

**A Reference Grammar of Ayutla Mixe
(Tukyo'm Ayuujk)**

by

Rodrigo Romero-Méndez

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To the Mixe people /Ayuujk jä'äy

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Abstract

This dissertation is a reference grammar of Ayutla Mixe, a Mixe-Zoque language spoken in Southern Mexico. More particularly this dissertation describes the language spoken in San Pedro y San Pablo Ayutla Mixes, an indigenous community located in the state of Oaxaca, Mexico. As a grammar, this dissertation covers different topics in the phonology, morphology and syntax of the language. My goal, indeed, is to provide the most comprehensive description of the language as possible, from the phoneme inventory to the structure of complex constructions.

In the introductory chapters, I offer a brief description of the Mixe culture and the location of Ayutla, and discuss the classification of Ayutla Mixe within the Mixe-Zoque family. There, I also situate the present grammar in terms of its relevance to the descriptions of other Mixe-Zoque languages: within the whole family, this is the fourth grammar that is available to the general public and the first grammar of any of the Mixe languages of Oaxaca.

Ayutla Mixe is a polysynthetic language with head marking and an inverse system. Ayutla Mixe has a fairly rich morphology, although most of the morphology has its locus on the verb. The language allows serial verb constructions, and, in addition to incorporation of arguments, it also allows the incorporation of non-arguments, including adjectives and obliques.

In terms of its phonology, Ayutla Mixe has seven vowels: /a, e, i, ɤ, u, i̠, ʌ/. In addition, it has seven types of complex nuclei: V, VV, Vh, VVh, V², V²V, V²Vh. All the vowels also undergo metaphony due to a palatal glide at the end of the syllable. The language does not contrast between voiced and voiceless consonants, although voicing

occurs as the result of phonological processes. Another interesting aspect of the phonology is the fact that all consonants have a fortis and a lenis realization, and this phenomenon interacts with the length of the nucleus.

The verb morphology is rather complex in Ayutla Mixe, and a good description and understanding of the morphology is necessary to comprehend several syntactic phenomena that have morphological correlates. In the verb, there is only one slot for person markers. The agreement, however, is not in terms of grammatical relations but in terms of an animacy hierarchy. In other words, Ayutla Mixe has an inverse system that interacts with the person markers.

In this language, all verbs are treated as either independent or dependent. The marking of a verb as independent or as dependent is triggered by the presence of certain words (such as aspectual or temporal particles, locative adverbials, and conjunctions, among others) in the clause. This difference in marking has nothing to do with subordination, as a matrix verb can be marked as dependent and a verb in a subordinate clause can be marked as independent. Related to this, the language has two sets of inflectional morphemes (person prefixes and aspect-mood suffixes): one when the verb is conjugated as independent and one when the verb is conjugated as dependent.

Ayutla Mixe allows more than one root in the verb stem. There are two cases of this: core serial verb constructions and noun incorporation. In core serialization, there are two or more verb roots, some of them with clear lexical content, some of them with more grammatical function (such as phase verbs). In incorporation, a noun appears as part of the verb stem. Usually, the noun could be considered as a semantic argument of the verb, but in some other cases it does not seem to act as a semantic argument. Finally, in other

cases Ayutla Mixe allows a non-nominal element, such as an adjective, to be part of the verbal morphology.

Ayutla Mixe has a rich morphology for coding spatial relations. Most of its spatial morphemes appear as part of the verbal morphology. Interestingly, there is a special class of bound morphemes that can either appear in the verb as prefixes or can be the head of locative phrases. These morphemes are historically related to nouns that denote body parts but synchronically must be considered an independent class of morphemes.

In the noun phrase, the plural marker is restricted to a very small group of nouns, all of which refer to humans. Also, the absence of plural marking does not entail singularity with respect to nominal number.

Ayutla Mixe has several mechanisms for changing the valence of the verb: two causative morphemes (one of them is also used in passive constructions) and different types of applicatives. Most of the morphemes that behave like applicatives are better described as modifying the semantic structure of the verb and very often, though not always, the syntactic structure as well. Interestingly, the true applicative is not formally marked by affixation but by apophony, i.e. by changes in the verb stem.

