1644: 59, 85), one can be quite certain that <-em> and <-er> were interchangeable. Examples (153) and (154) show structures with the valency marker <-em>.

(153)  <Pedrong az xllipquem>

    Pedro-        ng    =az    xllip-    c-       em

    Pedro-        ERG  =2SG  call-    BEN-   VAL$_{EM}$

    'Pedro is calling you'

(154)  <tzhæng eiñ funoquem>

    tzhæng        =eiñ    funo-  c-    em

    2SG.ERG     =1SG    eat-  BEN-  VAL$_{EM}$

    'You are making me eat'

## 5.5.5. Valency decreasing marker: <-æp>

The suffix <-æp> has previously been recognized as a valency reducing marker by Hovdhaugen who also refers to it as a passive marker (Hovdhaugen 2004: 41). Torero (2002: 357-358) suggests that it is a reflexive suffix. Personally, I consider it a middle voice marker. Torero's and my suggestion coincide to some extent, especially if one considers that very often middle voice and reflexives get confused in the literature. I have based my decision to analyze this marker as a middle voice marker on functions of the attested examples, and how they correspond to proposed definitions of middle voice – rather than reflexive – semantics. First, concerning middle forms, Kulikov (2013: 265) claims that they typically concentrate on the activity of the base verb on the first argument, since they intransitivize the base verb. On the other hand, Kulikov (2013: 268) describes the reflexive as a derivation that encodes the referential identity of the main argument of the initial structure and some other argument, as in *Mary likes Mary = Mary likes herself*. After examining the available examples, I think the marker <Vp> is most accurately characterized as a middle. In (155) - (159), I illustrate all the examples attested in the *Arte* containing this valency marker <(V)p> as <-æp> in (155) and (157) and other variants, <-ep> in (156) and (158) and <-up> in (159).

(155)  <eiæp[106] mang tzhæng polæng mæn>                    (Carrera 1644: 203)

| ei- | æp- | m- | ang | tzhæng | pol- | æng | mæn |
|-----|-----|-----|-----|--------|------|-----|-----|
| do- | MID- | OPT- | COP | 2SG.OBL | will- | REL | ACOL |

‘It shall be done according to your will’

---

[106] Salas (2002: 95) claims that <eiæp-> means ‘to believe’ but this is not correct.

(156)  <ñofæn pæn ang eiepædo, Iesu Christo>          (Carrera 1644: 116)

| ñofæn | pæn | ang | ei- | ep- | ædo, | Iesu Christo |
|-------|-----|-----|-----|-----|------|--------------|
| man | DAT | COP | do- | MID- | PTCP | Jesus Christ |

‘Jesus Christ became man’

(157)  <En æz tæpæpnæm>                                (Carrera 1644: 61)

| En | æz | tæp- | æp- | næm |
|----|----|------|-----|-----|
| Wish | 2SG | flog- | MID- | PURP |

‘Do you wish to be flogged?’

(158)  <cꝗumepeiñ>                                     (Carrera 1644: 66)

| cꝗum- | ep | =eiñ |
|-------|-----|------|
| to drink alcohol- | MID | =1SG |

‘I get drunk’

(159)  <rru cꝗup ssæc>                                 (Carrera 1644: 219)

| rrucꝗ- | up- | ssæc |
|--------|-----|------|
| shed- | MID- | EVENT.NMLZ |

‘bloodshed’

## 5.6. Ergative constructions in Mochica

Hovdhaugen claimed that Mochica is a "rather special kind of a split ergative language" (2004: 74), based on the fact that the language exhibits recurrent use of passive constructions and the presence of the "agentive case" –*n*. However, I propose instead that attested examples in Mochica are suggestive of the language's transitional state, from a nominative to an ergative system. This system in transition shows traces of an older accusative-like system, namely the passive markings.

The Mochica ergative system can be seen as a system in development, which means that Mochica has not fully emerged as an ergative language. In order to understand the Mochica ergative system in development, relevant information provided by Carrera (1644: 10[107]) needs to be mentioned: the preferred and more elegant form of speaking Mochica was by means of the so-called passive construction. When explaining the use of the oblique forms with kinship terms and specifying that these forms are used in passive constructions, Carrera adds: "This is the elegant way of speaking, and it is so often used, that they use it so much that they never use active [forms]".

This said, I consider the possibility that the thus far called *passive construction* is the basic transitive clause in Mochica. The non-fully ergative system shows the traces of the passive marking, which in turn shows that it has not completely transformed into a full ergative alignment, where such traces would no longer be present. Examples (160) and (161) show ergative constructions in Mochica:

(160)  <Engen eiñ tzhacær>                                        (Carrera 1644: 11)

  eng-    en      eiñ    tzhac-  ær

  mother- ERG    1SG     take-   VAL_ER

  'My mother takes me.'

---

[107] It is important to note that the pagination in the *Arte* is messy and confusing, sometimes the numeration goes incorrectly like in this case, where according to the original pagination, this quote would be on page 11 but if one follows the pages, it is actually page 10.

(161)  <mæiñ ang metær xllac>                                     (Carrera 1644: 98)

    mæiñ          ang       met-ær        xllac

    1SG.ERG     COP       bring-VAL$_{ER}$    fish

    'I bring fish.'

In a construction like the one exemplified in (160) and (161), the following characteristics can be mentioned:

a.  the verb bears the trace of a passive marking: VAL$_{ER}$ in both cases (160) and (161). The verb seems to be more like a peripheral element. A more advanced ergative system does not show tracking of older accusative valency marker;

b.  the object and intransitive subject are unmarked;

c.  the agent is marked with the oblique case that in these constructions I gloss as ergative ERG, as in (161), but can accept a special marking <-en> if it is a noun belonging to the class constituted of kinship terms, as in (160).

Such a construction is the one I consider the basic transitive clause in Mochica.

## 5.7. Constituent order

It is often assumed that free word order implies a significant amount of morphological marking. Nevertheless, Mochica presents rather free constituent order, with a lack of overt morphological distinction between arguments. Mochica has a preferred order, that is, Agent-Verb-Object order in transitive active clauses and Verb-Subject in intransitive clauses (Hovdhaugen 2004: 72-73). In relation to the free order of arguments in Mochica, Torero (2002: 32) identifies three orders, namely SVO, VSO and OSV, as shown in (162), (163), and (164) and (165), respectively. Mochica

copulas and clitics are constrained to the clause initial or second position (Hovdhaugen 2004: 72-73).

### 5.7.1. SVO Order

(162)  <Moiñ ang met xllac>                                      (Carrera 1644: 97)

 Moiñ ang met xllac

 1SG COP bring fish

 'I bring fish'

### 5.7.2. VSO Order

(163)  <Meteiñ xllac>                                            (Carrera 1644: 97)

 met =eiñ xllac

 bring =1SG fish

 'I bring fish'

### 5.7.3. OSV Order

(164)  <Pupeiñ met mæiñan ainæm>                                 (Carrera 1644: 102)

 pup =eiñ met mæiñ an ai- næm

 wood =1SG bring 1SG.OBL house do- PURP

 'Wood I bring to build my house' / 'I bring wood to build my house'

 'Food I bring for you' / 'I bring food for you'

## 5.8. Clause combinations

In every language there are different ways of combining elements to create more complex expressions. In this section, I deal with the strategies Mochica deploys when combining clauses, which essentially means combining verbs.

Coordination (5.8.1.) and subordination (5.8.2.) are the means of combining clauses in Mochica.

## 5.8.1. Coordination

The term coordination refers to the linkage of two or more clauses of equal grammatical status. In this way, it involves a syntactic construction in which units of the same type get combined into a larger unit while still retaining the same semantic relations with other surrounding elements such as verbs, phrases, subordinate clauses or full sentences (Haspelmath 2007: 1). All languages seem to have morphosyntactic means of achieving coordination. The particle or affix that serves to link the elements of a coordinate construction is called the coordinator. The most common coordinator is 'and' and its equivalents in other languages, but other semantic types of coordinators also exist, such as 'or', 'but' and 'for'. Each of these coordinators create different coordinations: conjunctive, disjunctive, adversative and causal, respectively (Haspelmath 2007: 1-2). One can find all of these coordinate constructions in Mochica, shown in examples (166) - (169) below; all coordinators and coordinations in Mochica were first noted by Hovdhaugen (2004: 59-63), who calls the coordinators "conjoining particles".

### 5.8.1.1. Conjunctive coordination

The conjoining element <allo> meaning 'and', 'also', 'too', according to attested examples, is used to conjoin numerals, as in <pacpong allo onæc> 'ten and one'. Hovdhaugen (2004: 59-60) considers that <allo> functions as a coordinator of clauses; however, the only element I would consider to be a clausal coordinator is the particle <çæn>, which in most cases is located at the

end of the clause. Example (166) is the answer to the question of where the Virgin Mary is (Carrera 1644: 211).

(166)

| <Cuçiang nic fe loc, moix tana ærqueng tana çæn> | | | | | | | | | (Carrera 1644: 211) |
|---|---|---|---|---|---|---|---|---|---|
| Cuçia- ng | nic | fe | loc | moix | tana | ærc- | eng | tana | çæn |
| Heaven-OBL | INE | COP | be | soul | COM | flesh- | DEREL | COM | and |

'(She) is in the heaven, (she is) with her soul and (she is) with her flesh.'

### 5.8.1.2. Disjunctive coordination

The element <æzta>, meaning 'or', is used for conjoining disjunctive clauses; it occurs in sentence final position, as does the conjunctive coordinator <çæn>. Example (167) is a question posed in relation to sins regarding sexual intercourse in the confessionary part of Carrera's work (1644).

(167)

&lt;Aiapcoz mo mæno ixll iglesiang nic, sementeriong nicæzta?&gt;   (Carrera 1644: 169)

Aiapcoz mo mæno ixll iglesiang

| Ai- | apc- | oz | mo | mæn- | o | ixll | iglesia- ng |
|------|-----------|------|----------|--------|------|------|-------------|
| do- | AG.NMLZ- | 2SG | DET.PROX | ACOL- | REL₁ | sin | church-OBL |

nic sementeriong nicæzta

| nic- | sementerio- | ng | nic | æzta |
|------|-------------|------|------|------|
| INE | cemetery- | OBL | INE | or |

'Have you committed this kind of sin in the church or in a cemetery'

### 5.8.1.3. Adversative coordination

Hovdhaugen (2004: 62) registers &lt;xain&gt; as 'but'. Nevertheless, I believe that the element meaning 'but' is actually &lt;xaiñ&gt;. Example (168) shows the use of &lt;xaiñ&gt;.

(168)

&lt;ixll eix tæca xaiñ çie maix llica, çio ech ech, pisso chiçæc pæn&gt; (Carrera 1644: 173)

ixll eix tæca xaiñ çie maix llica

| ixll | =eix | tæca | xaiñ | çie | ma- | ix | llica, |
|------|------|------|------|---------|------|------|-----------|
| sin | =1PL | go | but | DEM.ANA | OPT- | 1PL | wish/want |

çio ech ech, pisso chiçæc pæn

| çio | ech ech | piss- | o | chi- | çæc | pæn |
|---------|------------|-------|------|------|-----------|------|
| DEM.ANA | everything | bad- | REL₁ | be- | EVENT.NMLZ | ESS |

'But we sin, if we want everything with bad intention'

*5.8.1.4. Causal coordination*

The particle <ap> is the causal coordinator; example (169) demonstrates its use.

(169)

<aiessti mo ixnam ixllinic, ap, çio mæno luninic caf læssæc>    (Carrera 1644: 223)

aiessti mo ixnam ixllinic, ap, çio

| aiessti | mo | =ix | nam | ixll- | i- | nic | ap | çio |
|---------|-----|-------|------|------|------|-----|-----|---------|
| this way | DET | =1PL | fall | sin- | OBL- | INE | for | DEM.ANA |

mæno luninic caf læssæc

| mæn- | o | lun- | i- | nic | caf | l- | æssæc |
|------|------|------|------|-----|------|-----|------------|
| ACOL- | REL1 | day- | OBL- | INE | work | be- | EVENT.NMLZ |

'This way we fall into sin for we worked during that (referring to Sunday) day'

## 5.8.2. Subordination

Subordination involves one independent clause and one or more dependent clauses. An independent clause is fully inflected and can, on its own, be integrated into discourse. A dependent clause depends on some other clause for at least part of its inflectional information (Payne [1997] 2003: 306). I have identified the following means of subordinating clauses in Mochica: the sequential suffix <-top> (5.8.2.1.), the purposive suffix <–næm> (5.8.2.2.), the obligation particle <chæm> (5.8.2.3.) and nominalization as a subordinating strategy (5.8.2.4.).

*5.8.2.1. Sequential suffix <-top>*

Hovdhaugen (2004: 46-48) analyzes and registers several examples of the use of <-top>. He identifies <-top> as a sequential suffix. There are clear examples in the *Arte* that show this sequential character of <-top>; see example (170). In (170), the sequential <-top> marker is in bold.

(170) <Poncio Pilatong ssap mæn rronom çæc ñomtop. Cruzær capæc quessæc top, çiung ca pæc læmtop, xllangæmtop, altop olo infiernong nic, çoc lunær nico choc top, læmædæno chip çær lucų quich, puytop cuçiang, nic>        (Carrera 1644: 207)

<Poncio Pilatong ssap mæn rronom çæc ñomtop.>

| Poncio | Pilato- | ng | ssap | mæn | rronom | çæc | ñom- | **top** |
|--------|---------|----|------|-----|--------|-----|------|---------|
| Pontius | Pilate- | OBL | word | ACOL | suffer | EVENT.NMLZ | receive- | SEQ |

<Cruzær capæc quessæc top, çiung ca pæc læmtop>

| Cruz- | ær | capæc | que- | ssæc | **top** | çiung | capæc | læm- | **top** |
|-------|----|-------|------|------|---------|-------|-------|------|---------|
| Cross- | OBL | SUPE | nail- | EVENT.NMLZ | SEQ | 3SG.OBL | SUPE | die- | SEQ |

<xllangæmtop, altop olo infiernong nic,>

| xllang- | æm- | **top** | al- | **top** | ol- | o | infierno- | ng | nic |
|---------|-----|---------|-----|---------|-----|---|-----------|----|----|
| bury- | VAL_EM- | SEQ | descend- | SEQ | fire- | REL₁ | hell- | OBL | INE |

<çoc lunær nico choc top, læmædæno,>

| çoc | lun- | ær | nic- | o | choc- | **top** | læm- | æd- | æn- | o |
|-----|------|----|------|---|-------|---------|------|-----|-----|---|
| three.BOUND | day- | OBL | INE- | REL₁ | resurrect- | SEQ | die- | PCTP | PL- | REL₁ |

| chi- | pçær | lucɥqu | ich | puy- | **top** | cuçia- | ng | nic |
|------|------|--------|-----|------|---------|--------|-----|-----|
| be- | AG.NMLZ | INTRT | ABL | ascend- | SEQ | heaven- | OBL | INE |

The literal translation of the extract of the Creed prayer would be: '(He) received suffering after Pontius Pilate's orders and they nailed him on top of a cross on which he died, they buried him, he descended to the fire of hell, after three days he rose from amidst the dead ones and ascended to heaven'. (He suffered under Pontius Pilate, was crucified, died and was buried. He descended into hell. On the third day he rose again. He ascended into heaven.)

### 5.8.2.2. Purposive suffix <–næm>

The suffix <–næm> was referred to as a "dative gerund" by Carrera (1644: 53, 69, 60). In the Latin grammatical tradition, the term 'gerund' refers to verbal nouns, i.e. nominalizations. This label used by Carrera is misleading, but it offers some idea of its function. In Latin, the dative gerund was thought to express purpose, but in fact, the purposive was more commonly expressed with the preposition *ad* and the allative gerund (Luraghi 2010: 43[108]). Carrera (1644), following the Greco-Latin tradition of grammatical description, applied the term 'dative gerund' to the Mochica suffix <-næm>. This suffix can be analyzed as a purposive suffix and is sometimes used, according to Carrera's own recommendations, in connection with verbs meaning 'to wish' <loc-> and 'to say' <eng-> (Carrera 1644: 60), as in other languages of the

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[108] "The dative denotes transfer, and possibly its original function was to denote Direction; extension of the dative to Purpose is based on its directional meaning. The Latin dative inherited this function to a limited extent only; the preposition ad, which conformed to the same metaphor, occurs with gerunds" (Luraghi 2010: 43). Moreno (2014: 55) mentions that the gerund in Spanish sometimes has the meaning of purpose.

world. Example (171) represents how <-næm> functions in a purposive clause in connection with the verb 'to wish':

(171)   <funonæmeiñloc>                                        (Carrera 1644: 60)

    funo-      næm      =eiñ      loc

    eat-       PURP      =1SG      wish/want

    'I want to eat'.

Examples (172) and (173) illustrate clauses in which the suffix <-næm> functions as a purposive suffix without the verb 'to wish':

(172)   <Pupeiñ met mæiñ an ainæm>                           (Carrera 1644: 102)

    Pup      =eiñ      met      mæiñ            an        ai-      næm

    Wood     =1SG      bring    1SG.OBL.GEN     house     make-    PURP

    'I bring wood to construct my house'

(173)

<Diosi cæfæroiñ fel ame, tzhæng ssap næmnæm, tzhang çæn ixllæss en quich ssælnæm>                                    (Carrera 1644: 163)

| Dios- | i | cæf- | ær[109]- | o | =iñ | fel | ame, | tzhæng |
|-------|---|------|------|---|-----|-----|------|--------|
| God- | OBL | pay- | NMLZ- | REL$_1$ | =1SG | sit/be | this way | 2SG.GEN |

| ssap | næm- | næm[110], | tzhang | çæn | ixll- | æss- | e- | n | quich |
|------|------|-------|--------|-----|-------|------|----|----|-------|
| word | listen- | PURP | 2SG | too | sin- | REL- | OBL- | INE | ABL |

| ssæl- | næm |
|-------|-----|
| absolve- | PURP |

'This way I am here as God's substitute to listen to you and to absolve you from your sins'.

This suffix very often appears in combination with the valency markers <-er>, as in (174a), and <-em>, as in (174b).

(174a) <meternæm>                                    (Carrera 1644: 163)

| met- | er- | næm |
|------|-----|-----|
| bring- | VAL$_{ER}$- | PURP |

'to be brought'

---

[109] <cæfær> is registered by Carrera (1644: 143) as barter, payment done for something and substitute of someone. <cæp-> is registered as 'to pay' by Carrera (1644: 156).

[110] The verb <næm-> 'to listen' and the purposive suffix <-næm> are surprisingly identical.

(174b) <metemnæm>                                          (Carrera 1644: 163)

    met-    em-    næm

    bring    VAL_EM-  PURP

    'to be brought'

*5.8.2.3. Obligation particle <-chæm>*

The obligation particle <-chæm> serves the function of aiding to create adverbial clauses with obligational modality. Carrera (1644: 78), in his Mochica grammatical description, claims that <-chæm> is similar to the Latin future in *-rus*. Interestingly, Cholón, another extinct Andean Peruvian language, has a nominalizer *-lam* that refers to an event in the future or an obligation (Alexander-Bakkerus 2005: 255; 2011: 202). In the colonial grammatical description of Cholón by De la Mata ([1748] 2007: 135), *-lam* is compared to the future participle in *-rus,* as well. Hence, we can conclude that both missionaries tried to subsume the tense and modality (future and obligation) that they could recognize in *-lam* and <-chæm>, under the term of future participle *-rus.* Thus, <-chæm> is an element that has the modality of obligation, as shown in examples (175), (176), and (177).

(175)  <Chiñchæm>                                          (Carrera 1644: 39)

    Chi    =ñ-    chæm

    Be    =1SG-  OBLIG

    'I have to be'

(176)  <Chefnamco ang chæm>                                (Carrera 1644: 78)

    chefnam-        co    ang    chæm

    get hungry-      CAUS  3SG    OBLIG

    'That one must make the others hungry.'

Example (177) shows <–chæm> used with a Spanish loan verb attached to the copular verb <loc->. The form <locchæm> precedes the Spanish loan verb 'to confess'.

(177)  <Amexllec çænez locchæm confessar>                    (Carrera 1644: 163)

| Amexllec | çæn | =ez | loc- | chæm | confessar |
|----------|-----|-----|------|------|-----------|
| Now | as well | =2SG | be- | OBLIG | confess |

'Now as well you have to confess'

*5.8.2.4. Nominalization as subordinating strategy*

Subordination strategies in the languages of South America vary greatly, but nominalization is among the most common (Gildea 2008: 11), being characteristic of both Andean languages (van Gijn, Haude & Muysken 2011:10) and Amazonian languages (Dixon & Aikhenvald, 1999: 9). As regards the role of the constituents in the matrix clauses, the subordinate clauses attested in Mochica fall into three functional types: complements, relative clauses and adverbial clauses.

As can be seen in Table 19, many of the suffixes used for lexical nominalization are also used for grammatical nominalization.

Table 19. Lexical and grammatical nominalizers

| form | lexical nominalization | section | grammatical nominalization | section |
|---|---|---|---|---|
| <-(V)çVc> / <-(V)ssVc> | event | 7.1.1.1. | complementation causal-adverbial | 5.8.2.4.2. 5.8.2.4.3.1. |
| <-(V)pVc> | agentive | 7.1.1.2. | embedded argument "headless relative" | 5.8.2.4.1. |
| <-tVc> | locative | 7.1.1.3. | | |
| <-Vc> | locative, instrumental | 7.1.1.4. | | |
| <-(V)do> | stative | 7.2.2. | relativization | 5.8.2.4.1. |

5.8.2.4.1. Nominalizations serving a relativizing function

Two nominalization constructions, namely agentive nominalization with the <-(V)pæc> nominalizer (7.1.1.2.) and the <-Vd-o> stative nominalizer (7.2.2.), serve a relativizing function in Mochica, as can be observed in examples (178), (179) and (180) respectively. Examples (178) and (179) are cases of headless relative clauses formed with the suffix <-(V)pæc>:

(178) <Tzhichfe [sic] ænta missa acapæc>                (Carrera 1644: 44)

Tzhæich-      fe      ænta    missa    ac-           apæc

2PL-          COP     NEG     mass     hear/listen-  AG.NMLZ

'You are the ones who do not listen to mass.'


(179) <aioæne chang tunapæc>                (Carrera 1644: 44)

aio-      æn     e       chang        tun-      apæc

that-     PL     COP     brother      kill-     AG.NMLZ

'Those are killers.'

In (179) Carrera himself translates the headless relative clause <chang tunapæc> as killers, literally it would mean 'the ones who kill the brother(s)'.

In example (180), the suffix <-Vd(o)> has a relativizing function:

(180)

<Æntaz taf queix Limac tædô ñofæn>                              (Carrera 1644: 16)

| Æntaz | ta- | f | queix | Lima- | c | t- | æd- | ô | ñofæn |
|-------|-----|---|-------|-------|---|----|-----|---|-------|
| NEG | yet- | COP | return | Lima- | LOC | go- | STATIVE.NMLZ- | REL1 | man |

'The man who went to Lima has not yet returned.'

5.8.2.4.2. Nominalization serving a complementation function

In the case of complement clause formation in Mochica, the nominalizer involved is <-(V)ssVc> / <-(V)çVc> (see 7.1.1.1.). The relevant examples are shown in (181) and (182).

(181)   Confessar læçæc fe poc penitençia                    (Carrera 1644: 233)

| Confessar | læ- | çæc | fe | poc |
|-----------|-----|-----|-----|-----|
| Confess | be- | EVENT.NMLZ | COP | name/call |

penitençia

penance

'The confession is called Penance.'

(182)   &lt;la lecɥæc tæ çæc fe poc Baptismo&gt;                    (Carrera 1644: 233)

| la | lecɥ- | æc | tæ- | çæc | fe | poc |
|----|-------|----|-----|-----|----|-----|
| water | head- | LOC | go- | EVENT.NMLZ | COP | name |

Baptismo

Baptism

'Getting water on the head is called Baptism.'

5.8.2.4.3. Nominalization serving an adverbial function

Adverbial clauses can be defined as clausal entities that modify, in a general sense, a verb phrase or a main clause, and express a conceptual-semantic concept such as simultaneity, causality, conditionality, etc. (Hetterle 2015: 2).

In Mochica, one type of adverbial clause that originated in a nominalization can be identified: the causal clause.

*5.8.2.4.3.1. Adverbial causal clauses with the nominalizer <-(V)ssVc>*

Example (183) illustrates an adverbial causal clause with the event nominalizer <-(V)ssVc>.

(183)   &lt;Santa Iglesiang ssap mænoix cæp, christiano chissæc&gt;   (Carrera 1644: 231)

| Santa Iglesia- | GEN | ssap | mæn | =oix | cæp, |
|----------------|-----|------|-----|------|------|
| Holy Church- | GEN | word | according | =1PL | pay, |

| christiano | chi- | ssæc |
|------------|------|------|
| christian | be- | EVENT.NMLZ |

'According to the Holy Church's teaching, we pay (tithe is implied) because of being Christians'.

## 5.9. Adverbs

Carrera (1644: 159-161) registers a large number of words that he considers adverbs. I have grouped them as manner, time and locative adverbs.

### 5.9.1. Adverbs of Manner

| | | |
|---|---|---|
| \<ame\> | 'this way' | (Carrera 1644: 124) |
| \<aie\> | 'this way' | (Carrera 1644: 124) |
| \<rripæn[111]\> | 'suddenly' | (Carrera 1644: 124) |
| \<tipæn\> | 'suddenly' | (Carrera 1644: 124) |
| \<tuctamæn\> | 'suddenly' | (Carrera 1644: 124) |

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[111] Cerrón-Palomino (personal communication, January 14, 2020) suggests that \<rripæn\> is a Spanish loan from *derrepente* 'suddenly'. The same Spanish term has entered Quechua as *lirripinti.*

## 5.9.2. Adverbs of Time

Adverbs of time are temporal adverbs that describe "parts of the day and other temporal relations" (Hovdhaugen 2004: 53).

| | | |
|---|---|---|
| <pelen> | 'yesterday' | (Carrera 1644: 123) |
| <molún> | 'today', 'this day' | (Carrera 1644: 123) |
| <onæc pelen> | 'the other day' | (Carrera 1644: 123) |
| <çie xllec> | 'then' | (Carrera 1644: 123) |
| <ñuchallo> | 'a (short) while ago' | (Carrera 1644: 123) |
| <nang vss> | 'a while ago' | (Carrera 1644: 124) |
| <æpæc> | 'always' | (Carrera 1644: 124) |

## 5.9.3. Locative Adverbs

| | | |
|---|---|---|
| <Min> | 'here' | (Carrera 1644: 127) |
| <Aiin> | 'there' | (Carrera 1644: 127) |
| <çin> | 'there' | (Carrera 1644: 127) |
| <Çiuc> | 'over there' | (Carrera 1644: 127) |
| <Çinana> | 'in the same place' | (Carrera 1644: 127) |
| <Çietna> | 'over there' | (Carrera 1644: 127) |
| <Metna> | 'a bit close' | (Carrera 1644: 127) |
| <Muquic[sic][112]> | 'from here' | (Carrera 1644: 127) |
| <Çiuquich> | 'from somewhere else' | (Carrera 1644: 127) |
| <Olecꝗ totna> | 'upwards' | (Carrera 1644: 127) |
| <Çæc totna> | 'downwards' | (Carrera 1644: 127) |
| <Ledæc> | 'outside' | (Carrera 1644: 127) |
| <Olpæc> | 'inside' | (Carrera 1644: 127) |

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[112] I presume that the form may be <muquich> instead of <muquic> because the suffix <-ich> expresses ablative case, as seen in 4.1.4.3.2.4.1.

*Part III. Grammatical Topics*

*Chapter 6. Mochica Nominal
Possession*

In this chapter, I analyze the strategies of coding nominal possession in Mochica, as described by Carrera (1644). Some languages present possessive systems that treat certain groups of nouns in different manners, this phenomenon being known as "possessive split" (Haspelmath 2008: 1) or "split possession" (Stolz, Kettler, Stroh & Urdze 2008: 28). Mochica exhibits a special inalienability split (also known as "alienability opposition" (Nichols 1988: 562) or simply "alienability split" (Dahl & Koptjevskaja-Tamm 1998: 38)), which cannot be identified as a strict bipartite system, but rather as a formal *continuum* which corresponds iconically to the relational distance (conceptual) between the possessor and the possessed. This way, on one end of the *continuum* we have the most archaic possessive construction, which corresponds to inalienable possession, while the most innovative possessive constructions, which correspond to alienable possession, are located on the other end.

## 6.1. State of the art: "The second nominative"

The topic of possession in grammar has been widely studied. There are numerous descriptions of languages that deal with possession[113]. McGregor (2009b: 1) defines a possessive relation as "[…] a relational concept that potentially covers a wide range of conceptual relations between entities […]". Taking into account the definition of McGregor (2009a) and following Seiler (1983a: 4; 1983b: 90), linguistic possession is understood as the relation between a possessor, prototypically [+ animate], [+ human], and close to the speaker [+ ego] and a possessed element that can either be [+ animate] or [-animate].

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[113] References to compiled works on descriptive and typological studies about possession in diverse languages, amongst other: Nichols (1988); Chappell & McGregor (1996); Aikhenvald (2013).