Glosses

1,2,3	first, second and third person, respectively
S	Subject of an intransitive verb
A	Subject of a transitive verb
O	Object of a monotransitive or a ditransitive verb.
ADJ	Adjunct
ADV	Adverbial derivation
ANIM	Animacy marker
APPL	Pseudo-applicative prefix
ASSOC	Associative
BEN	Benefactive-like prefix
CAUS	Causative
CMPLZ	Complementizer
COMPL	Completive aspect
CONJ	Conjunction
D.ADJ	deverbal adjectivizer
DEIC(.P/.M./D)	Adverbial demonstrative: proximal <i>tsyä-</i> and <i>yää-</i> ; medial <i>ta-</i> and <i>xe-</i> ; and distal (<i>ja-</i>), respectively.
DEM(.P/.M./D/.C)	Adnominal or pronominal demonstrative, proximal, medial, distal and contrastive, respectively.
DEP	Dependent aspect-mood
DES	Desiderative
DIM	Diminutive
DIR	Directional
DISC	Discursive marker
DISTR	Distributive
DOWN	Directional prefix that indicates a downwards trajectory
EV	Evidential
EX	First person plural exclusive
EXPECT	Evidential that indicates counter-expectations.
HYP	Hypothetical
HOR	Directional prefix that indicates a horizontal trajectory
IMPF	Imperfective aspect
INCH	Inchoative morpheme
INCL	First person inclusive
INDEP	Neuter independent aspect-mood
INDEP;TR	Neuter independent transitive aspect-mood
INTENS	intensifier
INTERJ	Interjection
INF	non finite verbal form
INV	Inverse morpheme
IRR;INDEP	Irrealis independent aspect-mood
IRR;DEP	Irrealis dependent aspect-mood

LOC	Locative
M.DEM	manner adverbial demonstrative
N.DER	Nominal derivation
NEG	Negation
NMLZ	Nominalizer (change it to NMZR)
MCP	motion-cum-purpose
PAST	Past perfective particle
PERF	Perfect
PERF;DEP	Perfect and neuter dependent aspect mood
PL	Plural
PL;DEP	Plural and dependent aspect-mood
PERD	Perdurative (dispositional-like derivation)
POSS	Possessive marker
PREF	Non identifiable prefix
ORD	ordinal
Q	Polar question marker
REFL	reflexive marker
REL	Relativizer
SG	Singular
SUFF	Non identifiable suffix
UP	Directional prefix that indicates an upwards trajectory
VRBLZ	verbalizer

NB: In many cases a fine grain morphological analysis is not relevant. In such cases, I will use “+” to indicate a formal boundary that I am not analyzing.

Section One
Introduction

Chapter 1

Ethnological and sociolinguistic background

1.1 Presentation

This dissertation is a reference grammar of Ayutla Mixe, a Mixe-Zoque language spoken in Southern Mexico, in the state of Oaxaca. Even though Ayutla Mixe can be regarded as one of the six dialects of South Highlands Mixe (Wichmann 1995a) – one of the four languages of the Oaxaca Mixe branch of the Mixe-Zoque family, it can be argued that each community has a different linguistic system,¹ and thus it is necessary to study them separately. How different all of the South Highlands Mixe dialects are from each other and even from other Mixe languages is still an unknown matter given the scarce documentation of these languages. This dissertation is, in fact, intended as a step to remedy this situation.

The dissertation is divided into three parts. In the first one, a brief description of the sociolinguistic, historical and anthropological background of the community and the

¹ Roughly, each community forms a *municipio* (or county), although some *municipios* might have more than one community. Regarding the Mixe area, I understand for ‘community’ a group of people who live in a defined geographical area, who interact regularly with each other (with respect to trade, religious practices, and civil duties), who form a cluster of kin relationships, and who, most importantly, have a proper identity, considering themselves different from other Mixe communities.

language is provided. The second one offers a phonological description of the language. The third one, largest part of the thesis, is a description of the morphosyntax of the language, from word classes to complex sentences.