Three types of possessive constructions can be distinguished: attributive, predicative and external (McGregor 2009b: 2). The study presented here does not deal with possession beyond the nominal phrase; this means that I only analyze the possessive (attributive) constructions in which two NPs are associated. This type of possessive construction is also known in the literature as nominal, adnominal, phrasal (Heine 1997) or internal (McGregor 2009b: 2).

The corpus of study for this analysis of nominal possessive constructions is the *Arte* and the religious texts contained therein. Carrera (1644: 4) mentions that Mochica nouns have two[114] nominative forms. According to Carrera's examples, the "first nominative" refers to nouns that are not inside of a possessive construction. In Carrera's words, the noun is "general" and "there is no property or lordship"[115,] which means that the noun itself is in its absolute form. In relation to the "second nominative", Carrera (1644: 6) clarifies that the noun involved is in a relationship of possession[116]: "All these second nominative forms, have in themselves a possessive, as mine, yours, his, Pedro's, Antonio's, & c."

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[114] "In all the substantives there is this difference (which is all the difficulty of this language) that as we shall say, that each of them has three Genitive forms; it also has two Nominatives [...]" (Carrera 1644:4).

[115] "El primero Nominatiuo es general en todo genero de cosas, como col. cꝗilpi, ñaiñ fellu, cꝗuscu polquic. falpic, cunuc. filuc, &c enlos quales no ay propiedad, ni señorio, porque dize generalmente el cauallo, la manta, la aue, la cabeça. la manta de dormir, el asiento, &c." (Carrera 1644: 4).

[116] "Todos estos segundos Nominatiuos, tienĕ en si vn possessiuo, como mio, tuyo, de aquel, de Pedro, de Antonio, &c" (Carrera 1644: 6).

On this basis, Middendorf (1892: 56-58) discusses the forms of the "second nominative", calling them "possessive syllables"[117]. Hovdhaugen (2004: 19-21) proposes that nouns in Mochica have two basic roots: the possessed and non-possessed[118] forms. His classification, however, lacks an exhaustive analysis. In a similar approach, Adelaar ([2004] 2007a: 335), refers to the second nominative in his discussion of the formation of relational nouns. Persistence of a similar approach is observed in the works of Salas (2011a, 2011b, 2012a, 2012b), who basically refers to possessed and unpossessed forms. Salas (2011b: 25) uses the term "morpheme of possession" to refer to Carrera's second nominative.

Although all these analyses are based on Carrera's description, none of them offers a systematic explanation of the Mochica nominal possession system. This is because they base their analysis on the pattern of distribution of nouns, i.e., inside and outside of possessive constructions (hence the creation of the opposing categories "possessed" versus "absolute", or "non-possessed", form); however, these accounts do not take into consideration the characteristics of the possessor or possessed element nor the properties of the possessive relationship. One of the typological features of the Mochica language that differentiates it from the other Andean languages is the presence of more than one type of possessive construction. The objective of this chapter is to offer an analysis of the syntax and semantics of the possessive constructions described by Carrera (1644).

For the present analysis, I have considered internal arguments from the Mochica language, given that each language has its own way of

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[117] "Possessivsilben" (Middendorf 1892: 56).

[118] "two basic stems": possessed and non-possessed forms (Hovdhaugen 2004: 19).

conceptualizing and expressing possession. In this regard, it should be remembered that the ownership and possession domain can be defined semantically as bio-cultural (Seiler 1983a: 4, Ameka 1996: 784, Lehmann 2003: 5). This approach should not, however, distance us from the need to examine the constructions from a cross-linguistic perspective in order to determine the typological classification of the possessive constructions of this language (see 6.2.1. and 6.2.2.).

Regarding the terminology used, it should be mentioned that I avoid referring to nouns as alienable or inalienable, preferring to reserve the terms "alienable" and "inalienable" for possessive constructions. Seiler (1983a: 12) argues that it is more appropriate to speak of inalienable and alienable structures rather than inalienable and alienable nouns since otherwise, clear divisions of the lexicon would be established within the two groups of nouns.

The distinction between alienable and inalienable possession is based on the semantic relationship established between the possessor and the possessed element. The semantic relationship expressed by inalienable possessive constructions has been characterized in different ways: "intimate, inherent, inseparable and even abnormal" (Heine 1997: 10). Prototypically, body part terms and terms of kinship are possessed in an inalienable way; however, the exact semantic content of the "inalienable set" is variable (Aikhenvald 2013: 12). By contrast, in a construction of alienable possession, there is no dependence between the possessor and the possessed item. An alienable possessive construction can be considered, thus, a "non-intimate, accidental, acquired, transferable or normal" relation (Heine 1997: 10). In relation to terminology, I basically follow Seiler (1983a: 12). Hence, if I make use of terms such as "alienable" or "inalienable" when referring to nouns, it is only for expository purposes, in my discussion of previous authors' analyses.

## 6.2.  Typological classification of the Mochica possessive constructions

The possessive construction is also known as the genitive construction (Croft 1990, Dryer 2013). In what follows, I try to analyze the Mochica possessive constructions taking into account typological criteria. First, in 6.2.1. the analysis of the nominal genitive phrase (of possession) is presented, which relies on the concept of head and dependent marking (head-marking and dependent-marking) of Nichols (1986). Second, in 6.2.2. a topic closely related to that presented in 6.2.1. will be examined: the ordering of the possessor noun and the possessed noun, which, according to Croft (1990), is a tool that allows one to observe the strategies used to relate two morphemes or two syntactic elements (Croft 1990: 28).

### 6.2.1. Possession and head vs. dependent marking strategies

The head of a phrase is the element that determines its syntactic function, and the rest of the elements are generally considered dependents (Payne [1997] 2003: 31). Some languages mark the relationship between the head and the dependent on the head, while others mark it on the dependent (Payne [1997] 2003: 31); still others combine both strategies, or use none at all (Nichols 1986: 56). Nichols (1986) carried out a typological study based on numerous languages, managing to establish certain patterns of morphological marking that become a consistent choice of marking in the morphosyntax of each language (Nichols 1986: 66; Payne [1997] 2003: 31). Her analysis is based on two concepts: the concept of "headedness" and the concept of presence/location of the morphemes that mark the syntactic relationships (Nichols 1986: 56).

The following examples in (184) - (187) show that in the case of the Mochica language, the morphological marking always occurs on the dependent, both in cases of inalienable possession and in cases of alienable possession. The peculiarity in Mochica is that while most of the possessive constructions show double possessive marking, see examples (185) - (187), the construction shown in (184) does not.

(184)  <mæiñef>                                          (Carrera 1644: 8)

     mæiñ          ef

     1SG.OBL     father

     'my father'

Example (184) illustrates a possessive phrase of obligatory inalienable possession in which the marking only occurs on the possessor. According to Nichols (1986, 1988, 1992) and Dahl & Koptjevskaja-Tamm (1998), the languages that establish the distinction between inalienable and alienable possession tend to present morphological markings on the head of the inalienable possessive construction, that is, on the possessed noun. The other alternative, according to these authors, is the zero-marking strategy, wherein the relationship between the possessor noun and the possessed noun is expressed through simple juxtaposition (Dahl & Koptjevskaja-Tamm 1998: 38). However, despite the alienable/inalienable distinction present in Mochica, this pattern of marking on the inalienable construction is not manifested in this language.

Example (185) shows a case of double marking in Mochica. The possessed element is a body part term that displays the relational suffix <-eng> (in other testimonies of the *Arte* it appears as <-ng>). The marking on the dependent is clear; the possessor is in oblique-genitive. In the present analysis, I understand

this construction to be within the scope of inalienable possession for reasons that I will explain in section 6.3.1.3.

(185)   <mæiñ falpeng>                                            (Carrera 1644: 6)

     mæiñ          falp-    eng

     1SG.OBL      head-   REL

     'my head'

Example (186) illustrates a possessive phrase that, like that in (185), would belong to the field of inalienable possession, as will be seen in 6.4.2.3. This is the case of possession of a result / event nominalization:

(186)   <Maich[sic] ciec Iesu Christong choquiçær>        (Carrera 1644: 216-217)

     mæich      ciec    Iesu Christo-   ng    choc-   çær

     1PL.OBL    lord    Jesus Christ-   OBL   rise-   EVENT.NMLZ

     'the Resurrection of our Lord Jesus Christ'

This possessive nominalization construction also illustrates double case marking. The possessor (the dependent) is marked with the oblique-genitive case, and the possessed element is marked through a change in its final consonant, <c> > <-r>.

Finally, example (187) shows the case of a possessive phrase of alienable possession; the possessor is a pronoun in the oblique-genitive case, and the possessed noun is marked with the relational suffix, which, according to Carrera (1644: 5), is used for (alienable) nouns ending in a vowel, as in the case of <cɥilpi> 'blanket':

(187)   <mæiñ cuilpiss>                                    (Carrera 1644: 6)

    mæiñ                cuilpi-            ss

    1PL.OBL            blanket-          REL

    my blanket'

## 6.2.2. Order of the possessor noun and the possessed noun

There is a direct correlation between the type of morphological marking that occurs in possessive constructions and their word order. As observed in 6.2.1., alienable and inalienable possessive constructions include a marked possessor noun in the oblique case; the possessor (phrase) is also known as the "genitive noun phrase" (Dryer 2013). Examples (188) - (191) illustrate structures that constitute phrases of possession. The constructions illustrated by (188) and (189) are cases of inalienable possession in Mochica: the possessed noun in both structures is the same term of consanguinity, 'son', which, in this language, is expressed as possessed by way of the inalienable possession construction.

(188)   <Heuãg eizæn>                                    (Carrera 1644: 210)

    Heu-      ang      eiz-      æn

    Eva-      OBL      child-    PL

    'Eva's children'

(189)   <tzhæng eiz>                                      (Carrera 1644: 205)

    tzhæng              eiz

    2SG.OBL            child

    'your child'

In (188) the possessor is the genitive nominal phrase <Heuãg> 'of Eva', and the head of the construction is <eizæn> 'children'; in (189), on the other hand, the possessor is <tzhæng>, 'you', corresponding to the genitive form of the 2SG, and <eiz> 'son' is the head. Based on examples (188) and (189), it can be determined that the order of the possessor noun/pronoun and the possessed noun is of the GenN type or "genitive preceding head noun" (Dryer 2013).

The examples in (188) and (190) are constructions with a nominal possessor, while those in (189) and (191) have a pronominal possessor. Thus, from these examples, it can be established that in Mochica there is no deviation from the GenN order, unlike in some languages, where pronominal possession implies a distinctive construction that requires a different word order, such as French, in which the NGen word order of the nominal genitive contrasts with the GenN word order of the pronominal genitive (Dryer 2013). Also, Tauya (Madang, Trans-New Guinea, Papua New Guinea) exhibits the GenN order for nominal possessors but places the pronominal possessors after the head noun (Dryer 2013).

The GenN order not only occurs in cases of inalienable possessive constructions, but also in alienable possessive constructions, both with nominal and pronominal possessors. The examples in (190) and (191) show alienable possessive constructions:

(190)  <Pedrong colæd>                                              (Carrera 1644: 6)

      Pedro-  ng       col-    æd

      Pedro-  OBL      col-    REL

      'Pedro's horse/llama'

(191)   <mæiñ colæd>                                      (Carrera 1644: 104)

    mæiñ              col-      æd

    1SG.OBL           col-      REL

    'my horse/llama'

Crosslinguistically there are numerous strategies used to express possession. In some languages, the possessor occurs with an affix in the genitive case (Croft 1990: 29, Dryer 2013), as can also be seen in the Mochica examples above. Thus, on the basis of these examples and, as a summary, it can be said that the oblique-genitive case marked on the possessor is a morphosyntactic means (or strategy) that Mochica uses to establish the relationship of possession between two NPs. In addition to the genitive case marked on the possessor, Mochica employs morphemes suffixed to the head of the possessive phrase that function as relationals (see 6.3.2.1, 6.3.2.2.). These suffixes suggest that double marking also represents a strategy of expressing possession in this language.

## 6.3.   Analysis of the Mochica possessive constructions according to the properties of the possessed noun

Barker (1991: 50) offers an interpretation of possessive constructions based on the idea that nouns denote relations with different valencies, suggesting that there are two classes of nouns, nouns which can only occur with a single predicate and "nouns with richer semantic structure", whose denotation is best expressed as a relationship. Along the same lines, in reference to Katukína, Queixalós (2005: 198) distinguishes "monovalent constructions", or alienable constructions, from "divalent", or inalienable constructions. These divalent constructions would include the so-called "relational nouns". Ameka (1991: 162) states that the fact that relational nouns have an inherent association with another noun means that a relational noun subcategorizes for arguments.

Relationality is a feature that distinguishes the possessor from the possessed in prototypical terms and contributes to the function of the possessor as an attribute (Lehmann 2003: 30).

According to Lehmann (2003: 48), nouns that exhibit grammatical properties of relationality are inalienable, while those that present grammatical properties of non-relationality are alienable. The underlying concept behind the grammatical property of relationality/non-relationality helps to classify the nouns involved in possessive structures. The relationality/non-relationality of a noun is manifested in its sensitivity at being used in syntactic constructions inside vs. outside a possessive phrase. In this respect, the use of a noun within a possessive construction is called 'possessed' and the use outside is called 'absolute' (Lehmann 2003: 48). Lehmann (2003: 49) notes that "[r]elationality is a grammatical property of noun stems that can be changed through derivational operations." This derivational operation allows a noun to become relational through relationalization, and absolute through absolutivization (Lehmann 2003: 49). To establish the classes of possessive constructions in Mochica, the concept of relationality will be taken into account.

## 6.3.1. Inalienable possessive constructions

Lehmann (2003) and other authors speak of inalienable and alienable nouns despite Seiler's early complaint (1983a: 12-14) about this trend. Seiler (1983a: 12) argues that it is more appropriate to speak of inalienable and alienable structures rather than inalienable and alienable nouns. As mentioned briefly above, the basis of Seiler's criticism (1983a) lies in the fact that there is a scale representing the degree of inherence and it is inappropriate, therefore, to establish sharp divisions that divide the lexicon into two groups of nouns. In

this sense, it should be mentioned that, often, the same noun can be used in both inalienable and alienable possessive constructions. This phenomenon is known as "fluidity". Likewise, Nichols (1988) mentions that the notion "inalienable" is not a semantically uniform notion because belonging to this closed class varies from language to language (Nichols 1988: 572) and is based on specific cultural conventions (Heine 1997: 11).

Although the terms alienable and inalienable are quite common in the literature, their references are highly variable (Nichols 1988: 561), which is why it is relevant to reconcile crosslinguistic variability (Epps 2008: 233). In order to achieve this, Nichols (1988: 572) proposes a hierarchy of belonging to the class of inalienable possession: (i) kinship terms and/or body part terms, (ii) part-whole relationships and (iii) culturally determined basic elements, such as arrows, domestic animals, etc. This hierarchy, however, is far from universal (Chappell & McGregor 1996: 8, Epps 2008: 233) and is violated with counterexamples from different languages, such as Hup (Epps 2008: 233) and Ewe (Ameka 1995: 147), in which the order of this hierarchy is not met. In addition, there are other examples that show that despite the existence of an inalienable/alienable distinction in a language, belonging to the inalienable domain cannot be predicted, as in the case of Dyirbal, a language in which kinship terms are not treated in the inalienable scope, but rather belong to the realm of alienable possession (Lyons 1999: 129), or Ewe, in which body part terms are terms of alienable possession (Ameka 1991: 7). According to the morphological markings present in the examples extracted from Carrera (1644), three subclasses of nouns can be established in the field of inalienable possession: absoluble, inabsoluble, and double-marked.

*6.3.1.1. Absoluble (obligatory) inalienable possession*

In the domain of inalienable possession, nouns are marked morphosyntactically in their absolute form (Lehmann 2003: 53; Kockelman 2009: 25), and they do not bear a morphological marking when they are possessed (Lehmann 2003: 53). In relation to nouns in absolute form, Lehmann (2003: 53) suggests (for Yucatecan Maya) two grammatical classes of inalienable nouns, namely those that are obligatorily possessed, or those that remain inabsoluble, and those that are absoluble, that is, those that can appear as absolute. Haspelmath (2006: 9) follows Lehmann (2003) using the term "possidend nouns", also distinguishing between "absoluble and inabsoluble possidend nouns".

Examples (192) and (193) illustrate contrasting constructions with a single noun in Mochica. In example (192), the dependent, a pronominal possessor, is marked with the genitive case. In (193), the absolute form carries the absolutizing suffix <-quic> and is not understood to be possessed by anyone.

(192)  <mæich xllon>                              (Carrera 1644: 202)

       mæich           xllon

       1PL.OBL         food/bread

       'our bread'

(193)  <xllonquic>                                (Carrera 1644: 104)

       xllon-  quic

       bread-  DEREL

       'the bread'

The attested nominal roots that occur both inside a possessive construction, as in (192), and outside of it, as in (193), are the following: <ef-quic> 'father';

<eng-quic> 'mother'; <eiz-quic> 'child'; <moix-quic> 'soul'; <lucɥ-quic> 'eye'; <fæn-quic> 'nose'; <mæcɥ-quic> 'hand'; <çiec-quic> 'master', 'lord'; <uiz-quic> 'cultivating field'; and <xllon-quic> 'food in general', 'bread', according to the Our Father prayer (Carrera 1644: 202). These nouns consist of linear kinship terms (expressing relationships between direct descendents: father, mother, son), culturally relevant elements such as 'food', 'cultivating field', and some body parts. The body part terms included in this group differ from those that occur in double-marking constructions, as will be seen in 6.3.2.1., as they can be found grammaticalized as concepts of spatial relations (spatial relations are analyzed in 6.4.2.2.).

### 6.3.1.2. Inalienable (obligatory) inabsoluble possession

Carrera (1644: 5-6) notes that it was difficult to form the "second nominative" with some nouns. After scrutinizing the *Arte* and religious texts by Carrera (1644), it can be concluded that there are very few nouns expressing inalienable inabsoluble possession. This fact is not surprising; it actually occurs in the languages that present it, as the case of Yucatecan Maya (Lehmann 2003). The following nouns present zero marking when they are possessed, and their absolute form is impossible or at least does not appear to be attested in the *Arte* (Carrera 1644): <ssap> 'mouth', 'order', 'commandment'; <cul> 'blood' and <oc> 'name'. In this group, one can find other nouns that appear to be grammaticalized (including in their form the relational suffix <-æng> / <-ng>). Those nouns consist of certain affinity terms: <ssonæng> 'wife', <ñang> 'husband' and some terms expressing consanguinity of collateral line kin, such as <chang> "brother, sister, nephew or niece of younger age" (Carrera 1644: 146). These examples, apparently grammaticalized, are a good illustration of the ability of some nouns to express relationships (simply because they are relational). Also, included in this group

are certain consanguinity and collateral line kin terms that are somewhat more distant from the ego, such as <cocæd> "the aunt or older sister, one has to understand that it refers to aunt or sister of a man [...]" (Carrera 1644: 145), <changcæd> "which means relative, or neighbor" (Carrera 1644: 144) and other similar terms like <parræng> 'vassal' and <cɥecɥmæd>, which is translated as 'brother' in Carrera (1644: 117).

### 6.3.1.3. Inalienable possession in double-marked constructions

The cases shown so far in 6.3.1.1. and 6.3.1.2. show inalienable possessive constructions that present only one marking on the dependent. In this section, I present cases of inalienable possession with double marking. Example (185) was introduced in 6.2.1. as an inalienable possessive structure with double marking. Example (194) also illustrates a possessive inalienable double-marking construction, the marking appearing on both the dependent (oblique) and on the head (the suffix <-æng> or <-eng>). The example in (194) refers to 'human flesh', which in some contexts of the texts is understood as 'the human body'.

(194)  <mæich ærqueng>                              (Carrera 1644: 204)

       mæich          ærc-     eng

       1PL.OBL        flesh-   REL

       'our flesh'

In addition to certain body part terms, certain nominalizations also occur with double possessive marking. The topic of possession and nominalizations is explored in 6.4.2.3.

## 6.3.2. Alienable possessive constructions

In an alienable possessive construction, the possessed element is non-relational. Haspelmath (2006: 9) mentions that alienable nouns, in general, require morphological marking inside of a possessive construction. This marking has the function of a relational element. For this purpose, Mochica has two suffixes, <-Vd> and <-(V)ss>. The relational suffixes of alienable possession <-Vd> (with the variants <-æd>, <-ad>) and <-(V)ss> are found in complementary distribution. According to Carrera's formation rule of the second nominative (Carrera 1644: 5-6), the affix <-Vd> attaches to nouns ending in a consonant, and the affix <-(V)ss> attaches to nouns ending in a vowel.

### 6.3.2.1. Relational suffix <-Vd>

Example (195) shows the suffix <-Vd> (<-æd>) within a possessive construction:

(195)  <Pedrongcolæd>                                (Carrera 1644: 6)

    Pedro- ng    col-    æd

    Pedro- OBL    llama- REL

    'Pedro's llama'

Example (196) illustrates the same noun as in (195) outside a possessive construction:

(196)  <mo col>                                (Carrera 1644: 119)

    mo          col

    DET.PROX    llama

    'this llama'

The nouns that accept the suffix <-Vd> are objects that can be subject to trade and exchange, that is, elements of transferable and temporary possession (which can be commercialized, for example), such as <col> 'llama'/'horse'; <xllac> 'fish' and <xllaxll> 'money'. The alienable possessive construction exhibits double marking; the possessor is in the genitive case, and the head accepts the morphological marking of the suffix <-Vd>.

*6.3.2.2. Relational suffix <-(V)ss>*

The group of nouns that accept this suffix include certain animal names such as <fanu-ss> 'dog'; <fellu-ss> 'duck' and some body part terms such as <chucæ-ss> 'knee'; <cʉætæ-ss> 'heart'; <poto-s> 'testicles', in addition to <iana-ss> 'domestic servant'; <cuçia-ss> 'heaven'; <xllangmu-ss> 'enemy'; <cʉolu-ss> 'young man'; <mellu-ss> 'egg'; <villo-s> 'cup'; <capcæ-ss> 'inn'; <yqui-ss> 'father in law'; <cʉilpi-ss> 'blanket'; and <ixllæ-ss> 'sin'. In the possessive construction there is double marking: the possessor is marked for the genitive, and the head is morphologically marked with the suffix <-(V)ss>:

(197)  <mæiñ cʉilpiss>                              (Carrera 1644: 6)

    Mæiñ          cʉilpi-        ss
    1SG.OBL        blanket-       REL
    'my blanket'

Example (198) represents the case of the same noun <cʉilpiss> 'blanket' outside of the possessive construction:

(198)   <mocɥ[l]pi> [sic]                                    (Carrera 1644: 107)

mo                  cɥilpi

DET.PROX            blanket

'this blanket'

## 6.4. Types of possessive relations

Taking into account the properties of the possessive relation, the following types of possessive relations can be distinguished: 6.4.1. kin relations, 6.4.2. part-whole relations that include 6.4.2.1. body parts and 6.4.2.2. concepts of spatial relations; and 6.4.2.3. participant relations in nominalizations.

## 6.4.1. Kin relations

Typically, it is assumed that in languages in which the alienable/inalienable distinction exists, kinship relations are prototypically in the domain of inalienable possession. However, it does not always happen this way (Dahl and Koptjevskaja-Tamm 2001: 209). As already mentioned in 6.3.1., in Dyirbal, kinship terms are not treated in the inalienable field, but belong to the field of alienable possession (Lyons 1999: 12). Dahl & Koptjevskaja-Tamm (2001: 209) characterize the terms expressing kin relations as "egocentric" and "pragmatically anchored". Such nouns are typically animate and are often used similarly to proper names; syntactically, they are usually subjects. In the normal case, a term of kinship is anchored in the "ego" of the speech act, that is, the speaker (Dahl & Koptjevskaja-Tamm 2001: 209).

In Mochica, terms expressing kin relations are distributed into three different groups:

- Inalienable, absoluble, obligatory possession.

In possessive constructions, the possessor is marked with genitive case, and there is a zero marking on the dependent. The absolute form is marked with the affix <-quic>. Terms expressing linear kin relations belong to this class. Example: <ef-quic> 'father'.

- Inalienable, inabsoluble, obligatory possession.

In possessive constructions, the possessor is marked with genitive case, and the kin terms do not vary morphologically based on whether or not they occur in a possessive construction. Some of these terms appear to be grammaticalized and refer to affinity or political relations such as <ssonæng> 'wife'; <ñang> 'husband'; <parræng> 'vassal'. Also, in this group, there are some terms of collateral consanguinity that may be considered more distant from the ego such as as <cocæd> "the aunt or big sister" (Carrera 1644: 145); <chang> "brother, sister, nephew or niece of younger age" (Carrera 1644: 146); <changcæd> "which means the relative, or the next one" (Carrera 1644: 144) and <cɥecɥmæd> 'brother' (Carrera 1644: 117).

- Alienable possession.

In possessive constructions, the possessor is marked with genitive case, and the head of the construction is marked with the suffix <-Vss> or <-Vd>: <yana-ss> 'the family servant' (Carrera 1644: 144); <yqui-ss> 'father in law' (Carrera 1644: 146).

## 6.4.2. Part-whole relations

Constructions expressing part-whole relations have relational features. The most prototypical relation is that between a body part and its whole (in

6.4.2.1.), but spatial relations and nominalizations are also part-whole relations, as discussed below in 6.4.2.2. and 6.4.2.3.

### 6.4.2.1. Body Parts

Dahl & Koptjevskaja-Tamm (2001: 209) observe that nouns referring to body parts are typically inanimate nouns and that their possessor is predictable, in contrast to that of kin terms. According to these authors, body part terms generally occupy different syntactic contexts than kin terms. They are special because they involve a direct relationship with the body as a whole and, at the level of discourse, body part terms have low status, since the body part itself is not as relevant as the person or animal that possesses it. In short, body part terms are syntactically and not pragmatically anchored, in contrast to kin terms (as shown in 6.4.1.).

As with the kin terms, body part terms, attested in Mochica, can be grouped according to the morphological marking that they bear in possessive contexts:

- Inalienable, absoluble, obligatory possession. In possessive constructions the possessor is marked with oblique case, and the dependent in absolute form is marked with the affix <-quic>. Examples: <moix-quic> 'soul'; <lucɥ-quic> 'eye'; <fæn-quic> 'nose'; <mæcɥ-quic> 'hand'. The body part terms included in this group differ from those that have double marking because the ones presented here can be found grammaticalized as spatial relation concepts, see 6.4.2.2.

- Inalienable, inabsoluble, obligatory possession. In possessive constructions the possessor is marked with oblique case and the body part term remains invariable inside and outside possessive

constructions. Body parts that belong to this group are: <cul> 'blood' and <ssap> 'mouth'.

- Alienable possession. In possessive constructions the possessor is marked with genitive case, and the head is also marked with the suffix <-(V)ss>. Examples: <poto-ss> 'testicles', <chucæ-ss> 'knee', <cꞇætæ-ss> 'heart'.

### 6.4.2.2. Spatial relations

As Aikhenvald (2013: 1, 41) points out, affixes that mark possession may have other functions, meanings and extensions that are not related to possession; this is the reason why body part terms may be grammaticalized as spatial relation markers. In the same vein, Kockelman (2007: 346) states that certain body parts provide a useful domain for grammatical coding of spatial and temporal relations.

Carrera (1644: 93-94; 120-123, 161) describes some Mochica adpositions. Because they are postposed to the noun they modify, he calls them "postpositions". The term "postposition" persists in the work of Middendorf (1892: 96-100); Hovdhaugen (2004: 54-55); Adelaar ([2004] 2007a: 333) and Salas (2012b: 146-152). In what follows, I try to justify that it is more appropriate to refer to these postpositions as spatial relation markers.

While the placement of these adpositions superficially suggests that they should be classified as postpositions, it is also relevant to point out the fact that most of them derive from body part terms (Middendorf (1892), Adelaar ([2004] 2007a) and Salas (2012b)). Already in the seventeenth century, Carrera himself (1644: 161) pointed out the origin of these postpositions because their origin was transparent; that is, they had developed from nouns

referring to body parts. This manifestation is common in the languages of the world.

Taking into account the properties of terms referring to spatial relations, it must be said that these are relational like terms referring to body parts. In addition, body parts denote a fixed part, while spatial relations denote the projected space of a part of a whole (Roy 2006). The fact that spatial relations are in the field of inalienable possession is not strange in the languages of the world. Kockelman (2007: 346), for example, explains that Q'eqchi has five different subclasses of inalienable possession. Nouns referring to body parts belong to the first subclass of inalienable possession in Q'eqchi, called "adpositions" by Kockelman.

According to Lehmann (2003: 86-87, see also Ameka 1995: 147), spatial relations are an essential part of inalienable possession. In his words, this seems "disorienting" because the structures involving spatial relations usually lack a possessor and because their most obvious manifestation is in the form of adpositions. In Mochica, we have, for example: <lecɥæc> lit. 'on the head' or 'above' (Carrera 1644: 120, 161), <lucɥæc> lit. 'in the eyes' or 'between' (Carrera 1644: 121, 161), <funec> / <fænæc> lit. 'in the nose' or 'according to' (Carrera 1644: 161), etc. Example (199) illustrates the use of <funec>:

(199) <Espiritu Santong ssap e fænæc>                 (Carrera 1644: 213)

     Espiritu Santo- ng        ssap-              e           fænæc

     Espiritu Santo- OBL      mouth/word-     OBL        ACOL

     'according to the Holy Spirit's word'

From a historical perspective, Ameka (1996: 811) tries to explain the formation of spatial relation terms as the result of a process of grammaticalization and reanalysis. In relation to Mochica, the presence of the

suffix <-Vc> which, in turn, is a locative marker, may suggest that a reanalysis took place, of the following structure: [name of part of the body-locative]. This would explain why Carrera (1644: 161) proposes that all the body part terms with the suffix <-Vc> should be translated with the preposition "in", "in the head", "in the forehead", "in the eyes", "in the ears", "in the nose", "in the mouth", "in the feet".

In short, in Mochica there is evidence for the result of a process of grammaticalization of certain body part terms into adpositions. A similar grammaticalization process can be observed in many other languages of the world, for example, in Nêlêmwa (Bril 2013: 81-82), in Yucatec Mayan (Lehmann 2003: 86-87), among others.

### 6.4.2.3. Nominalization and possession

Some nominalizations in Mochica can be analyzed as relational nouns. The genitive of the possessive phrases that include a nominalization is interpreted, at first glance, as a possessor, but Seiler (1983b: 111) establishes other possibile interpretations of the possessors of nominalizations. The relations between nominals can be relationships of subject, object or ambivalent (Seiler 1983a: 51-53; 1983b: 111-112).

As will be seen in Chapter 7, the Mochica language exhibits a rich system of nominalizations that includes both lexical and verbal nominalizations. For the purposes of this section, I concentrate on the cases of lexical nominalization, more specifically: deadjectival nominalization and the nominalizations achieved through the following nominalizing suffixes: <-Vc> instrumental and place/location nominalizer, <-pæc> agentive nominalizer, <-çVc> / <-ssVc> resultant or event nominalizer and <-tVc> locative nominalizer.

The nominalizer <-Vc> presented in (200) is used to create deverbal nominalizations of both place and instrument. Thus, <manic>, derived from <man-> 'to drink', 'to eat' can refer either to the place where one drinks or eats, such as the room, or to the container from which one drinks or eats something. Other cases similar to <manic> attested in possessive constructions in the *Arte* of Carrera (1644) can be mentioned, for example, <xllangic>, <xllangir> 'tomb', derived from the verb <xllang> 'to hide'; <filuc>, <filur> 'chair', derived from the verb <fel> 'to sit'; <ñeñuc>, <ñeñur> 'toy', derived from the verb <ñeñ-> 'to play'; and <cunuc>, <cunur> 'blanket' and <catæc>, <catær> (unknown etymology).

(200)   <manic>                                           (Carrera 1644: 5)

     man-   ic

     drink-   INS.NMLZ

     'place for drinking and eating'

The example in (201) illustrates a resultative nominalization (or event nominalization), formed with the nominalizer <-çVc> / <-ssVc>. As mentioned above, final <c> becomes <r> when it is possessed: <chiçæc> > <chiçær>.

(201)   <chiçæc>                                          (Carrera 1644: 5)

     chi-   çæc

     to be-   EVENT.NMLZ

     'grace, understanding[119]'

---

[119] According to Carrera (1644: 144) <chiçæc>, <chiçær> means "the being, will, understanding, judgement, skill, habit, etc." And according to Carrera (1644: 146) it also means "grace, the good, and all what has been said in the other explanation".

Example (202) shows the formation of <caxlltæc> 'bladder', derived from <caxll-> 'the urine' (Carrera 1644: 180) or 'the urines' (Carrera 1644: 100) with the locative nominalizer <-tVc>.

(202)  <caxlltæc>                              (Carrera 1644: 180)

    caxll-    tæc

    urine-    LOC.NMLZ

    'bladder'

The presence of the suffix <-tVc> is evidenced on different body part terms. These terms are attested with the variants/endings <-tic>, <-tæc>, <-tuc>, <-tær>, <-tærr>. This nominalizing suffix also undergoes the change of final <c> to <r>. The suffixes <-tær> and <-tærr> would be the possessed forms ending in <-r>, corresponding to possessed nominalizations.

The agentive nominalization behaves differently; when possessed, the agentive nominalizer <-pæc> does not undergo the same change of <c> to <r> as we saw above. Example (203) illustrates an agentive nominalization with <chicopæc>. An agentive nominalization, when possessed, receives the suffix <-æss> which, at least in form, is identical to the suffix that is used for alienable possessive phrases ending in a vowel; as shown in 6.3.2.2., <chicopæc> would become <chicopæss>.

(203)  <chicopæc>                              (Carrera 1644: 5)

    chi-      co-      pæc

    be-       CAUS-   AG.NMLZ

    'the creator'

Mochica also exhibits deadjectival nominalization. The suffix that generates deadjectival nominalizations is the suffix <-(V)ss>. This suffix resembles the

suffix <-(V)ss> present on nouns in alienable possessive constructions, after the process of relationalization, as observed in 6.3.2.2.

This way, <peñ>, 'good', becomes <peñ-æss> 'goodness', through the addition of the nominalizing suffix <-(V)ss>. In example (204), one can observe <peñæss> in a possessive construction, that is, 'our goodness', 'our good'. This raises the interesting question of whether the deadjectival nominalizing suffix <-(V)ss> and the relational suffix <-(V)ss> found in alienable possessive constructions are the same suffix.

(204)  <mæich peñæss>                                    (Carrera 1644: 200)

   mæich            peñ-    æss

   1PL.OBL          good-   DEADJ.NMLZ

   'our goodness'

Adelaar ([2004] 2007a: 336) discusses this suffix, proposing a similar analysis to the one proposed here. He considers both the nominalizing function and the relational function of this suffix: "Adjectives can be turned into abstract nouns by adding the suffix -æss/-äss, as in *peñ-æss* 'goodness' from *peñ* 'good'. Such nouns are always relational." (Adelaar ([2004] 2007a: 336). This suggests that he treats this suffix as one item with two different functions.

## 6.5. Mochica (nominal) attributive possession as a *continuum*

In this section, I discuss the possibility of presenting the Mochica attributive/nominal possession system as a *continuum*. It is important to consider, first, that various authors have identified a gradual scale that goes from the most inherent to the most contingent possession (Seiler 1983a: 5-6, Pamies 2004: 85). Second, it is relevant as well to keep in mind that typically, inalienable constructions are highly grammaticalized (Dahl & Koptjevskaja-

Tamm 1998: 41) and that the original construction expressing inalienable possession is shorter and simpler than that expressing alienable possession.

Mochica does not offer direct evidence for a clear process of grammaticalization of the possessive constructions; however, it is possible to rely on the cases of other languages that allow for observation of how the opposition between inalienable and alienable constructions could have developed. According to Dahl & Koptjevskaja-Tamm (1998: 40), there is ample evidence to prove that the alienable/inalienable distinction generally implies an opposition between an archaic inalienable construction and a more innovative alienable construction. In this sense, Nichols (1992: 117) and Heine (1997: 172) suggest that the possessive markers of inalienable nouns are older than those used for alienable nouns.

Figure 9 helps to explain the proposal of a continuum, the graph of concentric circles representing the conceptual distance with respect to the possessor, who would be in the center, in the darkest gray area. Thus, the innermost circles represent constructions of inalienable possession that would encompass three areas or circles of the graph: inalienable absolute possession, inalienable inabsoluble obligatory possession, and inalienable possession with double marking.
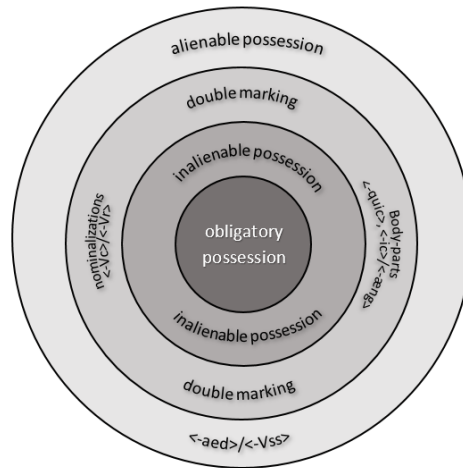
Figure 9.  Possessive classes of the Mochica nominal possession system

A noun in an absoluble inalienable possessive construction has zero marking and presents the absolutizing suffix <-quic> in non-possessive constructions. As seen in 6.3.1.2., the constructions of obligatory possession involve nouns that do not undergo any change based on whether they occur within or outside of a possessive construction, and in Figure 9, they occupy the second circle, see inalienable (obligatory) inabsoluble possession. The zone of double marking that is represented with lighter gray in the figure, occupies the third circle and is considered a transition area. In the transition area, one can find the nominalizations with double marking <-Vc> / <-Vr> and the nouns that accept double marking <-Vc> / <- æng> or <-eng>. The latter are mostly terms referring to body parts. These first three concentric circles involve relational terms and imply inalienable possession.

This same organization is observed with respect to the morphology in possessive constructions involving kin terms, as was shown in 6.4.1. This varies in relation to the conceptual distance with respect to the ego. Greater morphological complexity implies greater conceptual distance. This situation

resembles Michael's description (2013: 157-158) of Nanti. Applying his analysis to Mochica, one would group kin terms into different sets. The set closest to the ego would include terms that refer to parents and children, but nouns with cultural relevance such as: <uiz-quic> 'farm' and <xllon-quic> 'food', 'bread' would also be included in this group. Then, we would have the set of invariable grammaticalized terms of kinship and, finally, those that are found in the alienable field.

The suffix <-æng> has an important role in this proposal. First of all, it is necessary to call attention to its form, since it is reminiscent of one of the genitive markers in Mochica: <-ng>. The suffix <-æng> appears to have marked a greater conceptual distance, taking into account that less marking, or greater morphological simplicity, means smaller conceptual distance. On the other hand, <-æng> seems to be key to the explanation of a grammaticalization process because this affix can be seen as a transition, one stage in the grammaticalization process from the inalienable construction located on the left end of the continuum, to the most alienable structures located on the far right. See Figure 10. The need for a construction to arise was perhaps due to the fact that the construction used for inalienable possession became formally weak, and it was necessary to specify the relationship between the two nominals through a structure with more easily observable characteristics, and therefore, a more complex form (Dahl & Koptjevskaja-Tamm 1998: 41).

Thus, the proposal for the continuum describing the process of grammaticalization of possession structures in Mochica can be represented by Figure 10.

| inalienable possessive construction | transition | alienable possessive construction |
|---|---|---|
| mark zero ⟵──────── | ⟨-æng⟩ ────────⟶ | ⟨-æd⟩ / ⟨-ss⟩ |
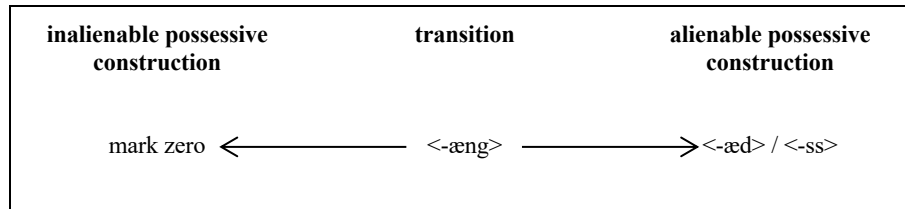
Figure 10. Mochica nominal possession system as a continuum in linear representation

## 6.6. Conclusions

The main goal of this chapter was to describe and explain the linguistic expressions of nominal possession in Mochica. In order to achieve this goal, I have analyzed the possessive constructions extracted from the *Arte* (Carrera 1644), and I have come to the following conclusions:

1. Mochica does not fit into the typology proposed by Nichols (1986, 1988, 1992) and Dahl & Koptjevskaja-Tamm (1998), which suggests that the languages that establish the distinction between inalienable and alienable possession tend to present a morphological marker on the head of the possessive construction, that is, on the possessed noun. Rather, Mochica's marking pattern varies according to the type of possessive construction.

2. Concerning the order of the possessor and the possessed item, there is no difference between nominal possessive constructions and pronominal possessive constructions, nor between alienable and inalienable constructions, as can be found in other languages (Croft 1990: 34, Aikhenvald 2013: 7). The order in Mochica is always GenN.

3. The oblique-genitive case marking on the possessor is the morphosyntactic strategy Mochica uses to establish the relationship of possession between two NPs. Besides the oblique-genitive case

marking on the possessor, there are also affixes in Mochica that appear suffixed to the head of the possessive phrase and that function as relationals (see 6.3.2.1. and 6.3.2.2.). Double marking represents a means of expressing possession in this language.

4. The Mochica nominal possessive system is best explained in terms of its possessive classes, as determined by distinctive marking strategies.

5. The system marking spatial relations in Mochica has a nominal origin; more specifically, the markers find their origin in grammaticalized body part terms. These markers are located in the inalienable possession field.

6. The Mochica system of nominal possession can be interpreted as a continuum, one end of which is occupied by the inalienable construction, and the other of which is occupied by the allomorphs expressing alienable possession. In the middle zone, one finds a transition area representing inalienable possessive constructions with double marking, characterized by the suffix <-æng>.

7. Some Mochica nominalizations are relational terms that I consider to belong to the inalienable possession field. The suffix <-æss>, which corresponds to the relational morpheme of alienable possession, is similar in form to the morpheme that functions as a deadjectival nominalizer.

*Chapter 7. Nominalization*

Mochica is rich in nominalizations, presenting both lexical and grammatical types. Despite the prominence of nominalization in Mochica, there has not been a systematic treatment of the various nominalization strategies so far. I present in this chapter my attempt to classify and describe lexical and grammatical nominalization in Mochica. While lexical nominalization produces items that can be grouped in the lexical category of noun, grammatical nominalization generates nominal expressions with no lexical status (Shibatani & Awadh 2009: 9, 22).

In 7.1. I describe lexical nominalization in Mochica, introducing the four nominalizing suffixes in the language: <-(V)çVc> / <(V)ssVc> 'event nominalizer' (section 7.1.1.1.), <-(V)pVc> 'agentive nominalizer' (section 7.1.1.2.), <-tVc> 'locative nominalizer' (section 7.1.1.3.), and <-Vc> locative/instrumental nominalizer (section 7.1.1.4.). The suffix <-Vc> is of particular interest, not only for its wide range of possible meanings, but also because the other three nominalizers end in this form, suggesting diachronic links that I will try to explore at the end of section 7.1. Section 7.2. of this chapter provides evidence of deadjectival and stative nominalization. Section 7.3. concentrates on grammatical nominalization, examining examples of nominalizations serving a relativization function (section 7.3.1.), a complementation function (section 7.3.2.), and an adverbial function (section 7.3.3.). At the end of this chapter, in 7.4., I offer a summary and present conclusions.

## 7.1. Lexical Nominalization

## 7.1.1. Deverbal lexical nominalization

I have been able to identify four nominalizing suffixes which filled the function of creating nouns from verbs in Mochica; these are listed in Table 20 and described in detail in the present section.

Table 20.  Mochica deverbal nominalizing suffixes

| Form | Type of nominalizer | Example | Section |
|---|---|---|---|
| <-(V)çVc><br><-(V)ssVc> | event | <læm-> 'to die'<br><læmiçæc> 'death' | 7.1.1.1. |
| <-(V)pVc> | agentive | <chi-co-> 'to be-CAUS-'= 'to create'<br><chicopæc> 'creator' | 7.1.1.2. |
| <-tVc> | locative/container | <caxll-> 'to urinate'<br><caxlltæc> 'bladder' | 7.1.1.3. |
| <-Vc> | locative, instrumental, etc. | <man-> 'to drink'<br><manic> 'drinking vessel' | 7.1.1.4. |

*7.1.1.1. The event nominalizer <-(V)çVc> / <-(V)ssVc[120]>*

Following Comrie & Thompson ([1985] 2007: 334-336), the suffix <-çVc> / <-ssVc> can be identified as an action/state nominalizer, which creates an "action noun". This kind of nominalization behaves differently from the lexical nominalizations presented in 7.1.1.2. and 7.1.1.3., in that it retains some verbal properties, as is typical of action nouns (Comrie & Thompson ([1985] 2007: 334).

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[120] As can be seen in examples (205) and (207), <-çVc> / <-ssVc> are just variant orthographic representations of the same sound.

I call the nominalizer <-(V)çVc> / <(V)-ssVc> an 'event nominalizer', although it could also be considered a resultative nominalizer. For instance, the noun <fæpiçæc> 'dream', derived from the verb <fæp->, could be taken as the result of the action of dreaming and be considered an objective noun, according to Comrie & Thompson ([1985] 2007: 334).

According to Carrera (1644: 144), both <chiçæc> and <chiçær> mean "existence, will, understanding, judgement, knack, habit"[121]. Additionally, Carrera (1644: 146) assigns more meanings to <chiçæc>: "grace, goodness and everything said in the previous explanation"[122].

(205)  <chiçæc>                                                    (Carrera 1644: 5)

       chi-      çæc

       be-       EVENT.NMLZ

       'grace, understanding'

This nominalization behaves as the head of a noun phrase, taking both possessor modifiers, as in (206) where <chiçæc> bears the possessive marker <-r>, and other modifiers such as demonstratives, as shown in (207). According to Carrera (1644: 5), the final <c> of the segment <-çVc> / <-ssVc> of this nominalization becomes <r> when found possessed in a possessive construction: <chiçæc> changes into <chiçær>.

---

[121] "el ser, la voluntad, el entendimiento, el juizio, la maña, la costumbre, &c" Carrera (1644: 144).

[122] "la gracia, el bien, y todo lo que queda dicho en la otra explicacion" Carrera (1644: 144).

(206)  <peño tzhæng chiçær>                    (Carrera 1644: 256)

peñ-    o       tzhæng        chi-    çær

good-   REL1    2SG.GEN       be-     EVENT.NMLZ

'your good grace'


(207)  <mo nopæto chissæc>                     (Carrera 1644: 242)

mo               nopæt- o      chi-    ssæc

DET.PROX         four-   REL1   be-     EVENT.NMLZ

'these four things[123]'


As stated above, this kind of nominalization tends to retain some verbal properties such as the preservation of arguments, as can be observed in (208):


(208)  <cutzhio maniçæc>                       (Carrera 1644: 255)

cutzhio          mani-  çæc

chicha[124]       drink- EVENT.NMLZ

'the drinking/consumption of chicha'


Spanish loan verbs in Mochica are nominalized with the aid of the copular verb <loc->; see example (209).


(209)  <comulgar læssæc>                       (Carrera 1644: 228)

comulgar           læ-    ssæc

receive communion  be-    EVENT.NMLZ

'communion'

---

[123] The text is only written in Mochica, but according to the context and the topic, 'these four things' are the *Novissima*, the last things every man has to face: Death, Judgment, Heaven and Hell according to Catholic eschatology.

[124] Alcoholic drink made from fermented maize.

This nominalized copular verb <loc-> can be found in (210) as relational preceding <fænæc> (spatial relation, postposition), which requires the oblique-genitive, it appears modified by the demonstrative <çio> in (210).

(210)  <Çio confessar læzcær e fænæc[125]>                    (Carrera 1644: 233)

| Çio | confessar | læ- | zcær | e | fænæc |
|---|---|---|---|---|---|
| DET.ANA | confess | be- | EVENT.NMLZ | OBL | ACOL |

‘According to that confession’

*7.1.1.2. The agentive nominalizer <-(V)pæc>*

Carrera (1644: 93) defines the suffix **<-(V)pæc>** as a participle, and interestingly he highlights the adjectival properties of such participles, and actually refers to them as adjectives[126]. He also makes a distinction between active (agentive nominalizer) and passive (stative nominalizer) participles. Most Mochica researchers refer to the agentive nominalizer/nominalization as an "active participle". For instance, Middendorf (1892: 111), Hovdhaugen (2004: 42), and Salas (2011a: 134[127]) use Carrera's terminology, whereas Adelaar ([2004] 2007a: 339-340) uses the term "agentive nominalization". The suffix <-(V)pæc> is indeed an agentive nominalizer, as defined by Comrie & Thompson ([1985] 2007: 337), which derives nominals meaning

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[125] <fænæc> is segmentable; it is a spatial relation term meaning 'according'.

[126] Carrera (1644: 93): "El participio es vn adjetivo, que se deriua de verbo, y significa tiempo. Los participios son dos vno de actiua, como *mìtapæc,* y es declinable, y otro de passiua , como *mètedo*, y es indeclinable, el de actiua se acaba en *pæc,* y el de *passiua* en *do"*.

[127] Salas (2011a: 134) uses the term Participio Activo to identify this nominalizer and considers it different from the nominalizer "-ssæ-", which he considers an infix.

'one which [verbs]'. The agentive nominalization in Mochica can take monovalent verbs (211) and bivalent verbs (212) as bases.

(211)  <chipæc>

    chi-    pæc

    be-    AG.NMLZ

    'the one who is/exists', 'the being'

(212)  <mitapæc>

    mit-    apæc

    bring-    AG.NMLZ

    'the one who brings (something)', 'the bringer'

Comrie & Thompson ([1985] 2007: 337) assert that the process of agentive nominalization can be unconstrained, as in the case of Tagalog, where any verb or adjective can derive a noun meaning 'the one which [verbs]', while in English some stative verbs cannot be used in agentive nominalizations. Nevertheless, as can be noted in example (211), Mochica allows agentive nominalizations of stative verbs, namely <chi-> 'to be', 'to exist'. Example (213) suggests that Mochica might accept most stative verbs as a base for this process. In example (213), the nominalized verb is the copular verb <loc->. Copular verb <loc-> seems to be originally <*l->. This can be observed more clearly when checking the cases of its event nominalization as <l-æssæc> and its agentive nominalization as <l-apæc>.

(213)  <Xllaxll læpæcô mecherræc>                              (Carrera 1644: 136)

| Xllaxll | l- | æpæc | -ô | mecherræc |
|---------|-----|---------|-------|-----------|
| Money | be- | AG.NMLZ | -REL₁ | woman |

    'The woman who has the money'

The agentive nominalization can have a predicative function, as demonstrated in (214):

(214)   Faiñapæc ô tzhang                                    (Carrera 1644: 136)

    Faiñ-    apæc            ô        tzhang

    lie-     AG.NMLZ        REL₁     2SG

    'You are a liar'

Agentive nominalizations in Mochica can also include objects, as in (215) and (216):

(215)   <chang tunapæc>                                    (Carrera 1644: 44)

    chang    tun-     apæc

    brother  kill-    AG.NMLZ

    'murderer'

(216)   <Tzhang aiapæco tzhang chicopæco Dios>           (Carrera 1644: 163)

    Tzhang  ai-      apæc-           o        tzhang  chi-     co-

    2SG     make-    AG.NMLZ-        REL₁     2SG     be-      CAUS-


    pæc-            o        Dios

    AG.NMLZ-        REL₁     God

    'God who made and created you'

The nominalization <chicopæc> 'creator' in example (216), attested frequently in the 1644 grammar, is an agentive nominal that results from the nominalization of the copular verb <chi-> following its increase in valency by means of the causative <-co>.

The final consonant changing rule (<c> > <r>) found in other types of nominalizations does not apply in agentive nominalization as part of possessive constructions. As seen in section 7.1.1.1., the event nominalization changes <c> into <r> in possessive constructions. It will be demonstrated that the same rule applies to locative nominalizations (section 7.1.1.3.) and to place and instrumental nominalizations (section 7.1.1.4.). When possessed, agentive nominalizations take the suffix <–æss>. Carrera (1644: 5) offers the following examples: <chicopæc> changes into <chicopæcæss> 'my creator'; <funocopæc> into <funocopæcæss> 'my provider', etc. This suffix is identical in form to the relational suffix used to mark alienable possessed items and to the deadjectival nominalizer <-Vss>. In section 7.2., I attempt to explain why this might be the same suffix.

In Mochica, combination of the agentive nominalization and a personal clitic generates a construction that has habitual aspect, as shown in (217) and (218):

(217)  <mitapæcoiñ>                                                (Carrera 1644: 5)

     mit     -apæc-         o       =iñ

     bring   -AG.NMLZ-   REL    =1SG

     'I always bring'/'I am the bringer'

(218)  <famapæcoiñ>                                               (Carrera 1644: 5)

     fam    -apæc-        o       =iñ

     cry    -AG.NMLZ-   REL    =1SG

     'I always cry' / 'I am the cryer'

In order to achieve this kind of habitual interpretation with Spanish loan verbs, the order of the constituents is changed, as illustrated in (219) and (220). The nominalized copular verbs precede the Spanish loan verbs in both examples.

(219)  <læpæcoiñ confessar>                                    (Carrera 1644: 149)

| l- | æpæc- | o | =iñ | confessar |
|----|-------|---|-----|-----------|
| be- | AG.NMLZ- | REL | =1SG | confess |

  'I always confess'

(220)  <læpæcoiñ comulgar>                                   (Carrera 1644: 157)

| l- | æpæc- | o | =iñ | comulgar |
|----|-------|---|-----|----------|
| be- | AG.NMLZ- | REL | =1SG | receive communion |

  'I always receive communion'

According to Carrera (1644), the Mochica verb <caf> is undeclinable. This is probably why it behaves in the same way as the Spanish loan verbs, as shown in (221).

(221)  <læpæcoz caf>                                         (Carrera 1644: 149)

| l- | æpæc- | o | =z | caf |
|----|-------|---|-----|-----|
| be- | AG.NMLZ- | REL | =2SG | work |

  'You always work'

Another case to be considered exceptional in the formation of these habitual constructions is the requirement of some bisyllabic[128] verbs to occur in a periphrastic construction involving the copular verb <loc-> 'to be', as in (222).

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[128] Hovdhaugen (2004: 42) notes: "There are some bisyllabic verbs that form the present participle not by adding the suffix -(a)pæc to the stem but with a periphrastic construction with the verb *loc* "to be" […]".

(222)  <mañaplæpæcoiñ>                                    (Carrera 1644: 148)

|        |       |       |       |       |
|--------|-------|-------|-------|-------|
| mañap  | l-    | æpæc- | o     | =iñ   |
| say    | be-   | AG.NMLZ | REL | =1SG  |

‘I always say’

The same happens with verbs like <michic> ‘to answer’ (Carrera 1644: 152) and <mællæc> ‘to talk’ (Carrera 1644: 156).

### 7.1.1.3. The locative nominalizer <-tVc> / <-tVr>

Comrie and Thompson ([1985] 2007: 340) explain that some languages have devices for creating deverbal nominalizations that derive a noun meaning ‘a place where [verb] happens’. The Mochica suffix <-tVc> can be analyzed as a locative (container type) nominalizer. It is often found in body-container part terms. These terms are attested with the following endings <-tic>, <-tæc>, <-tuc>, <-tær>, <-tærr>.

In Mochica this nominalizer appears to undergo the same change of the final <c> into <r>, as discussed in 7.1.1.1. in relation to the possessive constructions with event/result nominalizations. The variants <-tær>, <-tærr> are most certainly possessed forms ending in <-r> which correspond to nominalizations that form part of possessive constructions.

While some body part terms can be analyzed fairly transparently as lexical nominalizations, other cases are impossible to interpret due to the scarcity of known vocabulary in this language. For instance, in the case of (223) <caxlltæc> ‘bladder’ (Carrera 1644: 180), which is derived from <caxll> ‘urine’ (Carrera 1644: 180) or ‘the urine’ or ‘to urinate’ (Carrera 1644: 100), the etymology appears transparent, and one can suggest that it refers to a container or the place where urine is contained.

(223)  <caxlltæc>                                      (Carrera 1644: 180)

    caxll-              tæc

    urinate-            LOC.NMLZ

    'bladder'

Along the same lines, the following cases are easy to interpret. The body part term <eiz-tic> is recorded as 'the mother of the generation'[129] (Carrera 1644: 180) or 'uterus'. Its structure can be segmented into <eiz> 'child' and <tVc>, the locative nominalizer. Because of the flexibility of Mochica word classes, <eiz> can be interpreted as a verb related to having children, such as 'to beget' or 'to procreate.' This way, <eiz-tic> could mean 'the container where a child is begotten', or the 'place where a child is contained.' However, cases such as <cɥan-tic> 'eyelid'; <pi-tær> (<*pitæc>) 'esophagus'; and <laftic> 'ribs' are more difficult to segment while the derived nominals refer to body parts that can easily be conceived as containers, the stems <cɥan->, <pi->, and <laf-> are not attested in Carrera (1644). Table 21 offers more examples with body part terms with the locative nominalizer <-tVc>. In summary, in Mochica, as in other languages, many nouns referring to body parts are nominalizations.[130]

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[129] Carrera (1644: 180): 'la madre de la generacion'.

[130] According to Yeh (2011: 562) in Saisiyat, an Austronesian language, nouns referring to body parts are derived from verbs.

Table 21. Body parts terms in Mochica: Locative nominalizations with suffix <-tVc>

| | | |
|---|---|---|
| <cɥan-tic> | 'el parparo' (Carrera 1644: 177) | 'eyelid' |
| <pi-tær> | 'el tragadero de la vianda que va al buche' (Carrera 1644: 178) | 'esophagus' |
| <al-tærr> | 'la garganta' (Carrera 1644: 178) | 'throat' |
| <focal-tæc[131]> | 'el ombro' (Carrera 1644: 178) | 'shoulder' |
| <xeme-tæc> | 'el sobaco' (Carrera 1644: 178) | 'armpit' |
| <laf-tic> | 'las costillas' (Carrera 1644: 178) | 'ribs' |
| <faca-tæc> | 'las ingles' (Carrera 1644: 179) | 'groin' |
| <olme-tuc> | 'la rauadilla' (Carrera 1644: 179) | 'coccyx' |
| <caxll- tæc> | 'la vegiga' (Carrera 1644: 180) | 'bladder' |
| <eiz-tic> | 'la madre de la generacion' (Carrera 1644: 180) | 'uterus, womb' |
| <xllon[132]-tærr> | 'buche' (Carrera 1644: 180) | 'stomach' |

Source: Carrera (1644: 177-180)

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[131] <foc altæc> 'shoulder' and <altærr> (<*altæc>) 'throat' seem to be sharing the same verb base for the locative nominalization.

[132] <xllon> is attested as 'food' or 'bread', but this specific case could involve the verb 'to eat'.

### 7.1.1.4. Place and instrumental nominalizer <–Vc>

In what follows, I present the different realizations of the suffix <-Vc>, a nominal inflectional suffix that is present in various nominal contexts in Mochica. The suffix <-Vc> is another element that is often found as a nominalizer, and it appears to be highly productive and versatile in use. Concerning the Mochica verb <man-> 'to drink, to eat', it is interesting that <manic> can be identified as a) <man-ic>, instrumental or locative nominalization 'cup, drinking or eating vessel'; b) <man-ic>, the same instrumental nominalization that can be used methaphorically referring to a 'sensuous man or woman', person to be owned; or c) <man-ic>, place nominalization 'brothel' and 'dining room'.

(224)  <manic>                                                (Carrera 1644: 5)

     man-  ic

     beber-  NMLZ

     'cup, drinking or eating vessel, sensuous man or woman, brothel, dining room'

There are other terms similar to <manic> attested in Carrera (1644), both in absolute form and in possessive constructions. For example, <xllangic>, <xllangir> 'tomb' is derived from the verb <xllang-> 'to hide'; <filuc>, <filur> 'chair' is derived from the verb <fel-> 'to sit'; <ñeñuc>, <ñeñur> 'toy' is derived from the verb <ñeñ-> 'to play'; <mæchæc>, <mæchær> 'idol' is derived from the verb <mæch-> 'to adore'; <cunuc>, <cunur> 'sleeping blanket' and <catæc>, <catær> (unknown meaning) may also be derived nouns. As can be noted, the suffix <-Vc> functions as a nominalizer that derives verbs into nouns with various nuances, including instruments, patients, and places).

Interestingly, the possessed form of this nominalization is marked in the same way as the ones recorded for event nominalizations (section 7.1.1.1.) and locative nominalizations (section 7.1.1.3.); that is, with the change of final <-c> into <-r>. Example (225a) shows the <-Vc> nominalization in a possessive construction, and (225b) offers the case of the unpossessed nominalization.

(225a) <mæiñ cunur>                    (225b) <cunuc>    (Carrera 1644: 5)

Mæiñ          cun-    ur                cun-    uc

1SG.OBL       cover-  REL               cover-  DEREL

'my blanket'                            'blanket'

## 7.2. Deadjectival nominalization and stative nominalization

## 7.2.1. Deadjectival nominalization

Deadjectival nominalization, whereby nouns are derived from adjectives, is attested in the Mochica database, yet it is likely that not all adjectives can be nominalized. As noted by Roy (2010: 123), the ability of an adjective to be nominalized is linked to its predicativity, and consequently, the formation of deadjectival nominals is restricted by the semantic type of the adjective that constitutes the base. Taking into account a syntactic view of word formation, the nominalizing suffixes would only be attached to those adjectives that are generated in a predicative structure (Roy 2010: 124).

Deadjectival nominalizations are usually classified into two groups: *state-nominals*, which refer to a state an individual may be in, for example, *sadness*) and *quality nominals*, which refer to a quality that an individual possesses, such as *beauty* (Roy 2010: 136). All of the deadjectival nominals that I have been able to find in Carrera (1644) are *quality nominalizations*.

The derivational suffix involved in generating deadjectival nominalizations in Mochica is <-(V)ss>. For example, <peñ> 'good' is derived into the noun <peñ-æss> 'goodness' (226a). It is noteworthy that this nominalization, which can be considered to be the absolute form, has the same form when it occurs in a possessive construction, as in (226b). Other attested deadjectival nominalizations are <pissæss> 'evil' (Carrera 1644: 261) and <tarræss> 'strength' (Carrera 1644: 237).

(226a) <peñæss>                                              (Carrera 1644: 200)

    peñ-      æss

    good-     DEADJ.NMLZ

    'goodness'

(226b) <mæich peñæss>                                        (Carrera 1644: 200)

    mæich          peñ-      æss

    1PL.OBL        good-     DEADJ.NMLZ

    'our goodness'

Example (227) illustrates the adjective <piss> 'bad' or 'evil', inflected for plural, and modifying the nominalization <chipæc> 'being', 'human being':

(227)  <pissæno chipæc>                                      (Carrera 1644: 250)

    piss-    æn-      o        chi-    pæc

    bad-     PL-      REL1     be-     AG.NMLZ

    'the bad/evil ones'

Example (228) illustrates the deadjectival nominalization of <piss>:

(228)  &lt;xem can ñof pissæss&gt;                            (Carrera 1644: 261)

| xem- | c- | an | ñof | piss- | æss&gt; |
|------|----|----|-----|-------|-------|
| take away- | BEN- | IMP | 1PL.ACC | bad- | DEADJ.NMLZ |

'Dispel the evil from us'

The similarity between the nominalizing suffix &lt;-æss&gt; and the relational suffix &lt;-æss&gt; (&lt;-(V)ss&gt;) for alienable possessive constructions is striking (see examples (229) and (230)).

The phrase in (229) exemplifies an alienable possessive construction with the relational suffix &lt;-Vss&gt; attached to the possessum. Note that the suffix &lt;-Vss&gt; appears in this example as &lt;-iss&gt;.

(229)  &lt;mæiñ cɥilpiss&gt;                               (Carrera 1644: 6)

| mæiñ | cɥilp- | iss |
|------|--------|-----|
| 1PL.OBL | blanket- | REL |

'my blanket'

Example (230) shows the same nominal within a determiner phrase, where it does not take the relational suffix.

(230)  &lt;mocɥilpi&gt;                                    (Carrera 1644: 1)

| mo | cɥilpi |
|----|--------|
| DET.PROX | blanket |

'the blanket'

This suggests a possible connection between this deadjectival nominalizing suffix and the relational suffix, which I shall examine in the remainder of this section. Regarding the deadjectival nominalizer, Adelaar offers a tentative interpretation that deals both with the nominalizing and the relational

functions of this suffix: "Adjectives can be turned into abstract nouns by adding the suffix *-æss/-äss,* as in *peñ-æss* 'goodness' from *peñ* 'good'. Such nouns are always relational." (Adelaar ([2004] 2007a: 336).

My analysis is that <-Vss> has two related, but distinct functions: 1) as a relational marker in alienable possessive constructions (as in (229)); and 2) as a deadjectival nominalizer that creates abstract nouns (as in (226a)).

Likewise, <-æss> appears to be the same suffix that is added to agentive nominalizations in their possessed form, as demonstrated in 7.1.1.2. At this point in the discussion, it is valid to ask whether the element <–æss> also helps to express finiteness, in addition to serving a relational function. Are we, in fact, dealing with a single suffix? It is highly probable that this suffix has a defining function. In general, possession is closely related to definiteness, and the occurrence of this suffix in the contexts presented here supports the argument that this suffix behaves as a determiner or an article; that is, it defines or determines.

This proposal is further supported by the fact that the relational suffix <–æss> not only appears in possessive constructions, but also in nominal phrases with quantificational interrogative pronouns, as in (231):

(231)  <Æfxiass?>                                      (Carrera 1644: 167, 168)

  æf    xia-  ss

  how many  time-  REL

  'How many times?'

or with the preposition 'without', as in example (232):

(232)  pir ixllæssna                                    (Carrera 1644: 253)

    pir           ixll-æss         na

    without      sin-REL       one

    'the one without sin / the one who does not have sin[133]'

## 7.2.2. Stative nominalizer <-Vd-o>

Carrera (1644: 93) calls participial forms in Mochica "adjectives," referring to their attributive characteristics. There are two participial forms, the passive participle and the active participle, and they correspond to the nominalizers <-Vd-o> and <-pæc> (the latter presented in 7.1.1.2. as an agentive nominalizer).

Whereas Adelaar ([2004] 2007a: 340) refers to nominalizations with the suffix <-Vd-o> as stative nominalizations, Hovdhaugen (2004: 43, 52) identifies them as 'participles', 'preterit participles' and 'gerund suffixes'. While the term "stative nominalization" is often used to refer to nominalizations derived from stative verbs, I adopt Adelaar's (2004, 2011) terminology here. A stative nominalizer "can refer to an object or to the fact that an event occurs" (Adelaar 2004: 1458). Semantically, a stative nominalizer refers to a participant in an accomplished event or to one of its properties (Adelaar 2011: 371). Furthermore, on transitive verb roots a stative nominalization is co-referential with the object of the base and on intransitive verb bases, with the subject of the base (Adelaar 2011: 271).

In Mochica, there is no need for relativizers as already stated by Carrera himself (1644: 16). Thus, stative nominalization is involved in the formation

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[133] My own translation; the text is written only in Mochica and does not offer any kind of translation.

of some relative clauses (this point is also mentioned by Adelaar ([2004] 2007a: 341)). The stative nominalizer <-Vd-o> can be decomposed into two segments: a past participle PTCP and the relational suffix <-o>, that I have glossed REL₁. Example (233) illustrates a relative clause formed with stative nominalization:

(233)  <Æntaz taf queix Limac tædô ñofæn>                    (Carrera 1644: 16)

| Æntaz | ta | =f | queix | Lima- | c | t- | æd- | ô |
|-------|-----|------|--------|-------|-----|-----|---------------|------|
| NEG | yet | =COP | return | Lima- | LOC | go- | STATIVE.NMLZ- | REL₁ |

ñofæn

man

'The man who went to Lima has not yet returned'

In the case of examples (234) and (235), the nominalized form behaves as an adjective, and interestingly, in (234) it accepts inflection for number and takes the plural suffix <-æn>.

(234)  <læmædæno chipæc>                    (Carrera 1644: 236)

| læm- | æd- | æn- | o | chi- | pæc |
|-------|---------------|------|------|------|-----|
| die- | STATIVE.NMLZ- | PL- | REL₁ | be- | AG.NMLZ |

'the dead beings', 'the dead ones'

(235)  <Acan az metedca llopædo ech>                    (Carrera 1644: 103)

| Ac- | an | =az | met- | ed- | ca | llop- | æd- | o |
|------|-----|------|-------|-------|-----|--------|---------------|------|
| look- | IMP | =2SG | bring- | PTCP- | PFV | steal- | STATIVE.NMLZ- | REL₁ |

ech

thing

'Look, (I hope) you have not brought something stolen'

## 7.3. Grammatical nominalization

Nominalization is among the most common subordination strategies in the languages of South America (Gildea 2008: 11), being characteristic of both Andean languages (van Gijn, Haude & Muysken 2011:10) and Amazonian languages (Dixon & Aikhenvald (1999: 9). As regards the role of the constituents in the matrix clauses, the subordinate clauses attested in Mochica fall into three functional types: complements, relative clauses and adverbial clauses.

As can be seen in Table 22, many of the suffixes used for lexical nominalization are also used for grammatical nominalization.

Table 22. Lexical and grammatical nominalizers

| Form | Lexical nominalization | Section | Grammatical nominalization | Section |
|---|---|---|---|---|
| <-(V)çVc> / <-(V)ssVc> | event | 7.1.1.1. | complementation causal-adverbial | 7.3.2. 7.3.3.1. |
| <-(V)pVc> | agentive | 7.1.1.2. | embedded argument "headless relative" | 7.3.1. |
| <-tVc> | locative | 7.1.1.3. | | |
| <-Vc> | locative, instrumental, etc. | 7.1.1.4. | | |
| <-(V)d-o> | stative | 7.2.2. | relativization | 7.3.1. |

## 7.3.1. Nominalizations serving a relativizing function

At least two of the nominalization constructions discussed above, namely agentive nominalization with the <-(V)pæc> nominalizer (seen in 7.1.1.2.) and the <-Vd-o> stative nominalizer (presented in in 7.2.2.), serve a relativizing function in Mochica, as can be observed in examples (236), (237) and (238) respectively.

Examples (236) and (237) are cases of headless relative clauses formed with the suffix <-(V)pæc>:

(236)  <Tzhichfe [sic] ænta missa acapæc>                    (Carrera 1644: 44)

| Tzhæich- | fe | ænta | missa | ac- | apæc |
|----------|----|----|----|----|----|
| 2PL- | COP | NEG | mass | hear/listen- | AG.NMLZ |

'You are the ones who do not listen to mass.'

(237)  <aioæne chang tunapæc>                    (Carrera 1644: 44)

| aio- | æn | e | chang | tun- | apæc |
|------|----|----|----|----|----|
| that- | PL | COP | brother | kill- | AG.NMLZ |

'those are killers.'

In example (238), the suffix <-Vd-o> has a relativizing function:

(238)  <Æntaz taf queix Limac tædô ñofæn>                    (Carrera 1644: 16)

| Æntaz | ta | =f | queix | Lima- | c | t- | æd- | ô |
|-------|----|----|----|----|----|----|----|----|
| NEG | yet | =COP | return | Lima- | LOC | go- | STATIVE.NMLZ- | REL1 |

ñofæn
man

'The man who went to Lima has not yet returned'

## 7.3.2. Nominalization serving a complementation function

In the case of complement clause formation in Mochica, the nominalizer involved is <-(V)ssVc> / <-(V)çVc> (section 3.1.). See the relevant examples in (239) and (240).

(239)   Confessar læçæc fe poc penitençia                          (Carrera 1644: 233)

| Confessar | l- | æçæc | fe | poc |
|-----------|----|------|----|-----|
| Confess | be- | EVENT.NMLZ | COP | name/call |

penitençia.
penance
'The confession is called Penance.'

(240)   <la lecɥæc tæ çæc fe poc Baptismo>                          (Carrera 1644: 233)

| la | lecɥ- | æc | t- | æçæc | fe | poc |
|----|-------|-----|-----|------|----|-----|
| water | head- | LOC | go- | EVENT.NMLZ | COP | name/call |

Baptismo
Baptism
'Getting water on the head is called Baptism.'

## 7.3.3. Nominalization serving an adverbial function

Adverbial clauses can be defined as clausal entities that modify, in a general sense, a verb phrase or a main clause, and express a conceptual-semantic concept such as simultaneity, causality, conditionality, etc. (Hetterle 2015: 2).

*7.3.3.1. Adverbial causal clauses with the nominalizer <-(V)ssVc>*

In Mochica, one type of adverbial clause that originated in a nominalization can be identified: the causal clause.

Example (241) illustrates an adverbial causal clause with the event nominalizer <-(V)ssVc>.

(241)   <Santa Iglesiang ssap mænoix cæp, christiano chissæc>   (Carrera 1644: 231)

| Santa Iglesia- | ang | ssap | mæn | =oix | cæp, |
|---|---|---|---|---|---|
| Holy Church- | OBL | word | ACOL | =1PL | pay, |

| christiano | chi- | ssæc |
|---|---|---|
| christian | be- | EVENT.NMLZ |

'According to the Holy Church's teaching, we pay (tithe is implied) because of being Christians'.

## 7.4. Conclusions

The religious texts written exclusively in Mochica with no Spanish translations, included in the grammatical description of Fernando de la Carrera (1644), offer an insight into this language, and in spite of the limited information, it is still possible to approach it systematically.

With regard to nominalization in Mochica, two processes are identifiable: (a) lexical nominalization, a derivational process that creates lexical nouns from other lexical categories such as verbs and adjectives; and (b) grammatical nominalization, a syntactic process that "allows a clause to function as a noun phrase within a broader syntactic context" (Genetti et al. 2008: 98, 116). As has been shown, some nominalizers in Mochica form part of both lexical

nominalization and grammatical nominalization, which shows that the distinction between these two processes is not very well defined.

With regard to lexical nominalization, by which a noun is derived from other lexical entities, Mochica exhibits the following suffixes: (1) the very versatile nominalizer <-Vc>, which can function as a locative nominalizer, an instrumental nominalizer and an agentive nominalizer; (2) a set of multiple nominalizers, each dedicated to specific functions: the event nominalizer <-(V)ssVc> / <-çVc>, the agentive nominalizer <-(V)pVc> and the locative nominalizer <-tVc>; (3) the deadjectival nominalizer <-Vss>; and (4) the stative nominalizer <-Vdo>.

Interestingly, some of these nominalizers share a sequence that corresponds to the <-Vc> nominalizer. With respect to the nominalizers sharing the <-Vc> ending, one can assume that only the consonantal morphemes in this recurrent suffix would be the elements that assign different semantics to each of the cases (event, instrumental, and agentive nominalizers).

Nominalization serves relativizing, complementation and adverbial functions. Some lexical nominalizers, namely, the event nominalizer, the agentive nominalizer and the stative nominalizer, are used in grammatical nominalization constructions. This fact shows that the distinction between lexical and grammatical nominalization in Mochica is not clear-cut as reported for the Aguaruna nominalizations (Overall 2017: 487).

*Chapter 8. The Mochica numeral*
*classification system*

The presence of numeral classifiers is unusual among Andean languages, but they are common among Amazonian languages. Among the so-called Andean languages, this feature is present on the eastern slopes in the extinct languages Cholón and Hibito. Mochica also presents numeral classifiers. Mochica has a peculiar numeral classifier system that has been previously analyzed by Middendorf (1892: 129-131), Torero (2002: 346-347), Hovdhaugen (2004: 26), Adelaar ([2004] 2007a: 342-343), and Salas (2008, 2011b, 2012b: 154-176). Interestingly, Mochica classifiers do not behave like the ones found in Amazonian languages. This chapter offers a reexamination of the Mochica numeral classifier system that intends to explain that it cannot be understood as a numeral classifier system *stricto sensu*, but rather as a numeral classifier system in transition towards a specific counting system.

## 8.1. Bender & Beller's account of numeral classification systems

In order to clarify the proposal that the Mochica numeral classification system is a system in transition from a numeral classifier system towards a specific counting system, it is relevant to present the cases of the languages studied by Bender & Beller (2005, 2006a, 2006b, 2007a, 2007b, 2011).

Among Micronesian languages, Bender & Beller (2007b: 824) identify at least four types of counting systems, namely 1) involving standard classifiers, 2) quantifiers, 3) power[134] classifiers and 4) classifiers that adopt both classifying and multiplying functions. Concerning standard classifiers, these authors explain that they simply classify the objects of reference while quantifiers introduce a new counting unit such as bunch or group.

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[134] The term power classifier was suggested first by Benton (1968), who saw that power terms could be considered as a particular type of numeral classifiers.

Chuukese, for example, presents a hundred and one "real" classifiers and also has quantifiers which imply a category that comprises enumerable or measurable quanta. In Chuukese, quantifiers typically refer to portions of food and to other units of counting and measuring. Most of these units of counting and measuring are numerically imprecise, but five of them imply a specific value: *yáf*, for example, refers to ten coconuts (Bender & Beller 2007b: 823). Power classifiers do not classify, but multiply, indicating a precise value that acts like a factor for the numeral it is adjoined to. Power classifiers, present in Micronesian languages, replace other classifiers and "indicate the new counting unit independently of the object concerned" (Bender & Beller 2007b: 824). They are "classifiers with a fixed numerical value" (Bender & Beller 2006a: 388). Woleaian exhibits power classifiers (*-ig, -biugiuw*) in counting animates *se-ig* 'one-ten' '10'; *se-ig me riuwe-mal* 'one-ten and two animate' '12'; *riuwe-ig* 'two ten' '20'; *se-biugiuw* 'one hundred' '100' (Bender and Beller 2011: 585). In this very specific case *–ig* 'ten' and *–biugiuw* 'hundred' determine the counting unit.

There exists also a kind of classifier that adopts both a classifying and a multiplying function. These classifiers provide a precise value and are restricted to certain objects indicating, for example, "tens of coconuts". This type of classifier can be exemplified with the case of Tongan. The Tongan general number system is founded on base ten (Bender & Beller 2007a: 213), but several objects are counted using diverging systems with at least partly specific terms for certain numbers. Among these objects are pieces of sugar cane thatch (*au*), coconuts (*niu*), pieces of yam for planting (*konga 'ufi* or *pulopula*), whole yam (*'ufi*), and fish (*ika*).

The counting of these objects follows specific patterns that share one feature: counting proceeds in pairs and scores. For all objects, the pair is the smallest

unit: *nga'ahoa* for sugar cane thatch, yam and fish, and *taua'i* for coconuts. Counting of sugar cane thatch proceeds in tens of pairs (*tetula*), hundreds and thousands of pairs while coconuts, yam and fish from 20 onwards are counted in scores. The term for one score for coconuts is *tekau*, occasionally also for yam (Bender & Beller 2007a: 219).

After inspecting the role of numeral classifiers for specific counting systems in Polynesian and Micronesian languages and attempting to trace the origin of specific counting systems in those languages (2006a: 399-401; 2006b: 41-42), Bender & Beller come to the conclusion that a number system can be extended in two dimensions: classifiers can be added "in breadth" in order to differentiate ways of counting for different objects, and classifiers can also be added "in length" that is, at the end of a power series in order to extend the counting range (2006a: 397).

For instance, in Tongan, several objects were counted using diverging systems with at least partly specific terms for certain numbers. These objects are natural products used for subsistence: pieces of sugar cane thatch, pieces of yam for planting, whole yam, fish, coconuts, and one type of pandanus leaves (Bender and Beller 2005: 216). Coconuts, yam and fish from twenty onwards are counted in scores. The term for 'one score' depends on the counted object. For the counting of coconuts and yam, a further term refers to "tens of scores" (*tefua* for coconuts and *tefulu* for yam). The first extension results in a large number of classifiers, and high numerals are the result of the second extension. The combination of the two extensions offers a third variant which constitutes a specific counting system that makes possible an acceleration of counting.[135]

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[135] Whereas in Bender & Beller (2006a: 399-401; 2006b: 41-42) only two variants of extensions are mentioned, in Bender & Beller (2011: 588) the authors speak of a third variant of extension: *density*. Other than just mentioning that it is a third variant of

As stated by Bender & Beller (2007b: 821), specific counting systems are characterized by a combination of two features: their bases are larger counting units (multiplication function) and they apply to certain objects only (object specificity).

Bender & Beller (2006b; 2006a; 2007a: 825) propose that the reason for applying specific counting systems in Polynesian and Micronesian languages was to extend the original number system to large numbers and resulted from cultural adaptations. Another important remark by Bender & Beller (2006b: 42) needs to be mentioned: it seems that evidence of the surveyed Polynesian and Micronesian languages suggests that the appearance of specific counting systems would have developed for a reason. However, since this is impossible to confirm, the option of the development from a numeral classifier system is plausible as well.

## 8.2. Analysis of the Mochica numeral classification system

### 8.2.1. General description

Mochica has a decimal system with two forms of numerals, namely the free forms that are used to enumerate and calculate, as in abstract counting, and a set of bound forms that are used in combination with numeral classifiers. See Table 23.

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extension, the idea remains the same: it gives rise to a specific counting system that enables acceleration of counting.

Table 23. Free and bound numerals in Mochica

| | Ten-based numerals Carrera (1644: 181) | Bound forms Carrera (1644: 185) |
|---|---|---|
| 'one' | <**on**æc> | <**na**> |
| 'two' | <at**p**ut> | <**pac**> |
| 'three' | <**ço**pæt> | <çoc> |
| 'four' | <**no**pæt> | <**noc**> |
| 'five' | <exllmætzh> | - |
| 'six' | <tzhaxlltzha> | - |
| 'seven' | <ñite> | - |
| 'eight' | <langæss> | - |
| 'nine' | <tap> | - |
| 'ten' | <çiæcɥ> | - |

The following examples show the use of these free (242) and bound forms (243):

(242)   <onæc ñaiñ>                                        (Carrera 1644: 103)

onæc     ñaiñ

one      hen

'one hen'


(243)   <çoc pong cɥelû>                                   (Carrera 1644: 186)

çoc                  pong              cɥelû

three.BOUND     NUM.CLF.ten      hawk

'thirty hawks'

In relation to the numerals, first, one has to consider the possibility for fossilized numeral classifiers which can be discovered in the free form numerals of Mochica. The Mochica numeral <onæc> 'one' may have been a lexicalized item <-Vc> (segmentable as <on-æc>). Taking into account the

following other numerals <a(t)put> '2', <çopæt> '3' and <nopæt> '4', one discovers another potential ending <-pæt>.[136] The word for 'tree' in Mochica is <nepæt>, which is a plausible etymology of this potential classifier. These numerals '1' to '4' are free forms — in contrast to their coexisting Mochica bound forms that are attached to numeral classifiers. As stated above, these free forms are used for citing or reckoning.

In languages that have classifiers it is common to find numerals recorded with extra morphology (for an example from Hibito and Cholón, see Eloranta (2017)). One piece of evidence for this conclusion is that, cross-linguistically, general classifiers tend to be attached to the citation form of numerals, probably because speakers tend not to count in abstract terms, but rather conceptualizing numbers as reckoned items or objects. Therefore, one can suggest that the elements <-æc> and <-pæt> were likely a nominal element such as a noun classifier or a lost numeral classifier that remains fossilized in the numerals[137].

Mochica has a set of attested morphemes, called "ways of counting" by Carrera (1644: 181-188), that are used to count in pairs, <luc> and <felæp>; in tens, <pong>, <ssop>, <cɥo(quixll)> and <cæss>; in hundreds, <palæc> and <chiæng>; in thousands, <cunô>; and two mensural classifiers <col> and <ñofæn>. Classifier <xa>[138] is used for counting times. Table 24 presents all

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[136] The variation of <u>, <æ> and <i> is very common in the Mochica colonial representations.

[137] Numeral classifiers occur in numerical or quantifying expressions and noun classifiers occur independently of other modifiers in a noun phrase (Aikhenvald 2000: 90).

[138] Hovdhaugen (2004: 26) considers <xa> an ordinal and a frequentative suffix. Salas (2011b) calls this element both quantifier and operator.

numeral classifiers, including the nominal class classified, the gloss and an example from Carrera (1644).

Table 24. Mochica numeral classifiers

| classifier | Nominal class according to Carrera (1644) | gloss | example (Carrera 1644) |
|---|---|---|---|
| <pong> | to count men, horses, goats, canes and everything else that is not money or fruits | NUM.CLF: ten, animates, animal, human, erect object (trees, canes) | na pong cabra[139]<br>na-pong-cabra<br>one-NUM.CLF: ten animal-cabra<br>'ten goats' |
| <ssop> | to count money, coins and days | NUM.CLF: ten, money, coins, units of time, days | na ssop  xllal<br>na-ssop-xllal<br>one-NUM.CLF: ten money-silver<br>'ten reales' (Spanish silver coins) |
| <cɥo> | to count fruits, corn ears and other things in groups of ten | NUM.CLF: ten, fruits, corn ears, other things | na cɥo  quixll<br>na-cɥo -quixll<br>one-NUM.CLF: ten-fruit<br>'ten [corn ears]' |
| <cæss> | ten days | NUM.CLF: ten, days | na cæss<br>na-cæss<br>one-NUMCLF: ten-day<br>'ten days' |

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[139] Hispanicism for 'goat'.

| classifier | Nominal class according to Carrera (1644) | gloss | example (Carrera 1644) |
|---|---|---|---|
| <palæc[140]> | hundred | NUM.CLF: hundred | na palæc<br>na-palæc<br>one-NUM.CLF:<br>'hundred, 100' |
| <chiæng> | to say hundred and count fruits, etc | NUM.CLF: hundred, fruits | na chæng [sic]<br>na-chiæng<br>one-NUM.CLF:<br>hundred-fruit<br>'hundred (fruits)' |
| <cunô[141]> | 1000 | NUM.CLF: thousand | na cunô<br>na-cunô<br>one-NUM.CLF:<br>thousand<br>'thousand, 1000' |
| <luc> | pair of plates, or food *mates*[142], pair of *pepinos*[143] and other things like fruit | NUM.CLF: pairs of fruits, plates, not so deep container for (solid?) food | naluc<br>na-luc<br>one- NUM.CLF: pair<br>'one pair' |

[140] Cerrón-Palomino (personal communication, January 14, 2020) suggests that <palæc> originated in the Quechuan term *pachaq* for '100'.

[141] Cerrón-Palomino (personal communication, January 14, 2020) suggests that <cunô> originated in the Quechuan term *huno* for '1000000', the highest number used in Quechua.

[142] A *mate* is a gourd container resembling a plate, see Figure 10.

[143] *Pepino* is known in English as "sweeet pepino". It denotes the *Solanum muricatum* which is a round-shaped juicy fruit.

| classifier | Nominal class according to Carrera (1644) | gloss | example (Carrera 1644) |
|---|---|---|---|
| <felæp> | pair of *potos*[144], birds | NUM.CLF: deep concave container, (for liquids?) | nafelæp<br><br>na-felæp<br><br>one-NUM.CLF: pair<br><br>'one pair' |
| <col> | horse | NUM.CLF: measurement unit, quantity, load, measure of uncountable objects of a possible solid consistency | na col mang<br><br>na-col-mang<br><br>one- NUM.CLF: load that a horse can carry -corn<br><br>'one horse of corn' |
| <ñofæñ> | *estado*[145] | NUM.CLF: measure unit, quantity, to measure uncountable objects of possible liquid consistency | pac ñofæñ là<br><br>pac-ñofæñ-là<br><br>two- NUM.CLF: measure-water<br><br>'two *estados* of water' |
| <xa><br><xia> | time | NUM.CLF:<br><br>to count times | pac xia ixll aio<br><br>pac-xia-ixll-aio<br><br>two-NUM.CLF: time-sin-DET<br><br>'two times (that) sin' |

Source: Carrera (1644: 181-188)

After presenting all the Mochica numeral classifiers in Table 24, my intention is to explain, in 8.3.1.; 8.3.2.; 8.3.3.; 8.3.4. and 8.3.5. how these classifiers can be grouped according to their behavior.

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[144] *Poto*, from Quechuan *putu* 'vessel' is a common use Peruvianism denoting a vessel often used to drink an alcoholic beverage called *chicha*.

[145] An *estado* was a longitudinal measure equivalent to two *varas*.

## 8.3. Mochica numeral classifiers

### 8.3.1. Counting in pairs

Mochica has two pair-counting[146] classifiers, namely <felæp> to count birds and *potos* or drinking vessels (see Figure 11), and <luc> for plates or *mates* of food, *pepino*s and fruits or crops (see Figure 12). The difference between the containers counted by these two pair classifiers relies on their depth and the consistence of their contents (Eloranta 2012): a *poto* can contain liquids, while a *mate* can contain dry food. The origin of these two classifiers can be traced back to a verbal —and not a nominal— root, namely the positional verbs 'to sit' <fel-> and 'to stand' <loc->, reflecting somehow the state of the objects being held in the vessels. The bound numeral is prefixed to the pair classifier in question: *na-felæp* or *na-luc* 'one pair'.

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[146] Some Micronesian languages such as Kiribati, Marshallese or Puluwatese appear to have systems of pair counting (Bender & Beller 2006b: 391). Fish, breadfruit and coconuts may be counted in pairs in Puluwatese (Elbert 1974: 111, cited in Bender & Beller 2006b: 391). See Pache (2018: 275) for a reference to other South American languages with possible systems of pair counting.

Figure 11.        *Poto* vessel, deep (Photo by Rita Eloranta)



Figure 12.        *Mate* plate (Photo by Rita Eloranta)

Figure 13.        Comparison of the shape and depth between a *poto* and a *mate*
(Photo by Rita Eloranta)

Figures 11, 12 and 13 visually highlight the perceptual and functional difference between the two containers: a *poto* is deeper with higher sides, suitable for containing liquids, while a *mate* is shallower with shorter sides, better suited for holding solids. In relation to <luc>, Salas (2012b: 158) suggests an etymology in *loc* 'foot', but such an analysis does not fit with the postural/stative dichotomy that a sit/stand etymology does. Even though such a way of pair counting existed in Mochica, not all objects were counted in pairs. Example (244) clearly demonstrates it. The free form is used and not the bound form as in the pair classifier examples above.

(244)   aput mellu                                               (Middendorf 1892:188)

        aput      mellu

        two       egg

        'two eggs'

## 8.3.2. Counting in tens

The attested classifiers for tens are <pong>, <ssop>, <cɥo(quixll)> and <cæss>. The classifier for ten <pong> has a clear nominal etymology in the Mochica word <pong> 'stone'. Mochica <pong> means mainly 'stone' or 'rock' but it also referred to ancestors and adoration or cult-places[147] (Calancha 1639: 535). According to Carrera (1644: 183), <pong> is used to count people, horses, goats, canes and everything else which is not coins or fruits. The classifier for tens <ssop> finds its etymology in the word <ssop> 'rope, cord' (Middendorf 1892: 68), and is used to count coins and days (Carrera 1644: 183). According to attested examples in the religious texts included in the grammatical description of Carrera (1644), this classifier is also used to count abstract concepts from the Catholic tradition such as commandments, sacraments, words, etc. See example (245):

(245)

<Nassoplecɥof mo Diosissap>                                    (Carrera, 1644: 164)

| Na- | ssop | lecɥ- | o- | f | mo | Dios- | i |
|------|------|-------|-----|-----|-----|-------|-----|
| one.BOUND- | NUM.CLF.ten | main | -REL1- | COP | DET.PROX | God- | OBL |

ssap

word

'Ten are (these) God's commandments.'

The form <cɥoquixll> has so far been considered a classifier (Adelaar [2004] 2007a: 343; Hovdhaugen 2004: 26; Salas 2012b: 170) to count tens of fruits,

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[147] "Adoraron tanbien los Pacas mayos i Yungas a unas piedras a quien asta oy llaman Alecpong, que quiere decir, deidad en piedra…"

ears of corn and other things (Carrera 1644: 186). Nevertheless, by inspecting the examples of the grammar (Carrera 1644: 186), the attested form appears to be only <cɥo> like in (246):

(246)  <na cɥo quixll>                                    (Carrera 1644: 186)

    na-              cɥo      quixll

    one.BOUND-        ten      fruit

    'ten fruits'

The classifier for tens <cæss> seems to be a fixed expression meaning 'ten days'. In the attested example (Carrera 1644: 186), it shows only that it serves to count days in groups of tens. The classifiers to count in tens can be analyzed as a subsystem, where <pong> can probably be a sort of general classifier which serves to count specific items and "everything else which is not coins or fruits" (Carrera 1644: 183). Coins are counted by means of <ssop> and fruits by means of the classifier <cɥo>. This way one can assume that there is an existing dichotomy of complementary distribution between <ssop> and <cɥo>.

## 8.3.3. Counting in hundreds and thousand(s)

Besides the system of classifiers to count in tens, Mochica also presents classifiers that are used to count in hundreds. The terms for counting hundreds of items are: <palæc> (Carrera 1644: 184) and <chiæng> (Carrera 1644: 186). Regarding <palæc> there is no mention of the items that can be counted by means of this classifier, but the other form attested to count in hundreds <chiæng> is recorded with the information about the items that can be counted: fruits. It seems plausible that these two classifiers could have been

part of a subsystem, as well, where there would be complementary distribution also observable in the dichotomy shown between classifiers for counting tens.

No single Mochica scholar considers <cunô> as a classifier for counting thousands. There is no mention of items counted with <cunô>. Presumably there was another term to count thousands, thus counting all items that could not be counted with <cunô>. This would be consistent with a pattern of complementary distribution dichotomy observed in the subsystems of the classifiers for tens and hundreds. It can be argued that <cunô> is not a numeral classifier and that assuming so is speculative, but the evidence recorded in Carrera's grammar shows this item presented in combination with the bound form of the numeral prefixed to it. This corresponds perfectly to the way numeral classifiers are treated. I propose that <cunô> shall be considered a numeral classifier for counting thousands. See example (247).

(247)  na cunô                                                    (Carrera 1644: 186)

na-              cunô

one.BOUND        thousand

'one thousand   1000'

## 8.3.4. Counting times

The term <xa> is not registered as "ways of counting" by Carrera (1644), which means that it is not obvious that we are facing another case of a numeral classifier. Salas (2011b) names this lexeme "operator" or "quantifier" and does not include it in his list of Mochica numeral classifiers nor does any other Mochica researcher. Salas (2011b) clarifies the panorama in relation to this lexeme, identifying its variants <xa> and <xia> contrasting his analysis against Hovdhaugen's assumption (Hovdhaugen 2004: 26) that considers

these two forms two different suffixes: <xa> an ordinal suffix and <xia> a frequentative suffix.

In what follows, I will try to justify why <xa> can be seen as a numeral classifier. First, by examining example (248) we can observe that <xa> / <xia> is used in combination with <pac> 'two' (bound form numeral). We can see that the structure in (248) corresponds perfectly to a numeral classifier phrase. Classifier <xa> / <xia> is present in contexts for counting times and in the interrogative phrases for asking 'how many?'.

(248)  <pac xia ixll aio>                                             (Carrera 1644: 237)

    pac        xia    ixll    aio

    two.BOUND    time    sin    DET.DIST

    'two times (that) sin', 'sinned the same sin twice'

A numeral classifier phrase is not the only instance where a numeral classifier can appear. A numeral classifier also appears in interrogative quantifier phrases where 'how many' is a quantifier. Akatek (Mayan) offers an example of 'how many' in combination with a numeral classifier.

(249)  jay-k'on-ne no'no' yuul konob                                  (Zavala 2000: 118)

    jay-    k'on-    ne    no'    no'    yuul    konob

    how.many-    NUM.CLF-    only    NUM.CLF:    animal  in    town

    'How many animals are there in town?'

Tzotzil (250) provides a similar example[148]:

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[148] Thanks to Igor Vinogradov for the illustrating examples of Tzotzil (Vinogradov, personal communication, January 27, 2018).

(250) jayvo' yol ta sk'an

| jay= | vo' | y- | ol | ta |
|------|-----|-----|-----|-----|
| how.many= | CLF:person | 3SG.POSS- | child | IPFV |

| s- | k'an |
|-----|------|
| 3SG.ERG- | want |

'How many children does [she] want?'

One Mochica attested example showing an interrogative quantifier phrase where 'how many' is present can be observed in (251).

(251) <Æf xiass?>                                      (Carrera 1644: 167)

| Æf- | xia- | ss |
|-----|------|-----|
| how.many- | NUM.CLF- | REL |

'How many times?'

## 8.3.5. Mensural classifiers

According to the present analysis, mensural classifiers are also attested in Mochica (Carrera 1644: 186). Mensural classifiers "*create* a unit of measure" (Nomoto 2013: 8; Dalrymple & Mofu 2012: 253). In classifier languages (as in non-classifier languages, as well), numerals cannot directly modify mass nouns like 'water' or 'air' (Nomoto 2013: 8). A mensural classifier "acts as a massifier, **individuating** portions of the denotation of the noun" (emphasis in original) (Dalrymple & Mofu 2012: 253).

The Mochica mensural classifiers[149] attested are <ñofæn> meaning 'man' and <col> translated as 'horse' but meaning 'llama'. The term <ñofæn> is

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[149] Salas (2008: 149) refers to these items as quantifiers.

translated as *'estado'* (Carrera 1644: 186). One *'estado'* or *'state'* corresponds to the height of a man, about seven feet, and was used previously to measure depth and height. The term <col> (Carrera 1644: 186) refers to the amount of load a llama can carry. In the example provided in Carrera (1644) the load consists of maize. Once again, one can establish a liquid/solid opposition as the defining semantic property for classifying objects to be categorized/measured as seen in the case of the pair counting classifiers <felæp> and <luc> in 8.3.1.

## 8.4. Conclusions: Between a numeral classifier and a special counting system

As we have seen, specific counting systems are characterized by a combination of two features. Their basis are larger counting units (multiplication function) and they apply to certain objects only (object specificity) (Bender & Beller 2007b: 821). The Mochica system includes some morphemes that cannot be seen as typical numeral classifiers. They share some features comparable to those in the languages studied by Bender & Beller (2005, 2006a, 2006b, 2007a, 2007b).

The Mochica classifiers used to count tens, hundreds and thousands clearly exhibit the multiplication feature. Because of this feature, they could either be understood as "power classifiers"[150] or as classifiers belonging to a specific counting system. Nevertheless, as seen before, the function of object specificity is essential to define a specific counting system classifier.

In spite of the fact that Mochica classifiers share some features comparable to the ones present in the languages studied by Bender & Beller (2006a, 2006b,

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[150] As we have observed, power classifiers do not classify, they multiply, indicating a precise value that acts as a factor to the numeral adjointed to.

2007a, 2007b), they retain their very own peculiar characteristics and this is the main reason why, according to the present analysis, the Mochica system can be considered neither a numeral classifier system in a strict sense nor a specific counting system.

Mochica numeral classifiers for pairs also appear to be adjustable to a specific counting system similar to the ones present in Austronesian languages. Nevertheless, the object specificity in the Mochica system is not fully one object-specific; the units classify and group sets of objects the way a numeral classifier in a strict sense would do.

Evidence from the surveyed Polynesian and Micronesian languages (Bender & Beller 2006a, 2006b, 2007a, 2007b) does not only support the hypothesis that the emergence of specific counting systems would have been developed on purpose, but it seems equally plausible that it developed from a numeral classifier system. Following this, and because one cannot fully consider the Mochica system as a specific counting system, my suggestion is that the Mochica system attested in the grammar of 1644 might be at a transition phase, from a semantic properties-based numeral classifier system to a system that enables more efficient counting i.e. a specific counting system. This way based on the analysis by Bender & Beller (2006a, 2006b), one can attempt to clarify the possible path of grammaticalization the Mochica system could have undergone.

Moreover, according to Bender & Beller (2005, 2006a, 2006b, 2007a, 2007b, 2017), socio-economical reasons motivate the interest and use of large numerals in specific societies. In the case of Mochica numerals, one can say that the interest in large numbers could have been motivated by such reasons.

In this sense and considering the greatness and power of the Sicán Empire, there is no doubt that a system with classifiers was relevant because of the fact that such a system could have helped to accelerate counting.

*Part IV. Mochica and its external relations*

*Chapter 9. Areal Relations: Language contact across the Andes*

In order to shed light on the relations between the languages indigenous to the Americas one important step to perform is to search for possible language contact effects. This chapter is a brief study that proposes evidence of contact between genealogically unrelated and extinct Andean language groups: Mochica, and Hibito and Cholón, two related languages that were spoken on the eastern Peruvian slopes (9.1.) and Mochica and Quingnam, spoken on the northern coast of Peru (9.2.). In 9.3., I present the case of contact between Mochica and Quechua.

The cases of language contact Mochica-Quingnam and Mochica-Quechua get support from historical evidence of situations of domination. Cerrón-Palomino (1989[151]: 47-50) defines, in a precise and succinct way, the historical and cultural context that motivated a linguistic contact situation of Mochica with Quingnam first, then with Quechua, and finally with Spanish. During the 15th century, the Chimor kingdom attained its greatest territorial extension under the lead of Minchan Çaman, known also as Chimu Capac (or Chimo). Chimu Capac imposed his language, Quingnam[152], on the dominated populations of the northern Peruvian coast (Calancha 1639: 549-550). The domination by Chimu Capac ended in 1470 when Inca Túpac Yupanqui forced him to submit. The Inca domination lasted around 60 years until the Spaniards conquered the zone and Spanish became the language of administration. The case of language contact with Cholón-Hibito and its probable contact scenario is discussed in 9.1.

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[151] Cerrón-Palomino (1989) publishes *Quechua y Mochica: lenguas en contacto* which is a revised version of *Quechuismos en el Mochica* (Cerrón-Palomino 1988).

[152] Calancha (1639: 550) mentions explicitly that Quingnam was the name of the language spoken by this lord, Chimo.

## 9.1. Mochica in contact with Cholón-Hibito

Cholón is an extinct language that was spoken in a vast area of the Peruvian north-eastern slopes, specifically in the region of the Huallaga river valley and the surrounding mountains, in the modern-day Peruvian political regions of San Martin and Huanuco (Alexander-Bakkerus 2005: 33–34; Muysken [2004] 2007: 460).

In addition to this information and based on the information contained in Martínez Compañón (1783a: 107r, 128r) and the diaries of Sobreviela, Álvarez & Gómez ([1787] 1922: 134) one can include, as Hibito-Cholón territory, the eastern part of the modern-day Peruvian political region of La Libertad. In the above-mentioned documents, Pataz, Jucusbamba and Buldibuyo are mentioned as Hibito-Cholón territories (Eloranta 2012). Hibitos and Cholones inhabited the same area and it is difficult to make a strict geographical delimitation of their territories.

Cholón became extinct only during the last years of the 20th century and perhaps the beginning of the 21st century.[153] Cholón is mainly a prefixing and agglutinative SOV language. Nominal and verbal forms can be composed of a stem and several affixes (Alexander-Bakkerus 2002: 103) but person markers are prefixed (Alexander-Bakkerus 2002: 103; 2005: 129). Case markers, numeral classifiers, aspect markers and auxiliaries are suffixed (Alexander-Bakkerus 2002: 103). Cholón is also a gender determined language, whereby certain forms are determined by the gender of the singular addressee (Muysken ([2004] 2007: 462).

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[153] Reportedly, linguist Sofía Latorre recorded Cholón material with the last speakers, but this material has not been published.

For the study of this language there are two colonial sources: a grammar written by Pedro de la Mata ([1748] 2007) and 43 Cholón words recorded by Martínez Compañón (1783b: E IV). During post-colonial times, Tessmann (1930: 547) collected 31 Cholón words and Alexander-Bakkerus recorded a few words and expressions during her visit to the Huallaga Valley in 1996 (Alexander-Bakkerus 2005: 21, 525–529).

It is well accepted that Cholón is closely related to a neighboring language called Hibito. Torero (1986: 533), among others, argues that Cholón and Hibito are in fact independent languages which only share lexicon due to prolonged language contact. Muysken ([2004] 2007: 461) proves convincingly, however, that the lexical correspondences support a genealogical relationship.

Concerning Hibito, the record of words is very limited: there is a list of 33 lexical items provided by Tessmann (1930: 458–459) and a list of 43 words by Martínez Compañón (1783b: E IV). Considering that some of these words contained in these two lists overlap, the amount of words for Hibito is very scarce. Despite the limitation of the data, it is possible to establish that Hibito has at least one attested numeral classifier as will be demonstrated in 9.1.1.2.1.

## 9.1.1. Shared lexical and grammatical items

### 9.1.1.1. Shared lexical items

As shown in Table 25 there are several words that Mochica and Cholón share. Among the shared lexical items, one particularly interesting word is the one for 'manioc'. 'Manioc' is <err> in Mochica while it is <el> in Cholón. In addition to their phonological similarity, it is important to mention that manioc

was cultivated heavily in both areas and was therefore a culturally relevant item.

Table 25. List of Mochica and Cholón shared lexical items

| Mochica | | | Cholón | | |
|---|---|---|---|---|---|
| <ûtzh> | 'big' | ADJ | <očo> | 'big' | ADJ |
| <lam-> | 'die' | V | <lam(a)-> | 'to kill' | V |
| <palæc> | 'hundred' | CLF | <lek> | 'ten' | CLF |
| <pong> | 'ten' | CLF | <pon> | 'herd, troop' | CLF |
| <err> | 'manioc' | N | <el> | 'manioc' | N |
| <ineng> | 'day' | N | <nem> | 'day' | N |

In relation to a shared lexical item of Mochica and Hibito, one can observe the case of the word for 'lizard'. The word meaning 'lizard' in Mochica, <ssantek> was first registered by Middendof (1892: 60) and later on, <santek> and <šantek>, were registered by Brüning ([1905-1924] 2004: 105). This bisyllabic form is not prototypical of Mochica. On the other hand, it is remarkably similar to the Hibito word for 'caiman' <šonti>[154] (Tessmann 1930: 459).

The following pair of words, Mochica <lam-> 'to die' and Cholón <lam(a)-> 'to kill', also attracts attention. However, this connection may be less indicative of direct link between these two languages because similar forms are known to be widespread in a vast geographical area. For example, in Mapudungun, a language isolate spoken in south-central Chile and west-

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[154] A word for 'lizard' or 'caiman' is not available for Cholón.

central Argentina, there are the lexemes [l̦a] 'to die' (Augusta 1916: 247) and [l̦aŋɨm-] 'to kill' (Augusta 1916: 235).

Moreover, in the list of 43 words compiled by Martínez Compañón that registers northern coastal languages (extinct nowadays), (Martínez Compañón 1783b: E IV) there are similar forms meaning 'to die' and 'death' in a number of other languages: Sechura <lactuc>, <lactucno>, Colán <dlacati>, <dlacati>, Catacaos <lacatu>, <ynataclacatu>. The widespread areal borrowings raise further questions about language contact, but they will not be dealt with in this dissertation.

### 9.1.1.2. Shared and reanalyzed numeral classifiers

#### 9.1.1.2.1. 'Stones' and 'eggs' as counting devices: Shared numeral classifier between Hibito and Cholón

The register of the Hibito numerals (1, 2, 3) done by Tessmann (1930: 458) includes, by chance, relevant information about a Hibito numeral classifier. The numerals recorded by Tessmann are listed in Table 26. Note that another word in his list, the word for 'stone' is strikingly similar to the endings of all the numerals. There seems to be a connection between the final segments in the numerals and those in the word for 'stone' (see Table 26). This raises the possibility that the numerals listed by Tessmann (1930: 458) are in fact bimorphemic and contain a numeral classifier etymologically related to the word for 'stone'.

Table 26.  Numerals in Hibito

| Hibito | Gloss |
|---|---|
| <etsí> | 'one' |
| <optšē> | 'two' |
| <útsi> | 'three' |
| <tšē> | 'stone' |

Source: Tessmann (1930: 458)

This is all the more plausible if one considers that other languages, crucially including Mochica (see <pong> in this section) and Cholón (see <ta> in Alexander-Bakkerus 2005: 180) use numeral classifiers with the original meaning 'stone'. 'Stone' is also a frequent source for shape-based numeral classifiers in a number of Micronesian languages (Conklin 1981: 233, cited by Aikhenvald 2000: 446). For further discussion about 'stones' as counting devices, see Rojas-Berscia & Eloranta[155] (2019).

If indeed <tšē> was a numeral classifier,[156] it likely had the characteristics of a general numeral classifier. This conclusion can be drawn from the fact that crosslinguistically, general classifiers are commonly attached to the citation

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[155] The unattested and recurrent grammaticalization path in the genesis of classifiers, numeral classifiers and numerals, namely stone/branch>classifier/numeral classifier>numeral, in two unrelated language families, namely Kawapanan and Cholón-Hibito, and one isolate, namely Muniche, is discussed in Rojas-Berscia & Eloranta (2019). In this article, the claim is, that stone classifier-based numeral systems in a number of unrelated North-western South American language families/languages emerged due to calquing or loan translation.

[156] Salas (2012a) inspects the Hibito numerals and comes to similar conclusion, namely, that Hibito had a numeral classifier. However, this author has a different interpretation about a corresponding cognate of this classifier in Cholón. Besides, Salas (2012a) does not see the presence of the numeral classifier in the body parts terms.

form of numerals, probably because speakers tend not to count in abstract terms but rather conceptualizing numbers as reckoned items or objects. Moreover, Conklin (1981: 261–232, cited by Aikhenvald 2000: 405) observes that 'fruit' or 'stone', in many cases, constitutes the semantic base of general classifiers.

In addition, if we inspect the lexical items for body parts recorded by Tessmann (1930: 458) in Table 27, a similar sequence of segments can be found. For illustrative purposes, Tessmann's words are segmented into hypothesized morphemes in Table 27.

Table 27.  Body parts in Hibito

| Hibito | Gloss |
|---|---|
| <moal-tsŭ> | 'tongue' |
| <mon-tsá> | 'eye' |
| <o-tšĩ> | 'ear' |
| <só-tša> | 'head' |

Source: Tessmann (1930: 458)

However, there is no evidence from Tessmann himself that these lexemes are segmentable. One explanation might be that the lexemes are not segmentable, but that they contain an already-lexicalized classifier. Nevertheless, similar pattern of register can be observed in the Cholón terms for body parts: <ñache> 'eye' (De la Mata [1748] 2007: 243), <kimonžéi[157]> 'tongue', <kinjelšé[158]> 'eye', <mutšitšé> 'head' (Tessmann 1930: 547) and [čegonče]

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[157] <kimonžéi> can be segmented as <ki-mon-žéi> where <ki-> is the prefix for 'our'.

[158] <kinjelšé> can be segmented as <ki-njel-šé> where <ki-> is the prefix for 'our'.

'testicles', [čuče] 'head' and [nyače] 'eye' (from the lists of words recorded by Alexander-Bakkerus in 1996, Alexander-Bakkerus 2005: 525, 528). All of these lexemes appear to share an ending similar to the Cholón numeral classifier for round objects <chê>.

Returning to Cholón, the similarity of Hibito <tšē> 'stone' and Cholón <chê> 'grain' / 'egg' (De la Mata 1748] 2007: 127) should be noted. These two lexemes are functional elements in both languages, and they both act as numeral classifiers. The Cholón numeral classifier <chê> transcribed as [če] by Alexander-Bakkerus (2005) is used to count "round objects and all kinds of birds, fruits, etc"[159] (De la Mata [1748] 2007: 109). Following from this, these two classifiers can be related not only because of their similar form (<tšē>, <chê>) but also the round objects they denote 'stone' and 'egg' or 'grain' can be used to count. In several languages, 'fruit', 'stone', 'egg' and 'seed' are typical sources for classifiers for round objects, for example in Micronesian and Western Austronesian languages (Aikhenvald 2000: 446).

### 9.1.1.2.2. Counting "group of tens" with Mochica <pong> and "group of living beings" with Cholón <pon>

Numeral classification is generally not present in Andean languages (Aikhenvald 2000: 123; Gil 2013a). For this reason, one of the salient typological features of Mochica, which distances it from the Andean languages, is its peculiar numeral classifier system. As seen in Chapter 8, Mochica has a special numeral classifier system that can be analyzed as a system in transition from a specific counting system into a numeral classifier system.

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[159] "Para contar cosas redondas y todo genero de aves, frutas &c. es el siguiente…" (De la Mata 2007 [1748]: 109).

The attested classifiers for 'tens' are <pong>, <ssop>, <cʠo(quixll)> and <cæss> (see Chapter 8). The classifier for 'ten' <pong> has a clear etymology in the Mochica word <pong> 'stone'. According to Carrera (1644: 183) <pong> serves to count people, horses, goats, canes and everything else which is not coins or fruits.

As stated in Chapter 8, some numeral classifiers of Mochica, the ones concerning powers of ten, can easily be called "power classifiers", like in the literature on Polynesian languages in which "power terms are typically considered as a particular type of numeral classifiers" (Benton 1968; Harrison & Jackson 1984 cited in Bender & Beller 2007a: 821). Mochica power classifiers are forms that serve to count specific items in tens and multiples of tens. The classifier <pong> behaves like a general classifier in Mochica. Carrera (1644: 183) explains the use of this classifier: it is a unit to count groups of ten that include "persons, horses, goats, canes and everything else except coins or fruits".[160]

Cholón is another Andean language which exhibits a numeral classifier system but in comparison to Mochica the system is reminiscent of a more standard numeral classifier system in which the classifiers categorize items according to specific characteristics. Among these classifiers <pon> is used to count "groups of living beings" (Alexander-Bakkerus 2005: 180). In his grammar of Cholón, De la Mata ([1748] 2007) explains that <pon> is used to count "troops, companies, armies, herds".[161]

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[160] "… es para contar hombres, cauallos, cabras, cañas y todo lo de mas que no fuere moneda ni frutas…" (Carrera 1644: 183).

[161] "Para tropas, compañías, exercitos, manadas" De la Mata ([1748] 2007: 110).

Examples (252) and (253) show the use of Mochica <pong> and Cholón <pon>, respectively:

(252)   <çoc pong cʉelû>                                    (Carrera 1644: 186)

    çoc           pong           cʉelû

    three.BOUND   CLF.ten      hawk

    'thirty hawks'

(253)

<Annaponĝam quetâ â mipoichi?>                       (De la Mata [1748] 2007: 129)

anna          ponĝ[162] am          quetââ     mi-   poi-chi

how.many   CLF.ten QUESTION MARKER   wild pig   2SG-  see-DUB

'How many herds of wild pigs have you seen?'[163]

Mochica <pong> and Cholón <pon> are similar in form and function. Besides, both are means to count groups and both are numeral classifiers. The conclusion is that [poŋ] might be a shared numeral classifier.

### 9.1.1.2.3. Counting "tens" with Cholón <lec> and "many tens" with Mochica <palæc>

The Mochica classifier <palæc> is recorded by Carrera (1644: 184–185) in a list of numerals going from 100 to 1000. The only comment that the missionary makes is that this classifier means 'a hundred'. Its use is clear: it behaves the same way as the Mochica numeral classifiers, that is, in combination with the bound form of the numeral. As for the Mochica numeral

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[162] The Cholón numeral classifier <pon> appears written here as <ponĝ>.

[163] <Annaponĝam quetâ â mipoichi?> Quantas manadas ô tropas de jabalies has visto?

classifiers for hundreds there is also a set of two classifiers. Carrera (1644: 186) does not explain the one that is used to count "fruits, etc".[164] For <palæc> Carrera fails to provide information on what kind of items are counted with.

In contrast with other Mochica numeral classifiers, <palæc> is not etymologically transparent. It could be analyzed as <pal-Vc>, a noun with a probable suffix for nominal classification. As shown in 7.1.1.4., the suffix <-Vc> is a nominalizer, this way, the classifier could be a nominalization derived of a verb whose meaning we do not know. Although no assumptions can be made based on the semantics of <palæc>, it does share phonological similarities to Cholón <lec>, which means 'ten'.

Alexander-Bakkerus (2005: 179–181), in her analysis of the numeral classifiers of Cholón, does not consider <lec> as a numeral classifier, nor does Salas (2012a). In my analysis of Cholón numeral classifiers (Eloranta 2012), I consider <lec> an ideal numeral classifier in the function of a "power classifier". With that in mind, this might be another case of shared numeral classifiers between Mochica and Cholón. Again, form and content are similar.

### 9.1.1.2.4. The nominalizer <-Vc>: a shared morphological evidence between Mochica and Cholón

As seen in Chapter 7, Mochica is very rich in nominalizations, presenting both lexical and grammatical types of nominalizations. As for lexical nominalizations, Mochica presents five attested nominalizers. One of them is the Mochica (a) <-Vc> nominalizer (see 7.1.1.4.), which in addition to other functions is used to create both deverbal location/place, agentive and instrumental nominalizations. Hence <manic>, derived by means of this suffix

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[164] "Y para decir ciento en este modo de contar frutas & c. dizen nachæng" (Carrera 1644: 186).

from <man-> 'to drink, to eat' can either refer to a drinking or eating vessel or a dining room or a place to drink. According to Alexander-Bakkerus' (2005) analysis, eighteenth century Cholón also has both lexical and grammatical nominalizations (Alexander-Bakkerus 2005: 251–267). At least one lexical nominalizer is described by Alexander-Bakkerus (2005: 263), i.e. the agentive nominalizer [-(w)uč][165] as in [kot- uč][166] 'the one who is'.

According to my own analysis, this nominalizer is also a deadjectival nominalizer as in <zaluch> (De la Mata [1748] 2007: 48). According to De la Mata's own translation, <zaluch> means 'Ethiopian black'[167] where <zal> means 'black' and <-uch> is the nominalizer which would derive 'the one who is black'. Furthermore, I propose at least another lexical nominalizer in Cholón which could be interpreted as a resultative or event nominalizer (b) <-Vc>,[168] as can be seen in <sep-ec> 'lie' derived from <sep-> 'to lie'. See example (254).

(254)   <sepec>                                    (De la Mata [1748] 2007: 126, 248)

    sep-        ec

    lie-        EVENT.NMLZ

The Cholón suffix (b) <-Vc> is reminiscent of the Mochica nominalizer (a) <-Vc>. The discussed nominalizing suffixes in Mochica and Cholón are

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[165] Interpretation by Alexander-Bakkerus (2005), my representation is orthographic.

[166] Interpretation by Alexander-Bakkerus (2005), my representation is orthographic.

[167] During colonial times the black slaves were called 'Ethiopians' and the denomination 'Ethiopian black' meant that the person was 'very black'.

[168] Other examples of this suffix: <somec> 'wound', <pitec> 'truth', etc.

similar in form and function, hence I propose that they can be analyzed as a shared nominalizer.

## 9.1.2. Probable contact scenarios between Mochica and Cholón

Mochica and Cholón are languages without written tradition. Therefore, we do not have direct evidence to indicate how and when a contact situation between these two languages might have arisen. This is the case when linguists have "to make an educated guess" (Thomason 2001: 16) and, in this sense, "archaeological evidence is sometimes useful for unraveling the contact histories" (Thomason 2001: 16). In what follows, I will try to provide some pertinent information of archaeological, anthropological and ethnohistoric investigations in the regions of the languages involved.

### 9.1.2.1. Pre-Hispanic and colonial contact beyond the eastern slopes

As mentioned in 9.1., Cholón was spoken in a vast area of the Peruvian north-eastern slopes. The forested eastern slopes have been seen as an impenetrable separating barrier between the Amazonian and Andean populations in Peru (Church 1996: ii). In his dissertation, Church (1996) demonstrates, after excavations in the Manachaqui cave and other localities on the eastern slopes, "that rather than a remote frontier, the montane forest was the locus of intense boundary interaction" (Church 1996: ii).

Throughout his dissertation, Church covers many aspects and time frames of intercultural exchange, traded items and routes of communication between the foothills and the Andes (Church 1996: 141). The time frames go back to even pre-ceramic periods in the prehistory of the populations of the region. Church provides enough anthropological, ethnohistorical and archaeological evidence

to affirm that, even in prehistoric and pre-Hispanic times, the contact, trade and exchange relations were intense.

Evidence of intense trading during colonial time is provided by Alexander-Bakkerus (2005: 32–33), who observes that missionaries motivated Cholones and Hibitos to trade. It is also known that Cholones were very good navigators and mastered the waters of the Huallaga River and its tributaries, which were their main trade routes.

## 9.1.2.2. The Sicán[169] culture

With regards to the prehistoric communication between Mochica speakers and the surrounding peoples of the foothills, one has to acknowledge the importance of the Sicán culture. In the literature dealing with the Mochica language there has been constant confusion establishing a strict correlation between a specific language and a specific society or culture discovered in the northern coast. It is clear to archaeologists that Middle Sicán was able to construct a far-reaching intensified trade network that extended all the way to coastal Ecuador, where ritual shells Spondylus princeps (Shimada 2009: 28) were obtained and to Colombia, where green transparent emeralds were probably extracted (Shimada 2009: 26).

In the same line, Hovdhaugen (2000: 134) refers to the trade contact on the Pacific Coast, citing Bawden (1996) and states that, amongst others, the most convincing archaeological evidence of pre-Hispanic contact between the Peruvian northern coast and Chile is the presence of lapis lazuli, extracted exclusively in the Chilean Andes. Moreover, diagnostic Middle Sicán pottery has been found in Marañón drainage on the eastern slopes (Shimada 1994a,

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[169] The Sicán culture is also known as Lambayeque culture.

1995 cited by Shimada et al. 2007: 350) where Sicanes probably obtained gold[170] (Shimada et al. 2007: 350).

Contact, trade and exchange, and cultural and religious power constitute fundamental factors that could have offered a context for linguistic borrowings to occur between the northern coast and the eastern slopes throughout history.

## 9.2. Mochica in contact with Quingnam

During the late 19th century there were scholars trying to understand and propose groups of peoples and language families. In this respect, probably the earliest attempt of classifying Mochica is Brinton's (1891: 224-226; [1891] 1946: 207-209), who proposes Mochica's relationship with other northern Peruvian languages, all together conforming his so called "Yunca linguistic stock". This linguistic stock was formed by the following languages: Catacaos, Chancos, Chimus, Chinchas, Colanes, Etenes, Mochicas, Morropes and Sechuras (Brinton 1891: 226; [1891] 1946: 209). In fact, there is no linguistic evidence for such a proposal. Moreover, with only some references to places provided by Brinton, one cannot dare to suggest which languages all these names refer to. Nevertheless, one can identify the names of Catacaos, Colán, Mochica and Sechura, which correspond to the names of ancient, all now extinct languages of northern Peru. The name Chimu may refer to the Quingnam language that was definitely in narrow contact with Mochica but

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[170] Hibito-Cholón territories Pataz, Parcoy and Buldibuyo (seen in 9.1.) were and still are very important gold mining zones in the northeastern slopes (Haeberlin et al. 2002: 41). The so-called Marañón-Pataz gold belt that "covers at least a 160 km-long region" is located exactly in that region (Haeberlin et al. 2002: 43).

most probably not in a genealogical relationship. In this section, I explore briefly the contact relation between Mochica and Quingnam.

According to Calancha (1639: 549-550), Chimo (also known as Chimu Cápac), lord of the Pacasmayos, dominated the Yunga Indians, obliging them to pay tribute in clothes, food, gold, silver, *chaquiras* 'beads' and copper. This way, he became opulent and gained vassals, he introduced Quingnam, his own language, as part of his domination policy. His vassals started speaking his language, to the south (Calancha speaks of Lima) the language presented "some corrupted" forms. The Indians from the other valleys of the plains spoke Mochica, Sec and Olmos, which means that there were several northern languages co-existing in the same territory. This fact motivated Calancha to refer to this multilingual scenario as "Babilonia's punishement".

Cerrón-Palomimo (1989: 48) believes that Chimu Capac's domination did not last long enough to influence the other languages on the northern Peruvian coast. However, Calancha reports that Mochica was in contact with several languages and that the relation with Quingnam existed prior to Chimu Capac's conquest. Shimada et al. (2005: 75) claim, after investigations of mitochondrial DNA, that the Sicán society was, in fact, multiethnic and most probably multilingual. The period during which Chimu Capac became ruler and imposed his language on his Mochica vassals meant probably only continuity of the pre-existing bilingual situation made only then official and mandatory. The linguistic information on Quingnam is extremely limited and therefore one cannot be sure how much was actually shared between these two languages.

Torero (1986: 541) offers three criteria to distinguish between Mochica and Quingnam territory via toponyms: Mochica place names exhibit the presence

of the voiced alveolar trill /r/ (represented as <rr>), the presence of the voiceless labiodental fricative /f/ (represented as <f>), and the absence of the voiced labio-velar approximant /w/ (represented as <ao> or <au>). I personally consider that final accent should be utilized as a fourth criterion to distinguish Mochica words. In this respect, I wish to call attention to some words recorded as Mochica, namely <lapà>, <munà>, <patà> and <Guatan>. Considering two diagnostic criteria at identifying features atypical of Mochica, I suggest that one can determine the foreign origin of some words. These features are final accent and the presence of the voiced labio-velar approximant /w/.

The words with final accent that appear in the *Arte* are: <lapà> 'calabash food container' (Carrera 1644: 104), <yanà> 'servant' (Carrera 1644: 144) and <munà> 'mummy ancestor' (Carrera 1644: 13). To this short list of words with final syllable accent, Salas (2012b: 49) adds <patà> 'Orion's Belt asterism'[171]. The final accent is not typical in Mochica at all, its presence in these assumed Mochica words makes me think that they are foreign words and that they could be of Quingnam origin except for the term <yanà> which is a clear Quechua borrowing discussed by Cerrón-Palomino (1989: 51).

In relation to <munà>, the earliest evidence is attested in 1593, in the name of Cristóbal Saguanchi Munao, cacique of Moche (Zevallos Quiñones 1992: 144). Moche in the modern region of La Libertad was a Quingnam territory. The name <munao> suggests, anyhow, a highly probable Quingnam origin. Cerrón-Palomino (1995: 40) taking into account the labio-velar approximant presence /w/, spurious to Mochica, determines that <munà>, <munao> is indeed Quingnam. Salas (2008: 211-222, 2012b: 123-129) has another

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[171] Registered in Calancha (1639: 554), 'Las Tres Marías' in Spanish.

interpretation, he believes that term has a Mochica origin, which I question here based on the reasoning proposed by Cerrón-Palomino and supported by the early evidence of the patronym provided by Zevallos Quiñones.

Following the same principle, that is, the presence of the labio-velar approximant presence /w/, I wish to comment about the term <Guatan> 'stone idol' or 'whirlwind' recorded in Oviedo y Valdés ([1492-1549]1855: 225). Brüning includes this word in his manuscript list of Mochica vocabulary Brü[172] 1.34 as <Huatan>. Salas edits Brüning's dictionary *Mochica Wörterbuch - Diccionario Mochica* in 2004 and includes this term in it. In the entry, there is a call to the reader to compare this term related to the ancient religion with <munaos> 'mummy ancestor' (Brüning [1905-1924] 2004: 18).

It is speculative to suggest that it may be another Quingnam term, but at least one thing is for sure: it is not originally Mochica. Another word that could maybe be considered of Quingnam origin based on the presence of the labio-velar approximant presence /w/ is the word that Cerrón-Palomino (1989: 54) initially considered only of coastal origin <guaxme> 'fisherman' registered in the vocabulary of coastal Quechua by Santo Tomás (1560b: 85r, 136r). Cerrón-Palomino considers that it could be of Quingnam origin, I consider this assumption likely because, due to the presence of /w/, a Mochica origin seems ruled out.

## 9.3. Mochica in contact with Quechua

In what follows, I present the Quechua loans found in Mochica. I classify these loans into two groups: Quechua loans into Colonial Mochica (9.3.1.), and

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[172] Brü 1.34 stands for Brüning 1905-1929a, Brü 1.35 for 1905-1929b.

Quechua loans into Republican Mochica (9.3.2.). The classification is based on the date of the source text in which each Quechua loan is first attested.

## 9.3.1. Quechua loans in Colonial Mochica

After an analysis of Carrera ([1644] 1939), Cerrón-Palomino (1989) discovers the presence of some Quechua borrowed items in Colonial Mochica, see Table 28. Cerrón-Palomino compares the Mochica terms with the Proto-Quechua forms and explains that some adaptation processes were applied according to the Mochica phonological system. The changes a., b. and c. that I present below are the changes that occurred to adapt Quechua words into the Mochica system according to Cerrón-Palomino (1989).

a. The absence of a voiceless uvular stop /q/ in the Mochica system forces the adaptation of it to a voiceless velar stop /k/. Cerrón-Palomino exemplifies this adaptation with the case of the Quechua entry *qatu entering Mochica as <catu> 'market', 'plaza', 'square'.

b. The absence of the voiced labio-velar approximant /w/ in the Mochica system forces the replacement of /w/ with a voiceless bilabial fricative /f/. Cerrón-Palomino exemplifies this adaptation following, first, the case of the Quechua reconstructed word *ĩawtu which enters Mochica as <llaftus>. The term *ĩawtu refers to the imperial tassel that hung from the crown of the Inca or other royal member. Secondly, Cerrón-Palomino examines the Quechua term *wakča, which enters Mochica as <faccqa> meaning 'poor' 'orphan'.

c. The Quechua voiceless palato-alveolar affricate gets accommodated to the Mochica voiceless palatal stop /c/. Consider the Quechua verb *muča entering Mochica as <mæcha> 'to adore'.

The Quechua borrowings that Cerrón-Palomino (1989: 51) identifies in Colonial Mochica are listed in Table 28. In the same table, I include these borrowings' corresponding citation references in the *Arte*.

Table 28. Possible Quechua loans in Colonial Mochica

| Mochica | Quechua | Gloss |
|---|---|---|
| <yanà> (Carrera 1644: 144) | *yana | 'servant' |
| <catu> (Carrera 1644: 127) | *qatu | 'market', 'plaza', 'square' |
| <faccꞁa> (Carrera 1644: 43) | *wakča | 'poor' |
| <llaftus> (Carrera 1644: 6) | *l̃awtu | 'imperial insignia', 'imperial diadema' |
| <mæcha> (Carrera 1644: 164) | *muča | 'kiss', 'adore' |
| <opa(izti)> (Carrera 1644: 44) | *upa | 'silly' |

Source: Cerrón-Palomino (1989: 50-52)

In contrast to the cases of *yana> <yanà>; *qatu> <catu>; *wakča> <faccꞁa>; *l̃awtu> <llaftus>; *muča> <mæcha> (Table 28), where the Mochica words seem indeed adapted forms from Quechua, the case of <opaizti> appears problematic because even though the segment <opa> is reminiscent of *upa 'silly', explaining the segment <-izti> turns complicated. Moreover, such a long word as <opaizti> does not correspond either to the Mochica tendency of monosyllabic words.

Nevertheless, in the search of an explanation of the nature of this segment one can turn toward the "deferential verbal suffix -*ste*", derived from the full Spanish personal pronoun *usted* that refers to the second person formal. In his study of the Andean Spanish of the northern Peru, Andrade Ciudad (2012: 196-200; 2016: 247-252) coined and described the term deferential verbal suffix -*ste.* According to Andrade Ciudad's study (2012: 197; 2016: 248), the

marker -*ste* appears attached to the imperative, to the indicative and to the subjunctive showing in this way the spreading of the morpheme to different verb forms. Along the same lines, but from a historical viewpoint, Marquez Arnao (2017: 219) recognizes this verbal morpheme's robust presence in the early 20th century northern Peruvian Andean Spanish expressed in the narrative by the well-known Peruvian novelist Ciro Alegría. The segment <-izti> is reminiscent of -*ste.* The difference lies in the fact that -*ste* attaches to verb stems, while in the case of <opaizti>, the morpheme <-izti> appears attached to a nominal form that could either be a noun 'the fool' or an adjective 'silly'. The suffix <-izti> would then have a more promiscuous nature behaving more like a clitic. I strongly suspect that suffix <-izti> is the same as the suffix called deferential verbal suffix -*ste* by Andrade Ciudad. In the case of Andrade Ciudad's analysis, -*ste* would have deviated from the personal pronoun *usted* in a structure with a verb in imperative. In the case of <opaizti>, I suggest that the suffix <-izti> deviates also from *usted* but the use might be a bit different for the whole structure would correspond more to an insult such as 'silly you', 'you are silly'.

## 9.3.2. Quechua loans in Republican Mochica

Quechua loan words in Republican Mochica are also identified by Cerrón-Palomino (1989: 52-53; personal communication, September 7, 2018), see Table 29. In Table 29, I add the information about the source where the terms appear, such as Middendorf or Brüning. There is no doubt of the Quechua origin of most of the terms, however, it is necessary to say that the fourth word <umu> in the table, recorded as Mochica by Cerrón-Palomino (1989: 52) is not available in any Mochica source. The word <chichu>, present in Middendorf (1892: 59) is recorded also by Carrera (1644: 178) but only registered as Republican Mochica loan by Cerrón-Palomino (1989).

The case of <fak> gets the attention of Cerrón-Palomino who contemplates two scenarios where Mochica could have taken Quechua *waka as <faka> into its inventory. First, following the Mochica principle of not accepting /w/ would have allowed it to enter into Mochica inventory only as /f/. Following the same principle, Salas adds another case with a similar change: *willka* 'holy', 'semi-god'> <fixllca> 'gentleman' (Carrera 1644: 45). The second scenario implies that the option of Spanish *vaca* would have entered straight into Mochica (Cerrón-Palomino 1989: 53), this option is the one adopted by Salas (2012b: 76).

Cerrón-Palomino recently identified another Quechua term in Republican Mochica: <jujuna> 'tablecloth'. Cerrón-Palomino (personal communication, September 7, 2018) refers to this term registered in some sources that are not yet available to anyone. Nevertheless, I consulted the ethnographic dictionary by Brüning [1920] 2017: 57) and found the register of <jujuna>. Cerrón-Palomino explains that <jujuna> 'tablecloth' is a hispanicized form of the Quechua word *shuyshuna, meaning 'sifter', 'sieve', referring to a piece of cloth used for sieving the fermented alcoholic beverage called *chicha*. This piece of cloth is also used as tablecloth, which explains that use in Mochica. The change of the Quechua voiceless palato-alveolar fricative /ʃ/ into /x/ is normal in the Quechua borrowings in Spanish.

Table 29. Quechua loans in Republican Mochica according to Cerrón-Palomino

| Mochica | Quechua | Gloss |
|---------|---------|-------|
| <pampa> (Middendorf 1892: 99) | *pampa | 'pampas' |
| <toko> (Middendorf 1892: 62) | *tuqu | 'window', 'hole' |
| <mocko> (Middendorf 1892: 59) | *muqu | 'bump', 'knot' |
| <umu[173]> (?) | *umu | 'priest' |
| <papa> (Middendorf 1892: 61) | *papa | 'potato' |
| <llella> (Middendorf 1892: 62) | *ĨikĨa | 'blanket' |
| <chichu[174]> (Middendorf 1892: 59) | *čuču | 'breast' |
| <koch koch> (Middendorf 1892: 61)<br><kŏtš kŏtš> (Brü. 1.35) | *quča-quča | 'seaweed' |
| <fak> (Middendorf 1892: 54) | *waka (Spanish 'vaca'?) | 'ox' |
| <jujuna> (Brüning [1920] 2017: 57) | *shuyshu-na | 'tablecloth' |

Source: Cerrón-Palomino (1989: 52-53; personal communication, September 7, 2018)

Besides these Quechua loans in Colonial and Republican Mochica identified by Cerrón-Palomino, I have identified three more Quechua borrowings in Republican Mochica, namely, <cunti>, <kélyka> and <pŭrr> / <perr> that I include in Table 30.

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[173] I could not find this term in any Mochica source.

[174] Cerrón-Palomino (1989) did not report this term for the Colonial Mochica, even though Carrera (1644: 178) reports it.

Table 30. Quechua loans in Republican Mochica

| Mochica | Quechua | Gloss |
|---|---|---|
| <kǒnti> (Brü 1.34)<br><kắnti> (Brü 1.35: 36)<br><cunti> (Villarreal 1921: 125) | <cunti> (Garcilaso de la Vega [1609] 1800: 17v, 37r-38v, 220r) | 'person from the highlands', 'serrano' |
| <kélyka> (Brü 1.34. Brü 1.35: 44) | <quillca> (DST[175] 1560b: 170r)<br><quellcca> (DGH 1608: 299) | 'paper', 'book', 'letter', 'script' |
| <pŭrr>/<perr> (Middendorf 1892: 61)<br><pĕrr>/<pẽrr> (Brü 1.34 /Brü 1.35: 5) | <ppuru> (DGH 1608: 296) | 'feather' |

The word /kunti/ finds its origin in the name of a specific province located west from Cuzco called *Cunti* (Garcilaso de la Vega [1609] 1800: 38v). According to this author, all the territories in that area to the west of Cuzco, conformed a region called *Cuntisuyu* 'the Cunti region' or 'the West region'. He even specifies that seamen called this area Southwest taking Cuzco as reference (Garcilaso de la Vega [1609] 1800: 220r).

The meaning 'serrano'understood as 'person from the highlands', seems to be original regarding its use in Mochica. Interestingly, one of the successors of the mythical <Ñaimlap> is <Cuntipallec>. There is only a single mention of this name in the list of dynastic successors in Cabello Valboa ([1586] 2011), but despite the fact that one cannot know about his origin, one could still posit the question whether <Cuntipallec> may have had a foreign origin, coming from the highlands.

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[175] DST stands for Domingo de Santo Tomás (1560b) and DGH for Diego González Holguín (1608).

The word <kélyka> (Brü 1.34. Brü 1.35: 44) 'paper' is a clear case of borrowing from Quechua. The term <pŭrr> / <perr> 'feather' in Mochica is registered by Middendorf (1892: 61) and <pĕrr> / <pẻrr> by Brüning (Brü 1.34 /Brü 1.35: 5). Interestingly, in my search for possible external or contact relations between Mochica and other languages, I compared Mochica and Candoshi and found that the Candoshi word *poro* 'feather' (Tuggy [1966] 2008: 62) looked similar to <pŭrr> / <perr> in Mochica. This can only be explained understanding that *poro* 'feather' in Candoshi is the same Quechua loan present in both languages.

## 9.4. Coastal loan terms in Quechua

### 9.4.1. The case of <tumi> 'sea lion'

As mentioned in 9.3. in relation to Mochica borrowings into Quechua, Cerrón-Palomino (1989: 54) cautiously talks about littoral elements. In this section, I present one of the so-called littoral loans proposed by Cerrón-Palomino, namely, <thome> 'sea lion' (Santo Tomás 1560: 71r). The other littoral element <guaxme> 'fisherman' was presented in 9.2. as a probable Quingnam loan. The suggestion of a coastal origin of <thome> (Santo Tomás 1560b: 71r) proposed by Cerrón-Palomino gets supported by the register of <tumi> by Calancha (1639: 379) about hundred years later. Middendorf and Brüning also record forms similar to <thome> as can be seen in Table 31. The coastal Quechua registered by Santo Tomás (1560a, 1560b) may have adopted a term foreign to Quechua <thome>. In the Cuzco Quechua variety account of 'sea lion' by González Holguín (1608: 9) one finds two options, namely, <açuca> or <ccochapuma>. The latter term <ccochapuma> seems to be a calque, a translation of 'sea lion' into Quechua. This way, one could segment

<ccochapuma> into two Quechua words <ccocha-puma> literally meaning 'puma of the sea'.

Table 31. The term for 'sea lion' as a coastal loan present in Quechua

| Mochica | Quechua | Gloss |
|---|---|---|
| <tumi> (Calancha 1639: 379) | <thome> (DST 1560b: 71r) | 'sea lion' |
| <chommi> (Middendorf 1892: 60) | | |
| <tšǔmi> (Brü. 1.34) | | |
| <tšõmi> (Brü. 1.34) | | |

Source: Cerrón-Palomino (1989: 54)

## 9.4.2. The case of <apichu> 'sweet potato'

The Mochica term for sweet potato is registered as <opæn> (Carrera 1644: 116) as shown in example (255). When inspecting the term <opæn> the suffix marking plural <-æn> can be identified. This way, the form for sweet potato registered by Carrera would be a plural form where <op-> would mean 'sweet potato' (in singular).

(255)

<Pedrong opæn maix meterædo mo opæn>                    (Carrera 1644: 116)

Pedro- ng     o      pæn     ma-    ix     met-   er-    ædo    mo

Pedro- OBL    REL1    DAT     OPT-   1PL    bring- VAL_ER- PCTP   DET.PROX


op-           æn

sweet potato  PL

'We may have brought these sweet potatoes for Pedro'

First noted by Ballón Aguirre & Cerrón-Palomino (2002: 38)[176], the term <apichu> appears in the Aimara vocabulary by Bertonio (1612: 345), who claims that "the most known and best potatoes in this land are, Puma coyllu, Amajaa, Ahuachucha, Ppatticalla, Navrappoco, vlla talla Allca hamacorani; Allca phiñu; Kusku, Vila kapi, Huatoca, *Apichu*[177], Ccullukauna". González Holguín (1608: 58, 74) records <apichu> 'sweet potato' in his Cuzco Quechua dictionary.

The term <apichu> includes in its form the suffix <-chu>, which seems to be recurrent in plant names like *ichu* 'Andean bunch grass', *uchu* 'chili pepper'*, ch'uchu* 'seed of the fruit of *Sapindus saponaria*' and *ulluchu* which is defined by Bussmann & Sharon (2009) as a ceremonial plant that was used in northern Peru as a hallucinogen and during sacrifice rituals. When segmenting <apichu> into <api-chu> segment <api-> is reminiscent of <op-> after segmenting <op-æn> into two morphemes. One cannot know the semantics of this Quechua suffix *–chu* but it appears to be a former productive suffix that is present in several Quechua plant names. Following this, one can suggest that <apichu> may be a Mochica loan that entered Quechua vocabulary when <-chu> was still productive.

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[176] "Papas las mas conocidas y buenas en esta tierra sõ, Puma coyllu, Amajaa, Ahuachucha, Ppatticalla, Navrappoco, vlla talla Allca hamacorani; Allca phiñu; Kusku, Vila kapi, Huatoca, Apichu, Ccullukauna".

[177] My own emphasis.

*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 Camaaño, 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[178] [sic]
viii. Yunga or Mochica

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[178] 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. Tumbez

        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 <ẫpaen̂ę̃> (Lehmann [1929a] 1937: n.p.), <op[179]>, <open>, <apene> (Lehmann 1930: 340). He also considers it necessary to

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[179] 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[180] 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[181] 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[182] language, according to his investigations (mentioning his

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[180] 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* (*Ipomoca 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.

[181] Naymlap-Kultur (Lehmann 1930: 337).

[182] 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*[183] 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-Tsʼімu. Lehmann creates lists in columns where he compares Aimara, Quechua, Mochica, Uro, Atacameño and Puquina[184]. This manuscript is not only the final result of compilation of vocabulary of the aforementioned languages acomplished 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 (22nd of September 1929). In La Paz, he started to gather Aimara data from the end of September until the 13th of October. He collected data on Uro (Puquina) in Hankoaque on the 12th of October and on Uro-Tsʼімu in Puno on the 26th of October. He gathered Mochica (Eten) data on the 14th and 15th of December. He compared approximately 637 entries. In one page of his work, he compares the personal

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[183] Lehmann (1929f) Vokabulare zu meiner Süd-Amerika Reise.

[184] 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>[185] '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

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[185] 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>[186] / <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[187]> '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[188], 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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[186] Cf. <tchei> 'name' Vaïsse et al. (1896: 34), <ch'ei> Schuller (1908: 30)

[187] Quechua loanword for 'bread'.

[188] 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

| Kunza | | Mochica | |
|---|---|---|---|
| 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> | <lecɥ> |
| 'heart' | <tchitack> | <cɥætæss> |
| 'to eat', 'to drink' | <man-tur[189]> | <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

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[189] Vaïsse et al. (1896: 26) and Schuller (1908: 43) register <mantur> as 'to swallow' and <holmtur> as 'to eat' (Vaïsse 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

| Carrera (1644) | Stark (1968) | Eloranta (2013b) |
|:---:|:---:|:---:|
| \<a\> | a, aː | a, aː |
| \<e\> | e | e, eː |
| \<i\> | i | i, iː |
| \<o\> | o, oː | o, oː |
| \<u\> | u, uː | u, uː |

| Carrera (1644) | Stark (1968) | Eloranta (2013b) |
|:---:|:---:|:---:|
| \<æ\> | ɵ | ɨ |
| \<c/qu\> | k | k |
| \<ç/z\> | ɕ / ʑ | s |
| \<ch\> | t͡ɕ | t͡ʃ |
| \<cɥ\> | t̪ʲ | c |
| \<d\> | d̪ | d |
| \<f\> | f | ɸ |
| \<l\> | l | l |
| \<ll\> | ʎ | ʎ |
| \<m\> | m | m |
| \<n\> | n | n |
| \<ñ\> | ɲ | ɲ |
| \<ng\> | ŋ | ŋ |
| \<p\> | p | p |
| \<r/rr\> | ɾ/r | r |
| \<s/ss\> | z/s | s̪ |
| \<t\> | t | t |
| \<tr\> | - | - |
| \<tzh\> | t͡s | t͡s |
| \<v\> | u | u |
| \<x\> | ç / ʃ | ʃ |
| \<xll\> | ɕʲ | ɬ |
| \<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[190] (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 /3/. Stark (1968: 24-25) interprets the Mochica sixth vowel as the mid central rounded vowel /ɵ/.

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, <lecꝗcu> '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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[190] 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** |
|---|---|---|---|
| | *fal* | *hol* | 'head' |
| | *iñ* | *ihnam* | 'marriagable woman'/'wife' |
| | *laft* | *(či?)lat* | 'rib' |
| | *um* | *hum(p'ehl)* | '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, <rronomçæc> (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 <cɥam-> (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 <faccɥa> (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) <Aikan koncho>                                      (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) | **Mochica** | **Mayan** | **Gloss** |
|---|---|---|---|
|  | \<lecɥ\> | *hoʔl | 'head' |
|  | \<lucɥ\> | *haty pM | 'eye' |
|  |  | *(h)ut pCH |  |
|  | \<loc\> | * ʔooq | 'foot' |

| (260) | **Mochica** | **Mayan** | **Gloss** |
|---|---|---|---|
|  | \<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*[191] '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)

| Mochica | Mayan | Gloss |
|---------|-------|-------|
| <mæcɥ> | *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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[191] 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)

| Mochica | Mayan | Gloss |
|---------|-------|-------|
| \<t(a)\> | *tya | 'to come' |
| \<kon\> | pM *kan | 'to learn' |
| \<macɥ\> | pM *moch' | 'to grasp', 'to take in the |
|  | pYu *mach[192] | 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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[192] Adelaar (personal communication, April 6, 2019) mentions that in Mixe Zoque this form is also the same [matʃ] as the one in Proto Yukatecan.

(263)

| Mochica | Mayan | Gloss |
|---------|-------|-------|
| <luc> | pM *laq | 'plate' |
| | Yu+GK #lek | |
| | ITZ lek 'squash container' | |
| | MOP lek 'squash container' | |
| <ong> 'carob tree[193]' | 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

| Gloss | Mochica | Mayan |
|-------|---------|-------|
| 'head' | <lecɥ> | *hoʔl |
| 'eye' | <lucɥ> | *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' | <mæcɥ> | *mochʔ |

[193] 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' | <macɥ> | pM *moch' <br> pYu *mach |
| 'earth', 'mountain' | <uiz> | *witz (pM) |
| 'path' | <kono> | pYu kon.ol <br> MOP konol |
| 'child', 'same sex sibling' | <eiz> | ʔihtz'iin |
| 'grandfather' | <mená> <br> <munao[194]> | pM *maam 'grandfather' <br> POP mum-e |
| 'sister' | <chach> | pM *tyaaq' 'brother', 'elder sister' |
| 'gray hair' | <c'had->, <chad-> | EM+Hue *saq ERG-wiʔ |
| 'horse' / 'deer' | <col>, <coj> 'horse' | pM *kehj 'deer' |
| 'word' | çiæiz | Kp *tziij <br> USP tzij |
| 'to hit' | <ton> | pM *t'in |
| 'house' | <an> | pM *nhaah |
| 'plate' | <luc> | pM *laq <br> Yu+GK #lek <br> ITZ   lek <br> MOP lex <br> 'squash container' |
| 'tree' | <ong> 'carob tree' | pM *ʔoonh (avocado) tree |
| 'squash' | <c'hun> <br> <chüm> | pM *k'uhm ~ *k'uum <br> pCh *ch'u(h)m |
| 'to enter' | <pok> | pM *ʔook |
| 'chili', 'hot', 'spicy' | <äp> | pYu #pap |

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[194] I consider <munao> of Quingnam origin, as shown in 9.2.

| Gloss | Mochica | Mayan |
|---|---|---|
| 'little', 'small' | <tzhûto><br><c'huc'h><br><tsuts> | pM *ty'i |
| 'ripe' | <chik>, <chûk> | pM *riij<br>YUK yiij /j/<br>TZO yij<br>TZE yij]<br>TOJ yij<br>MCH chiˀj |

10.5.2.2. Comparison of phonological aspects

10.5.2.2.1. Phonemic inventory: vowel /ɨ/

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 /ɨ/. Andean languages possess a trivocalic system; thus, the presence of /ɨ/ in Mochica is an interesting typological feature that differentiates Mochica from the Andean languages. The vowel /ɨ/ 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 /ɨ/ 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 /ɨ/ (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-Aztecan. 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 (absolutive 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, impossessible, 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: absolute, 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, absolute 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) <lecɥæc> 'on top', lit.: 'in/on the head'; <lucɥæc> '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 *-Vl* 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, <lecɥæc> 'on top', lit.: 'in the head'; <lucɥæc> '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 *-Vl,* and in Yucatec the suffix is *-(V)kbal* (Bohnemeyer & 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 *-Vl* 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 *-Vl*. By contrast, in

Yucatecan Maya, absolute nouns are never marked by the suffix *-Vl* 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 *-Vl* (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.

*Part V. Final Remarks*

*Chapter 11. Conclusions and future*
*plans*

The aim of this dissertation was twofold. My first goal was to reconstruct and better understand the Mochica language in order to achieve the second goal of this research: the comparison of Mochica language with other languages, which could potentially allow the establishment of contact or genetic relations. Concerning the study of the language itself, I had to deal with old linguistic and non-linguistic documentation.

All of this work really represented an attempt to reconstruct an extinct language based on a colonial grammatical description, fragments of writing – letters, documents – an attempt to piece these together in order to gain a complete picture of the language, thereby predicting what the missing pieces, unattested in the surviving literature, were like (chapters 2-8). Having gained a more thorough knowledge and understanding of Mochica grammar, I attempted to compare Mochica with other languages looking for areal contact or even distant relations (chapters 9 and 10). In this chapter, I wish to summarize and present each chapter's most relevant results and final remarks.

Chapter 1 is an introductory chapter, which provides the context and aims of the dissertation and details the corpus and methodology of the study. This chapter presents the enigmatic linguistic panorama of South America, with regard to its high level of diversity and numerous isolates. I present the Mochica language as one of 65 South American isolates. In this first chapter, I also present my research questions and explain the objectives of my study, namely, to understand the nature of the Mochica language and to identify its possible external and genealogical relationships. In relation to my corpus of study, I describe my main source of data: the grammatical description of the Mochica language by Carrera (1644). Moreover, I expose the challenges inherent in the study of the Mochica language: firstly, the lack of speakers; secondly, the scarcity of sources; thirdly, the difficulties in understanding the

colonial missionary sources due to their specific model of grammatical description; and finally, the difficulty in accessing possible repositories of lost grammars, catechisms and vocabularies, i.e. religious orders' archives.

Chapter 2 of this thesis covers topics external to the structure of the Mochica language, dealing mainly with archival information, sources for the study of the language and onomastics. Despite the fact that this second chapter provides new information about Mochica not known so far, here I wish to address only three insights discussed in Chapter 2: first, my proposal of interpretation of the confusing cover term *Pescadora* known in Andean linguistics to refer to extinct languages of the northern Peruvian coast; second, language revival and its role in the construction of a northern Peruvian identity; and third, my proposal for the etymological interpretation of the Mochica toponym Lambayeque.

I developed a hypothesis regarding the motivation for the use of the Spanish term *Pescadora* to refer to coastal languages in northern Peru. I reflected on how the need to differentiate regions, peoples and languages motivated Spaniards to adopt Quechua terms to refer to them, such as the term *Yunga*, known and used to refer to the region, peoples and language of calid areas of the valleys. The term *pescadora* emerges in the context of the coastal languages and sometimes appears to be rather ambiguous. The problem with the term *Pescadora* is that, so far, it has been assumed to refer mainly to Quingnam. This is the reason why researchers dealing with colonial documentation regarding this area very often get the feeling they are obtaining misleading information when this term is used to designate a language in clear Mochica territory. Since there were several coastal languages, there would have been a clear need to differentiate between them, thus rendering the term *Yunga* insufficient. In this manner, adopting the term *Pescadora* represents a

strategy for establishing a similar distinction as the one represented by the pair mediterranean/maritime, used in colonial documentation. In this sense, the pair *yunga/pescadora* corresponds perfectly to the mediterranean/maritime opposition in the context of coastal languages. *Yunga* would designate the coastal languages spoken inland, in the plains, in the valleys, distant from the seashore, and *Pescadora* would refer to the languages of the maritime regions, that is, the languages spoken next to the sea, on the Pacific coast, such as harbors. This solution explains why *Pescadora* was sometimes used in the plural form. Moreover, if the term *Pescadora* designated coastal languages spoken by the people living near the sea, the options of such languages being at least more than one, there would certainly have been maritime Mochica and Quingnam speakers, depending mainly on where they were actually located. This would mean that there were, for instance, Mochica-Pescadora and Quingnam-Pescadora languages/speakers. I consider my proposal to be the simplest way to interpret the term *Pescadora*. Summarizing: Yunga was not the only cover designation for coastal languages. The same concept was embedded in the term *Pescadora.*

In my multiple visits to the Mochica area, I encountered what I have decided to call New Mochica, which is a version of a revived Mochica language. Following Zuckermann & Walsh (2011) and Zuckermann & Monaghan (2012), I prefer to use the term language revival instead of language revitalization, as it is more appropriate to the situation of Mochica. Mochica is being revived after having become totally extinct in the first half of the 20$^{th}$ century. Language revival means resurrecting a language with no existing speakers. This initiative of language revival is an attempt to maintain it and empower it. New Mochica does not represent any evolutionary phase of Mochica. New Mochica is a revived language and is no longer the original language becoming more of a hybrid language. Preferably, New Mochica

should be viewed as a new language with a Mochica base, but with syntactic structures belonging to Spanish. This revived Mochica or New Mochica plays an important role in the construction of an identity in the northern Peruvian coast nowadays. Yet, this language has not yet received much attention from linguists, a task which I consider necessary.

In 2.6.2. I presented my analysis of the toponym Lambayeque, offering a novel etymology. Providing etymologies for names of a dead language is a difficult task and, therefore, the etymology discussed and proposed for Lambayeque must be taken with criticism. Essentially, the proposal states that Lambayeque or <ñampaxllæc> could be segmented into two parts <ñaim> 'bird' and <paxllæc>. According to my interpretation, the element <paxllæc> is a nominalization derived from a previously unidentified verb. This verb would be <paxll->, and it is found in the Mochica version of the Salve Regina. It is difficult to be sure about its most adequate interpretation; nevertheless, one can conclude that its most probable meaning was 'to convert', 'to return', 'to turn', 'to turn round', 'to turn back', 'to turn or direct somewhere' (Lewis & Short ([1879] 1958:464), as its corresponding Latin counterpart *convertere* in the Latin version of the Salve Regina.

Due to the fact that the suffix <-Vc> can be used to create both deverbal place and instrumental nominalizations, <paxllæc> could mean, 'the one who turns', 'the one who converts'. Combining the first segment <ñaim> 'bird' with <paxllæc> 'the one who turns', 'the one who converts', I suggested that the meaning of Lambayeque is 'the one who turns into a bird'. In my view, my etymological proposal for Lambayeque not only respects the structure and syntax of the Mochica language, but its proposed meaning also responds perfectly to the legend of the foundation of the first ruling dynasty in the

Mochica speaking area, according to which its first ruler came from a distant place, grew wings and flew away after dying.

Chapter 3 dealt with Mochica phonology. In my view, the proposal of interpretation of the phonological nature of the Mochica so-called sixth vowel, sketched in Chapter 3, is worth mentioning amongst the important concluding remarks. So far, the discussion on this vowel has mostly centered around its phonetic realization. In the analysis presented in Chapter 3, I chose to focus on its phonological behaviour instead. After inspecting vowel harmony alternations in Mochica, one can argue that the sixth vowel is a phonologically high and central vowel: /ɨ/. The presence of /ɨ/ is a distinctive feature of languages of the Peruvian Amazonian area, eastern Ecuador, southern Colombia, and Meso-American languages, Quechua and Aimara being the exceptions. The presence of this vowel being an areal feature, it would not be surprising if Mochica had this vowel in its inventory (see 3.4.1.).

Chapter 4 dealt with nominal categories: noun, adjective and pronouns. As a concluding remark, I wish to summarize my proposal concerning the interpretation of the Mochica inflectional case system, sketched in 4.1.4.2., and that of the adpositional case system, exposed in 4.1.4.3. After examining the Mochica data in relation to the inflectional case system, I surmised that it is more appropriate to establish a direct-oblique distinction. A binary opposing case system implies an overtly marked case category expressing a specific function (oblique case) and a corresponding zero-marked base form, used as "default case" or "direct case". I chose to use the direct/oblique distinction because even though "genitive" is the only overtly marked case, it has several functions depending on the context in which it appears. This oblique marker can behave as (a) a relational in combination with some adpositions, (b) a genitive when expressing possession, and (c) an ergative when expressing

agentivity in ergative constructions. In 4.1.4.3. I presented the multiple Mochica adpositions as analytic case markers, in opposition to synthetic case markers (Blake [2001] 2004: 9). I also coined a new label for the adpositions, <funæc> 'according to', 'following' (in 4.1.4.3.2.2.9.) and <mæn> 'according to', 'following' (in 4.1.4.3.2.2.10.). I chose the label "acolytive" after the Greek noun *ἀκόλουθος,* which means 'assistant' or 'follower'.

In Chapter 5, I offered the proposal that the formation of an ergative system was underway in Mochica. Hovdhaugen (2004: 74) had previously noted Mochica to be a "rather special kind of a split ergative language". This statement was based on two factors: the recurrent use of passive constructions and the presence of the "agentive case" *–n*. I proposed instead that the attested examples in Mochica are suggestive of the language's transitional state, from a nominative to an ergative system. I interpret the passive markings as traces of an older accusative-like system. In my proposal, the Mochica ergative system would be a system in transition, meaning that Mochica would have not yet fully emerged as an ergative language. In order to understand the Mochica ergative system in development, relevant information provided by Carrera (1644: 11) needs to be mentioned: the preferred and more elegant form of speaking Mochica was by means of the so called "passive construction". This said, I consider the thus far called *passive construction* to be the basic transitive clause in Mochica. The non-fully ergative system shows traces of the passive marking, which in turn shows that it has not completely transformed into a full ergative alignment, where such traces would no longer be present.

The main goal of chapter 6 was to describe and explain the linguistic expressions of nominal possession in Mochica. As a result of my research on possession constructions in Mochica, I came to the following conclusions: the

Mochica nominal possessive system is best explained in terms of its possessive classes, as determined by distinctive marking strategies. Mochica does not fit into the typology proposed by Nichols (1986, 1988, 1992) and Dahl & Koptjevskaja-Tamm (1998). This typology suggests that the languages that establish the distinction between inalienable and alienable possession tend to present a morphological marking on the head of the possessive construction, that is, on the possessed noun. Rather, Mochica's marking pattern varies according to the type of possessive construction. The oblique-genitive case marking on the possessor is the morphosyntactic strategy Mochica employs to establish the relationship of possession between two NPs. Besides this marking on the possessor, Mochica uses affixes that appear suffixed to the head of the alienable possessive phrase functioning as relationals. Double marking also represents a means of expressing possession in this language. To sum up, the Mochica system of nominal possession can be interpreted as a *continuum*, one end of which is occupied by the inalienable construction, and the other of which is occupied by the allomorphs expressing alienable possession. In the middle zone, one finds a transition area representing inalienable possessive constructions with double marking, characterized by the suffix <-æng>.

With regard to the outcome of the research on nominalization exposed in Chapter 7, two processes are identifiable: (a) lexical nominalization and (b) grammatical nominalization. With regard to lexical nominalization, by which a noun is derived from other lexical entities, Mochica exhibits the following suffixes: (1) the very versatile nominalizer <-Vc>, which can function as a locative nominalizer and an instrumental nominalizer; (2) a set of multiple nominalizers, each with dedicated functions: the event nominalizer <-ssVc> / <-çVc>, the agentive nominalizer <-(V)pVc> and the locative nominalizer <-tVc>; (3) the deadjectival nominalizer <-Vss>; and (4) the stative

nominalizer <-Vd(o)>. Nominalization serves relativizing, complementation and adverbial functions. Some lexical nominalizers, namely, the event nominalizer, the agentive nominalizer and the stative nominalizer, are used in grammatical nominalization constructions. This fact was taken to show that the distinction between lexical and grammatical nominalization in Mochica is not fluid.

Numeral classification was the focus of Chapter 8, where I tried to offer a novel interpretation of Mochica's numeral classifier system, after comparing it to systems described in languages investigated by Bender & Beller (2005, 2006a, 2006b, 2007a, 2007b). To understand Mochica's system, one first needs to acknowledge that Mochica numeral classifiers do not correspond to the most prototypical kind of numeral classifier. A prototypical numeral classifier is understood as one that categorizes nouns according to salient perceptual properties. In this sense, Mochica numeral classifiers coincide neither with the classifiers present in South American Amazonian languages nor with the ones in Mesoamerican languages. According to my analysis, they share relevant features comparable to those in the Austronesian languages studied by Bender & Beller (2005, 2006a, 2006b, 2007a, 2007b).

The Mochica classifiers used to count tens, hundreds (and thousands) clearly exhibit a multiplication feature: they do not classify; they multiply, indicating a precise value that acts as a factor to the adjoined numeral. Because of this feature, they could either be understood as "power classifiers" or as classifiers belonging to a specific counting system. Mochica numeral classifiers for counting pairs also appear to be adjustable to a specific counting system similar to those present in Austronesian languages. Nevertheless, the object specificity in the Mochica system is not fully one-object-specific, which means that the units do not classify sets of objects the way a numeral classifier,

in the strict sense, would do. They retain their very own peculiar characteristics and this is why, according to my analysis, the Mochica system can be considered neither a numeral classifier system in the strict sense nor a specific counting system. Following this, my suggestion was that the Mochica system might represent a transitional phase, from a semantic properties-based numeral classifier system to a system that enables more efficient counting i.e. a specific counting system. This suggestion receives support on two factors, namely the motivation of the use of large numerals in specific societies and evidence of the evolutional formation of such a specific counting system from a numeral classifier system (Bender & Beller (2005, 2006a, 2006b, 2007a, 2007b, 2017).

In Chapter 9, I searched for possible evidence of language contact between Mochica and other Andean languages. I proposed evidence of contact between Mochica and genealogically unrelated and extinct Andean language groups: with Hibito and Cholón, languages of the same family that were spoken on the eastern Peruvian slopes (9.1.), and with Quingnam, spoken on the northern coast of Peru (9.2.). In 9.3., I presented the case of contact between Mochica and Quechua. The evidence of a contact situation between Mochica and Cholón and Hibito concerns a) shared lexical items between Mochica and Cholón (six items) and between Mochica and Hibito (one item), b) shared numeral classifiers: Mochica <pong> and Cholón <pon> are similar in form and function, both being means to count groups. Moreover, Mochica <palæc> 'hundred' shares phonological similarities with Cholón <lec> 'ten'. I analyzed both numeral classifiers as "power classifiers". Thus, I considered this another case of shared numeral classifiers between Mochica and Cholón. In Chapter 9, I also established the presence of at least one attested numeral classifier in Hibito, namely <tšē>. The Mochica-Quechua contact evidence is proven in both Quechua borrowings in Colonial and Republican Mochica identified by

Cerrón-Palomino (1989); besides the cases proven by Cerrón-Palomino, I identified three additional Quechua borrowings in republican Mochica, namely, <cunti> 'west region', <kélyka> 'paper' and <pŭrr> / <perr> 'feather'. Chapter 9 also includes my suggestion of considering <apichu> a Mochica loan word that entered Quechua vocabulary during early colonial times, as registered in Aimara by Bertonio (1612: 345) and in Quechua by González Holguín (1608: 58, 74).

In Chapter 10, I reviewed previous proposals on distant relationships between Mochica and other languages presenting proposals on the relationship between Mochica and Ecuadorian languages, as well as Lehmann's ([1929a]-1937; 1930) various proposals on distant relations, exposed in some of his many manuscripts. I also reviewed Adelaar's (2003) proposed relation of Mochica with Atacameño. Finally, I reconsidered Stark's proposal on the relationship between Mochica and Mayan language, offering my own comparison with Proto-Mayan. My re-evaluation of the Mochica-Mayan comparison involved multiple aspects. I conducted a lexical comparison between Mochica and the available Proto-Mayan forms. In cases where 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 the comparison indicated neither a significant number of cognates nor many sound correspondences. In Chapter 10, I also analyzed Mochica and Mayan from other viewpoints. For instance, I compared the phonological and phonotactic elements of these two languages, considering morphological and syntactic features, as well. Interestingly, it was revealed that 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 and the presence of numeral classifiers. 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, the sound correspondences are few. Based on all these results, after re-evaluation, I concluded that Mochica and Mayan are by no means related genealogically. The general conclusion concerning Mochica's potential areal and distant relations, was that Mochica represents a language isolate.

I believe that my study is not conclusive in the sense that it may be necessary to conduct further investigation in search of possible genealogical or contact relations between Mochica and other languages. Future investigations should include examination of archival information about Mochica and other extinct languages of South America. It may be an important task to access the chronicle representing the earliest existing evidence of the Mochica language: the manuscript written by the chronicler Alonso Castro de Lovaina in 1582, presumably located in the Archbishopric Archive of Trujillo in Peru (Burgos Guevara 2003: 14) (see 2.4.1.2.). Also, of particular interest is the study of the revived New Mochica language which currently represents an important element in the process of constructing a cultural identity on the northern coast of Peru.

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*Appendices*

# Appendix A. Mention of Mochica as Lengua Pescadora

# Appendix B. Vocabulary collected by Bastian 1878 (169-173)

| | |
|---|---|
| Sol: | Cheang |
| Mond: | Rem |
| Estrella: | Tsi |
| Mar: | Nin, (El-nin) oder Ning |
| Piedra: | Pong |
| Agua: | Hchná (hchais). |
| Fuego: | Ochh |
| Sal: | Gchrupu (Opel) oder Chrūp. |
| Hombre: | Njovel |
| Muger: | Metschenko (Metscherre). |
| Padre: | Erf (Nievel), Abb. |
| Madre: | Minieng (äng). |
| Hermano: | Mitso |
| Hermana | Tschanka |
| Ojo | Tassack |
| Orejas | Meden |
| Cabeza | Chätz |

| Cabello | Sak. |
|---|---|
| dientes | utzan |
| mano | metzan |
| brazo | oken |
| boca | sap |
| nariz | fon |
| lengua | aetz |
| puerta | karr |
| casa | anik |
| olla | palja paya |
| palo | pūp |
| concha | tschaiya |
| comida | hchyonkick |
| negro | fag chafka |
| blanco | zikku tsekku zikuyo |
| rubro[195] [sic] | cuchh cucho |
| viento | küza |
| Mucho viento | peñang küza |

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[195] rubor

| | |
|---|---|
| Hay mucha luna | peñang tchi riem |
| Da me sal | metang gchrupu |
| Da me agua | metang hchá [metang tu hchá] |
| No hay agua | tanchki hchá [tangesta chhá] |
| Hay agua | tschi nang hchá |
| Donde hay agua | ininki mo hchá [inin chi hchá] |
| No tiene | tain pesta |
| Llama este muchacho | chipko tocho |
| Como le [sic] llamas | emmis pochh [eminjun pockh tocho] |
| Ha comido Ud | akus pheno [phenno] |
| Todavía no he comido | tästing phenno |
| Pero comeré esta tarde | me chena [cena] phono [phenno] |
| Quieres comer | taslock phennon |
| Esta mañana ya he comido | unman phunno [phenno] |
| Ya he comido | Ackin phenno (akuin phenno). |
| Voy a comer | Istaper moin phenno. |
| Vengo a comer | Tanol phenno. |
| No como | Manan tjang phenno. |
| Ponga la mesa | Phótàn. |
| Ayer | Pelen. |

| | |
|---|---|
| Llegaré mañana | Tanta nyesma. |
| Comeré esta tarde | tschang man narra. |
| La iglesia es mas grande que | Uetz son schi iglesia tschuzan tschi |
| la casa | mongang. |
| Ponga la cuchara sobre la cama: | Metang ai chim ilang chadick. |
| Donde has puesto la cuchara: | Inis noko ai chim. |
| Quema mucho el sol: | Peñang tscheb chheang. |
| Mucho calor: | Peñang ochh. |
| Mucho llueve: | Peñang nam. |
| Hace frio: | Peñang tschaan (peñang as kützo). |
| Ven para cá: | Tanan men (tanan men pen). |
| Anda ligero: | Anche mickerr. |
| Traigame el caballo: | Tan cochh (metanaia cochh). |
| Traigame la comida: | Metan hchyonkik. |
| Traiga el cuchillo: | Metan (metang) ai cuchillo. |
| Quieres beber agua: | Taslock man hchá (lokes manem hchá) |
| Ya bebi: | Akin man. |
| Que traes: | Itchis mit. |
| Cuanto vale: | Itching pochh. |
| Téh: | no. |

| | |
|---|---|
| Ah: | sí. |
| La olla se quebró | matang paiya. |
| Da la olla a este hombre: | pikang paya nyovel. |
| Da la cuchara a esta mujer: | picker nai chim ai metscherr. |
| De donde eres: | iningchi. |
| Soy de Eten: | kanang chi Eten. |
| De donde vienes: | inis tscha chem (inschis sta), enschusta. |
| A donde vas: | inis tück. |
| Hay mucha gente: | kanang chi nasiob njovel (peñang chi njovel). |
| No hay gente: | tanchi njovel. |
| No hay: | tan ichiste. |
| Hablaste con este hombre: | akis muilje ay njovel. |
| Has visto mi compañero: | tassack mi tschankas. |
| No he visto: | Tanyack (tanyack eshto) |
| Ya voy: | angum lück. |
| Va a dormir: | autschis syadit. |
| Ya he dormido: | anin tsyat. |
| No he dormido: | tan tsyat. |
| Va a dormir: | amotschi tshyadas. |
| Vamos pronto, ya es tarde: | Amotch mikerr anang närem. |

| | |
|---|---|
| Vamos: | amotsch. |
| Me duele mucho la cabeza: | peñang rómenchätz. |
| Vengo de la casa: | inschista ennäkschit niesne (enäkitsch). |
| Voy a la casa: | istapi ennäkem. |
| Cuando llegaste: | inchyangas ter. |
| Llego ahora: | tschukri inta. |
| He llegado ayer: | peli nin tel. |
| Llegaré mañana: | nyesma intassi. |
| No ha llegado todavia: | tostin ta. |
| Que has hecho: | eches noko. |
| Porque has hecho: | egmes no ko tscho. |
| No puedo hacerlo: | tain no keste noko. |
| Voy en breve: | istapi mikerr. |
| Ya está: | anangchi. |
| Hay: | kanang chi. |
| Mucho: | nahyoffer. |
| No está: | ãmés. |
| No esta aqui: | tan lo kesta men. |
| A quien pertenece esta bestia: | ining tschi mo chhoch (koch), inyung su chhoch. |
| Pertenece a mi padre: | kanangtschi mi nievel. |

| | |
|---|---|
| Es la bestia de mi hermano: | tschang keyo chhoch. |
| Menkong aio: | bota esto. |
| Bota esta arena: | navyock arena. |
| Hay mucha arena: | kanang tschi nasyoffer arena. |
| Hay mucho pescado: | kanang tschi nanyoff tjyak. |
| Pescado salado: | tjyak |
| Ya es cocido el pescado: | anung tschi aya tjyak. |
| El mar es bravo: | kanang tschi ning. |
| Como esta el mar: | emmen tschi ning. |
| Abre la puerta: | napang kerr (karr). |
| Encienda la vela: | chebkun vela. |
| Sabes el castellano: | kapes kan el castellan (capaz del castillano). |
| No sé, tain ka: | (pesta kan). |
| De noche: | akan näschim. |
| De tarde: | akan närem. |
| De mañana: | akan unam. |
| Mia casa: | min yang. |
| Tuya casa: | czin yang. |
| Yo: | mom. |
| Vos: | zan. |

| | |
|---|---|
| Busca: | singan. |
| No parece: | tannyock esto. |
| Ponga la olla sobre mesa: | follon mesa nang paiya. |
| Ponga la olla debajo la mesa: | follon paiya mesan seka. |
| El agua es buena: | peña mo chhá. |
| El agua no es buena, | tang esta zupa mo chhá. |
| Camino, | kúnno. |
| Donde esta el camino, | ennjuna mo kunno. |
| El camino es derecho, | tirkinam mo kunno. |
| Muy cerca | menna. |
| Muy lejos | sietena. |
| Conoces este hombre | tsahames mun nyovel. |
| No conosco | tain tschameste. |
| Hilo blanco | zikuyo püp. |
| Hilo colorado | cucho pup. |
| Techo | tschap. |
| Uña | mädie. |
| Vaca | fahk. |
| Paja | faij. |
| Hueso | chotti. |

| | |
|---|---|
| Leña | fatschka. |
| Flaco | cótschike. |
| Enfermo | ulang. |
| Grande | uhzscht. |
| Bueno | penjo (peño). |
| Malo | ätestott. |
| Trabajar | lokan kab. |
| Maiz | man. |
| Guava | ohzit. |
| Camote | open. |
| Yuca | érr. |
| Frijole | päckke. |
| Aji | ähpp. |
| Chicha | qüützcho. |
| Carne | contro. |
| Unnik, | 1 |
| äput | 2 |
| sopit | 3 |
| nopit | 4 |
| igmets (egmets) | 5 |

| | |
|---|---|
| tscheiza | 6 |
| niete | 7 |
| changes (chhänges) | 8 |
| tap | 9 |
| tschetsche | 10 |
| 10 pesos, | nasop (napong). |
| Cuantos caballos tiene | Ud: Iske tschipa kochh. |
| Tengo 10 caballos, | tschinpa napon kochh. |
| Tengo 11 (onze) caballso [sic], | tschinpo onze kockh. |
| Nasop, | 10 |
| Paksop, | 20 |
| Tsoksop, | 30 |
| Noksop, | 40 |
| Igmetsop, | 50 |
| Sutsasop, | 60 |
| Nietesop, | 70 |
| Ollanges sop, | 80 |
| Tapes sop, | 90 |
| Napacher, | 100 |
| Pachpacher, | 200 |

| | |
|---|---|
| Sok pacher, | 300 |
| Nok pacher, | 400 |
| Igmets pacher, | 500 |
| Tzeitza pacher, | 600 |
| Niete pacher, | 700 |
| Hay pacher, | 800 |
| Tapacher, | 900 |
| Napach, | 1000 |
| Na patakon, | 1 peso |
| Aput patakon, | 2 pesos |
| Aput patacon nok real, | 20 |
| Sopit patakon zeitze real, | 30 |

# Appendix C. Ñaymlap's legend in New Mochica

TESAK NAYMLAP

Eng ænang siamochipæc Nampaxllec ich, æiz æn mänana, onæc

tuni j'äm quixmic, tan edang lecцunæm Pirungo, tunituni stup, utzh

Mollpæc, nofæn ñasofk tarrochissäk, kankapissäk er. Ciequic mongæn

siamochipæc ledæc ech, poc ang piñ Naymlap, aiung llærræp

mecherræc poc ang piñ Ceterni, met ang piñ, çiomæn, çæn, aiungo len,

tunituni mecherræc.

Met edang aio len, ñasofk siamochipæc, lecцna lecцapæc ænang

piñ: Pita Zofi, som ang piñ foji ñi, Ñinacolle, nem ang piñ aiung fillur;

Ñinagentus, aio ang piñ aiung tzhaqu manir; Fengasigde, rutsm ang piñ

çiu tschaiya æiz capæc Ciequic jaks ang piñ.

Occhocalo aiung niñpæcæss; Xam Muchec, nem ang piñ j'its, tsuk

æn jem ang piñ aiung tot; Ollopcopoc, ñat ang piñ aiung Mollpær;

Llapchillulli, siup ang piñ aiung cцilpiss, purr æn er.

Ñaymlap al edang stup æn ærô izçæc aiung siamochipæcæss len,

ssapec nech nic, molún xllipquemang Faquisllanga; toc edæm ang çin,

aiungæno stup æn, siam ssæc æiz Ñampaxllec, fup ssæc mänana çin,

mæcчæc, xllipcoado Chot.

Faj edæn ang macчæc nic aiongæno len, met edænang piñ, ang

piñ c'hap mang aiung Mollpær. Ching pin aiado, iss pong er, poc ang piñ

Ñampaxllec, mo ang c'hämpang Ñaymlap.

Mo Ciequic læm edang, ñasofk tuni noksan, toc ssæc tunituni eiz.

Aiung ejep ek mang pæn, ænta lem ang piñ, poi edang çiæiz aiung tarr

tim, nam edang tektek aioss, vuk ssæc cuçia na.

Aiung apäkæss æn, ching ænang pin j'äm moij aiung tækedo tim,

ataz izçæc ching pa ænang, tunituni changcæd, ching ænang piñ j'äm

niyu aiung j'ap sedp æiz er, toc edæng ang izçæc, tæk edæn ang

ciuquich na, minich na, ssir pæn aiung Ciequir. J'ekna aiung eiz æn,

namedo mo æiz fe chido çiongæn, ænta tæk edæn ang.

Aiof chido Cium, eiz Ñaymlap, kop edang iñikuk, poc ang piñ

Zolzoloñi, ching pa edang aio len, timo mecherræc, napong allo aput

nofæn eiz, cifcif aiongæn, tunituni changcæd len.

Chissæc Ciequic ñasofk für tim, pok edang pake, læm edang.

Lumädo cio, siäp edang Ciequic Escuñay, Mascuy noksan, Cuntipallec,

Allascunti, Nofenech, Mulu Muslan, Llamencoll, Lanipatcum, Acunta,

kitsi tim Fempellec.

Aiof chido kitsi, lecʮna ess mo changcæd æn, ai edang mæcha,

lliqu ñiess iss maecʮæc, ching ang piñ Chot nic.

Aiof chido tonodo, kep edang chi ätestot, ñass mecherræc pän,

noksan mo toyap edang cham og, çoc ssop cæss na, für chemlam,

costape er.

Tutæc mo, j'ak edæn ang aiung lor mæcʮquic æn, sok edæn ang

aioss ñi. Fempellec len, siaip edang changcæd Ciequic æn ærô æiz

Ñampaxllec ich.

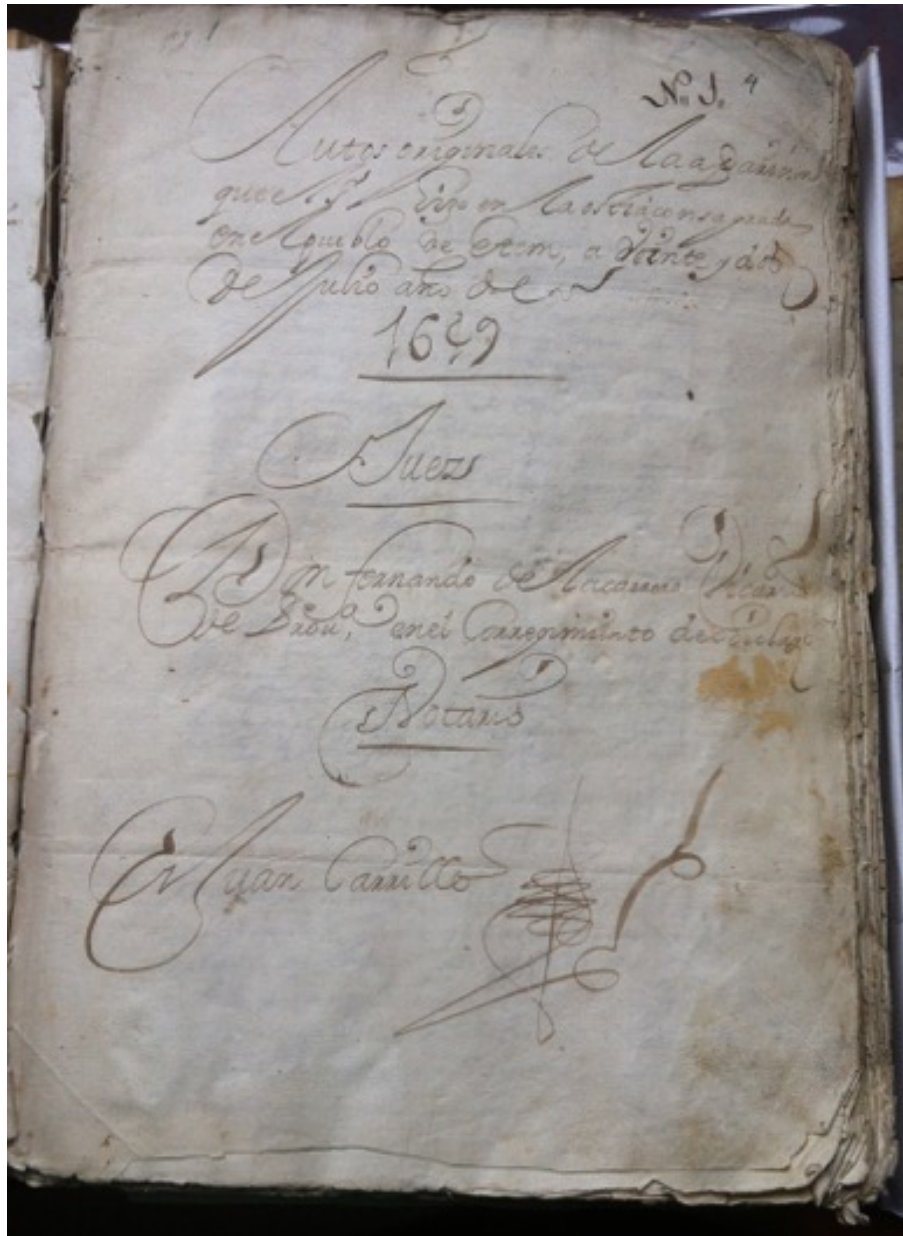Eiz æn Cium tæk edæn ang ejep æn. Nor fe chido æz Sinto na,

Cala fe chido Tucum na; timo aiof chido Collique na, Llapchillulli fe

chido laianca na, izçæc ejep mänana Ñampaxllec.

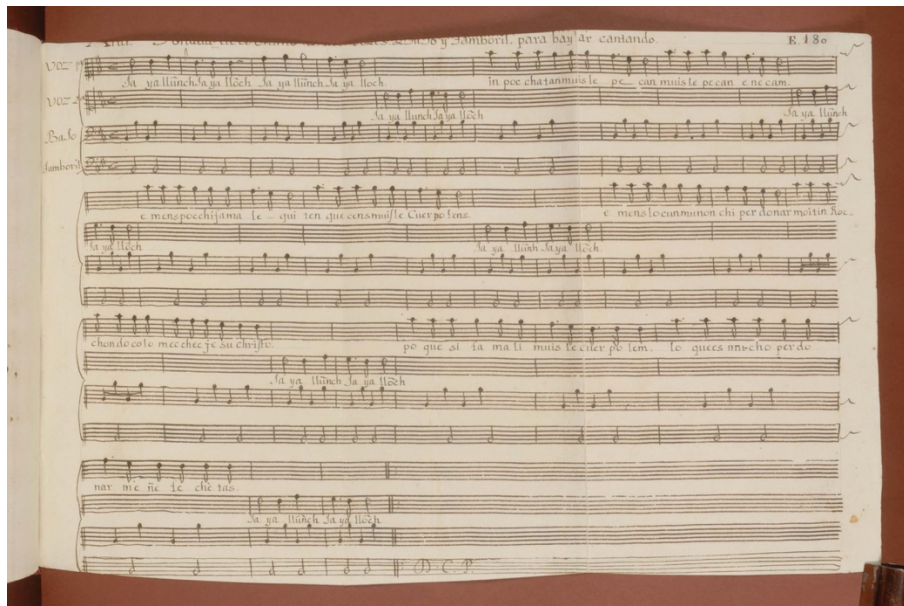Tæk edæn ang j'äkado, irrirr Cʮimor Capac tim tesäkedo loch ich,

chepk edang mongæn æiz.

# Appendix D. First page of *Autos* (Carrera 1649)

# Appendix E. Tonada del Chimo

Trujillo del Perú, Volumen II: folio E 180



**Transcription**

Ja ya llûnchJa ya llôch Ja ya llûnchJa ya lloch. in poc cha tanmuisle pe can muis le pecan e ne cam.

Ja ya llunch Ja ya llôch Ja ya llûnch

e menspocchifama le qui ten que ansmuisle Cuerpo lens. e menslocunmunon chi perdonar moitin Roc-

chon do colo mec chec je su christo. po que si fa ma li muis le cuerpo lem. lo quees mu-cho perdo

nar me ñe fe chè tas.

Ja ya llûnchJa ya llôch

D.C.P.

**Glossing**

&lt;in poc cha tan&gt;

| in | poc | -cha | t- | an |
|----|-----|------|-----|-----|
| who | name/call | -2SG | go/come- | IMP |

'Who calls you (saying): Come!'

&lt;muis[196] le pecan muisle pecan e ne cam&gt;

| muis- | le | pec- | an | muis- | le | pec- | an |
|-------|-----|------|-----|-------|-----|------|-----|
| soul | ADE | give | 2SG.IMP | soul- | ADE | give | 2SG.IMP |

| en- | e- | cɥæm |
|-----|-----|------|
| say- | COP- | OBLIG |

'has to say: Give (it) to my soul, give (it) to my soul!'

&lt;e menspocchifama le qui ten que ansmuisle Cuerpo lens e menslocunmunon chi perdonar&gt;

| em | en | =s | poc | chi | fama- | lec | ten- | que- | an | =s |
|-----|-----|-----|-----|-----|-------|-----|------|------|-----|-----|
| how | say | =2SG | name | be | cry- | ADE | love- | BEN | IMP | =2PSG |

---

[196] I assume &lt;muis&gt; stands for &lt;moix&gt; 'soul'.

| muis- | lec | Cuerpo-len | =s | em | en- | =s | lo-cunmunon | chi |
|-------|-----|------------|-----|-----|-----|-----|-------------|-----|
| soul- | ADE | Cuerpo-COM | =2SG | how | say | =2SG | communion | be |

perdonar

forgive

'one has to say it by crying: Give us your love to our soul, with your body! As you say, the Holy Communion means to forgive'

<moitinRoc chon do colo mec chec je su christo lo que es mucho perdonar>

| moi- | tin | rocchon- | do | col- | o | mec | chec |
|------|-----|----------|-----|------|-----|-----|------|
| 1SG.OBL- | CAU | shed- | PTCP | blood- | REL₁ | 1PL.OBL | lord |

jesu Christo lo que es mucho perdonar

Jesus Christ which is to forgive a lot

'The blood of our Lord Jesus Christ was shed because of me'

<me ñe fe chè tas>

meñ ef-e chè tas

| mæiñ | efe | chi- | da | =s |
|------|-----|------|-----|-----|
| 1SG.OBL | father | be- | PTCP | =2SG |

'you have been my father'

**Proposal of translation**

'Who calls you asking you to come, has to say: Give (it) to my soul, give (it) to my soul!'. One has to say it by crying: Give us your love to our soul, with your body! As you say, the Holy Communion means to forgive. The blood of our Lord Jesus Christ was shed because of me. You have been my father'.

# Summary in English

A precise linguistic panorama and a proper classification of the languages of South America, prior to the Spanish invasion, may remain incomplete, the languages having exited long before they were recorded. The arrival of the Europeans is what lead to the written recording of these languages; however, European presence also ultimately caused a large number of them to lose ground in the face of the dominant European languages (Spanish in Hispanic America and Portuguese in Luso-America). During the pre-Columbian era, several languages coexisted along the northern Peruvian coast. The available information dating back to the time when these languages were still spoken is limited to short lists of words as in the cases of Sechura, Culli, Colán and Catacaos (cf. Martínez Compañón 1783b: EIV). Fortunately, amongst the north coastal Peruvian languages, Mochica, the language I focus on in this dissertation, received special attention.

Mochica is the best documented northern Peruvian coastal language. This was probably due to the fact that it was considered a *lengua general* 'general language' (Oré 1607, Carrera 1644). In times of the Spanish colonial administration, the term *lengua general* was used to refer to a language that was considered important because of its convenience of use for evangelization and its geographical extension. According to colonial accounts, several missionaries prepared Mochica grammatical descriptions and vocabularies. Nevertheless, the only available colonial grammatical description to date is Carrera (1644). In addition to Carrera, some Christian prayers and a few religious texts included in the earliest testimony of this language registered in press (Oré 1607: 403-408) constitute the other Mochica colonial sources of

study at hand. These colonial records are thus the only evidence of use of this language whilst it was still extant.

The republican study sources gathered mainly by German travellers, anthropologists and researchers display a Mochica language that was already in the process of obsolescence. In addition, the variety of Mochica recorded during this latter period corresponds to the last bastion of this language before it became dormant (Eten, in the province of Chiclayo, Lambayeque). As such, it is relevant to remark that if the lost colonial sources for the study of Mochica are never found, we will probably never have a fuller understanding of this language and its varieties.

Mochica is similar to other South American languages that have vanished, leaving some unsolved enigmas. The scholar interested in researching the linguistic past of South America faces challenges when attempting to establish genealogical relationships between languages with scarce or no records. Due to insufficient data, such languages are frequently labeled as unclassified or isolated. In the field of Andean linguistics, Mochica is overwhelmingly considered to be an Andean language isolate due to several peculiar typological and lexical features.

This research has two main purposes: first of all, it serves to contribute to the understanding of the Mochica language and its typologically distinct features (Chapters 1-8), and, furthermore, to explore its genealogical position, or possible external relations (Chapter 9 and Chapter 10). Chapter 11 offers concluding remarks and future avenues for the study of this language.

There are five parts to this thesis. Part I consists of the introductory chapter, which provides the context and aims of the dissertation and details the corpus and methodology of the study. Part II comprises Chapters 2 through 5. Chapter

2 provides an inventory of all the available colonial and republican Mochica study sources. In addition, this chapter introduces a linguistic variety that is based on Mochica, but which borrows several structures from Spanish. I refer to it as New Mochica. Newly proposed etymologies of an anthroponym (Naimlap/Ñaimlap) and a toponym (Lambayeque) are also provided in Chapter 2. In Chapter 3, I evaluate earlier proposals of the interpretation of the Mochica phonological system. Since Mochica is no longer spoken, it may not be possible to make firm conclusions about the phonological system. However, the available evidence concerning the controversial so-called Mochica sixth vowel <æ>, strongly suggests that it should be interpreted as the high, central vowel /ɨ/. Chapter 4 focuses on the Mochica nominal system, while Chapter 5 deals with the Mochica verbal system.

Part III provides a thorough discussion of several grammatical aspects of Mochica. Chapter 6 focuses on possessives and inalienability. Specifically, I offer an analysis of the syntax and semantics of the possessive constructions described in Carrera (1644). As well, I propose an analysis of the Mochica inalienability split, arguing that it does not constitute a strict bipartite system (inalienable-alienable). Rather, the Mochica system of nominal possession is argued to exist on a *continuum*, with the inalienable construction constituting one end, and the allomorphs expressing alienable possession, the other. Inalienable possessive constructions with double marking, characterized by the suffix <-æng>, exist in the transition area between these two.

Chapter 7 illustrates a study of Mochica lexical and grammatical nominalization. In terms of the former, I describe and analyze the four nominalizing suffixes in the language: <-(V)çVc> / <(V)ssVc> 'event nominalizer', <-(V)pVc> 'agentive nominalizer', <-tVc> 'locative nominalizer', and <-Vc> 'locative/instrumental nominalizer'. In this chapter,

I also illustrate evidence of the existence of deadjectival and stative nominalization. In terms of grammatical nominalization, I illustrate how nominalizations served several functions: relativization, complementation, and adverbial.

Mochica numeral classifiers are thoroughly examined in Chapter 8, where it is suggested that the system does not correspond to a typologically prototypical numeral classifier system. That is, the peculiar characteristics of some of the morphemes indicate that they cannot be seen as typical numeral classifiers. They share some features with those present in the languages studied by Bender & Beller (2005, 2006a, 2006b, 2007a, 2007b), but deviate from them as well. Thus, the numeral system of Mochica is analyzed as neither a system of numeral classifiers in the strict sense, nor a specific counting system.

Part IV, of this work, consisting of Chapters 9 and 10, deals with the second aim of this study. In Chapter 9, I re-evaluate earlier proposals of language contact across the Andes. I present a detailed analysis of the possible case of language contact between Mochica and Cholón-Hibito, as well as examining evidence of the contact relationships between Mochica and Quingnam, and Mochica and Quechua. This involves thorough inspection of coastal loan terms in Quechua, which I propose to be of Mochica origin. Distant relationships between Mochica and other languages are explored in Chapter 10. Most importantly, Stark's (1968, 1972) proposal on the genealogical relationship between Mochica and Mayan is re-evaluated in the face of new evidence from Proto-Mayan. Careful comparison of Proto-Mayan and Mochica lead me to conclude that Mochica and Mayan are not genealogically related. In sum, the conclusions from these chapters suggest that Mochica should be classified as a linguistic isolate.

Finally, Part V (Chapter 11) presents a summary of the findings obtained during the entire process of preparing this thesis. This concluding chapter also suggests some topics for future consideration concerning the study of the Mochica language and its place in the linguistic history of pre-Columbian South America.

# Samenvatting in het Nederlands

Mochica: grammaticale thema's en externe relaties

Een nauwkeurig linguïstisch overzicht en juiste classificatie van de talen van Zuid-Amerika voorafgaand aan de Spaanse invasie zal waarschijnlijk voor altijd onvolledig blijven omdat er talen verdwenen zijn voordat ze werden opgetekend. De komst van de Europeanen leidde weliswaar tot schriftelijke vastlegging van deze talen. Tegelijk leidde de Europese aanwezigheid ertoe dat een groot aantal ervan aan belang verloor in de context van de dominante Europese talen (Spaans in het Spaanse deel van Zuid-Amerika en Portugees in het Portugese deel). Zo waren er in de precolumbiaanse tijd aan de noordelijke kust van Peru verschillende talen in gebruik. De informatie over deze talen in de tijd dat ze nog gesproken werden, is beperkt tot korte woordenlijsten, zoals dat het geval is voor Sechura, Culli, Colán en Catacos (vgl. Martínez Compañon 1783b: EIV). Mochica, de taal die centraal staat in dit proefschrift, kreeg gelukkig wel de nodige aandacht.

Mochica is de best gedocumenteerde taal uit het noordelijke kustgebied van Peru. Dat is waarschijnlijk te danken aan het feit dat het als een *lengua general*, een algemene taal, beschouwd werd (Oré 1607, Carrera 1644). De Spaanse koloniale administratie gebruikte de term *lengua general* voor een taal die van belang werd geacht vanwege de geografische verbreiding ervan en omdat deze gebruikt kon worden voor evangelisatie. Volgens koloniale archieven werkten verschillende missionarissen aan grammaticale beschrijvingen en woordenlijsten van het Mochica. Toch beschikken we nu over maar één grammaticale beschrijving van het Mochica, namelijk die van Carrera (1644). Aanvullend zijn er nog een paar andere geschreven koloniale

bronnen voor het Mochica, namelijk enkele christelijke gebeden en een paar religieuze teksten (Oré 1607: 403-408). Deze gegevens uit de koloniale tijd zijn dus de enige data uit de tijd dat de taal nog in gebruik was.

De gegevens over het Mochica vanaf de tijd dat Peru een onafhankelijke republiek was, voornamelijk verzameld door Duitse reizigers, antropologen en onderzoekers, laten een taal zien die al in een proces van ondergang verkeerde. Het Mochica dat gedurende deze fase opgetekend werd, vertegenwoordigt de laatste fase van deze taal voordat deze in onbruik raakte (Eten, in de provincie Chiclayo, Lambayeque). Als de verloren koloniale bronnen voor de bestudering van het Mochica nooit meer tevoorschijn komen, zullen we waarschijnlijk nooit een volledig beeld kunnen krijgen van deze taal en de verschillende variëteiten ervan.

Net als bij andere verdwenen Zuid-Amerikaanse talen blijven we bij het Mochica met onopgeloste raadsels zitten. Onderzoekers die het taalkundige verleden van Zuid-Amerika willen bestuderen, staan voor uitdagingen wanneer ze de genealogische relaties willen reconstrueren tussen talen waarvoor nauwelijks gegevens beschikbaar zijn. Door dat gebrek aan data worden zulke talen vaak als niet-geclassificeerde of geïsoleerde talen bestempeld. In de op de talen van de Andes gerichte taalkunde wordt Mochica op basis van verschillende bijzondere typologische en lexicale kenmerken meestal als een geïsoleerde Andestaal beschouwd.

Het in dit proefschrift gepresenteerde onderzoek heeft twee hoofddoelen. Om te beginnen wil het bijdragen aan een beter begrip van het Mochica en zijn bijzondere typologische kenmerken (hoofdstuk 1-8). Verder wil het de genealogische positie van het Mochica en mogelijke externe relaties

verkennen (hoofdstuk 9 en 10). Hoofdstuk 11 bevat afsluitende opmerkingen en suggesties voor verder onderzoek van deze taal.

Deze dissertatie bestaat uit vijf delen. Deel I omvat het inleidende hoofdstuk, waarin de context en doelen van de dissertatie uiteengezet worden en het corpus en de methodologie van de studie worden toegelicht. Deel II betreft de hoofdstukken 2 tot en met 5. Hoofdstuk 2 biedt een overzicht van alle beschikbare bronnen voor het Mochica uit de koloniale en de onafhankelijke republikeinse tijd van Peru. Bovendien wordt in dit hoofdstuk een taal geïntroduceerd die gebaseerd is op het Mochica maar tegelijk ok verschillende structuren van het Spaans heeft overgenomen. Ik noem deze variant hier Nieuw Mochica. Ten slotte worden in het hoofdstuk nieuwe etymologieën voorgesteld voor een antroponiem (Naimlap/Ñaimlap) en voor een toponiem (Lambayeque). In hoofdstuk 3 evalueer ik eerder voorgestelde analyses van het fonologische systeem van het Mochica. Aangezien Mochica niet meer gesproken wordt, is het moeilijk om definitieve uitspraken over het fonologische systeem te doen. Toch wijst de beschikbare evidentie over de zogenaamde Zesde Klinker van het Mochica, <æ>, er sterk op dat deze klinker geïnterpreteerd moet worden als de hoge centrale klinker /ɨ/. Hoofdstuk 4 richt zich op het nominale systeem van het Mochica en hoofdstuk 5 op het verbale systeem.

In deel III worden verschillende grammaticale aspecten van het Mochica besproken. Hoofdstuk 6 richt zich op possessieven en de kwestie van aliënabel en inaliënabel bezit. De syntaxis en semantiek van de possessieve constructie zoals die in Carrera (1644) wordt beschreven, wordt onder de loep genomen. Ik stel een nieuwe analyse van de splitsing tussen aliënabel en inaliënabel bezit in het Mochica voor waarbij beargumenteerd wordt dat het niet om een strikte tweedeling gaat. Het voorstel is om het systeem van nominale possessie in het

Mochica als een continuüm op te vatten, met de inaliënabele constructie aan de ene kant en de allomorfen die aliënabel bezit uitdrukken, aan de andere kant. Inaliënabele possessieve constructies met dubbele markering, gekenmerkt door het suffix <-æng>, bezetten dan het overgangsgebied tussen de twee polen op het continuüm.

In hoofdstuk 7 wordt het lexicale en grammaticale systeem van nominalisering in het Mochica bekeken. Wat betreft lexicale nominalisering worden de vier suffixen beschreven die nominalisering mogelijk maken: <-(V)çVc>/<(V)ssVc> 'gebeurtenis', <-(V)pVc> 'agentief', <-tVc> 'locatief', en <-Vc> 'locatief/instrumenteel'. Ik toon ook aan dat het Mochica deadjectivale en statieve nominalisering kent. Wat grammaticale nominalisering betreft laat ik zien dat nominalisering voor verschillende functies gebruikt wordt: Relativisering, complementatie en adverbiale functie.

Hoofdstuk 8 biedt een grondige analyse van getalsclassificeerders in het Mochica. Ik laat zien dat we daarbij niet te maken hebben met een prototypisch systeem zoals we dat uit de taaltypologie kennen. Dat is op te maken uit specifieke kenmerken van de betreffende morfemen. Deze vertonen kenmerken die ook aanwezig zijn in talen die Bender & Beller (2005, 2006a, 2006b, 2007a, 2007b) geanalyseerd hebben, maar ze hebben ook afwijkende kenmerken. De conclusie is dat het getalssysteem van het Mochica noch een systeem van getalsclassifeerders in de strikte zin is, noch een specifiek telsysteem.

Deel IV bestaat uit de hoofdstukken 9 en 10 en houdt zich bezig met het tweede doel van deze studie. In hoofdstuk 9 bespreek ik eerdere voorstellen over taalcontact in het Andesgebied. Ik bekijk in detail het mogelijke taalcontact tussen Mochica en Cholón-Hibito en de evidentie voor contact

tussen Mochica en Quingnam enerzijds en Mochica en Quechua anderzijds. Dit vergt een nadere bestudering van de leenwoorden in het Quechua die uit het kustgebied afkomstig zijn, waarvoor ik voorstel dat die uit het Mochica afkomstig zijn. In hoofdstuk 10 gaat het om contacten op grotere afstand tussen het Mochica en andere talen. Met name wordt het voorstel van Stark (1968, 1972) betreffende de genealogische relatie tussen het Mochica en het Maya kritisch besproken in het licht van nieuwe gegevens over het Proto-Maya. Op basis van een precieze vergelijking van het Proto-Maya en Mochica concludeer ik dat het Mochica en het Maya genealogisch niet gerelateerd zijn. De gegevens in hoofdstuk 9 en 10 leiden tot de conclusie dat Mochica als een geïsoleerde taal geclassificeerd moet worden.

Deel V (hoofdstuk 11) bevat een samenvatting van de bevindingen die deze studie heeft opgeleverd. Er worden ook enkele onderwerpen genoemd voor toekomstig onderzoek van het Mochica en de positie van deze taal in de taalkundige geschiedenis van precolumbiaans Zuid-Amerika.

# Curriculum Vitae

Rita Silvia Barrera Virhuez (Rita Eloranta) was born on 4 August 1972, in Miraflores, Lima, (Peru). In 1993 she started studying at the Pontifical University of Peru, where she graduated in 1999 as Bachelor in Humanities with special mention in Linguistics and Literature (Bachiller en Humanidades con mención en Lingüística Hispánica y Literatura). After moving to Finland, she started studying at the University of Helsinki where she obtained a Master's degree in Spanish Philology in 2012 with her thesis entitled 'Un análisis historiográfico de la categoría de clasificador numeral en ocho gramáticas coloniales de tradición hispánica' *(eximia cum laude approbatur)*. In 2013 she joined the ERC-funded project 'The Linguistic Past of Mesoamerica and the Andes: A search for early migratory relations between North and South America', led by Professor Willem Adelaar. This dissertation is the main product of the research conducted within this project.