In the remainder of the introduction I present geographical, sociolinguistic and historical information about Ayutla Mixe and the Mixe people.

1.2 Geographical information

San Pedro y San Pablo Ayutla (hereafter referred just as Ayutla) is a Mixe county or *municipio* located in the southern state of Oaxaca in Mexico. More specifically, its location is 17° 06' north latitude and 96° 04' west longitude, six degrees south of the Tropic of Cancer. Ayutla is one of nineteen Mixe counties. Even though the literal translation of *municipio* is ‘municipality’, it corresponds more or less to a county in terms of its administrative functions. Oaxaca is not the largest Mexican state, but it has the largest number of counties in Mexico, each of them being a very small political unit. In the case of the South Highlands Mixe area, some *municipios*, Ayutla included, are not only a unit for political-administrative organization, but they are also a unit in terms of language and identity. Each *municipio* has a main town, and several *rancherías* or sub-political units. People from the *rancherías* have a house in the main town and gather there with other family members on Sunday, the market day.

Ayutla is on the edge of the Mixe area. Zapotec counties are on the Western side and Mixe counties are on the Eastern side of Ayutla. The adjacent Zapotec counties are San Pablo Yaganiza, Santo Domingo Albarradas, San Pablo Villa de Mitla, and San Lorenzo Albarradas; the adjacent Mixe counties are Mixistlan de la Reforma, Santa María Tlahuitoltepec, Tamazulapam del Espíritu Santo, and Santo Domingo Tepuxtepec. Mixe

counties are independent of each other, and over the past century there have been conflicts among them. Even currently there is a dispute between Ayutla and a neighboring community over some pieces of land and water resources.



Figure 1. Geographical localization of Oaxaca and Ayutla.

Ayutla is in the mountains, in the southern part of the *Sierra Mixe* or Mixe Mountain Range, which constitutes part of the *Sierra Norte de Oaxaca* (sometimes regarded as the continuation of the *Sierra Juárez*). The main town is on average 2080 meters above sea level, but the entire county has parts ranging between 1000 meters above sea level in the northern corner of the county to 2800 meters above sea level in the east. This variation allows for different types of crops and vegetation. According to the maps published by INEGI (the Mexican Institute for Statistics and Geography), less than a half of the county is used for crops and the rest is forest, most of it a mixed forest of pine and live oak. However, there is a high degree of deforestation. The average temperature in the main town, at 2000 meters above sea level, is 15.2 °C, with an average annual rainfall of 1402.4 mm.

The Highlands Mixe area is a rugged and humid zone. Within it, all of the main villages were established in surprisingly precipitous and even unsafe terrains, even though all counties have less steep parts. In addition, those communities are also located at an altitude which is in the clouds during most of the year. During the rainy season it rains non-stop for several weeks, and one might not see a clear sky for more than two weeks. The choice of geographical location of the Highlands Mixe communities has attracted the attention of anthropologists (Beals 1945), who attribute it to warfare and to the origin of Mixes in the tropical rainforest.

According to the INEGI, as of 2000, the population of the county was 5,500 inhabitants. The county had an illiteracy rate of 49% among people over the age of 15, much higher than the rest of the state, which was at 21%. In fact, 44% of the population of 5 and older never went to school (not even to the 1st grade of primary school), although the rate of illiteracy is lower in people below the age of 15. There are 29 villages in the county; most of them have less than 500 inhabitants and only the main town has more than 1000 inhabitants.

Ayutla is on the road from Oaxaca City to the Mixe area, and it is the first Mixe community one encounters when heading that way. Ayutla is about 43 miles from Oaxaca City in a straight line on the map, but the trip takes around two and half hours by car. There is currently a newly remade road from Oaxaca City to Mitla, a Zapotec county that is at the limits between the Oaxacan Central Valleys and the Sierra Norte. After that, there is a paved road that connects with Zapotecan and Mixe counties, which was paved no more than ten years ago. Before that, there was a dirt road that was almost impassable during the rainy season, which in turn was built less than forty years ago. Before that,

people traveled by foot to other Mixe or Zapotecan counties, or even to Oaxaca City (the entire trip to Oaxaca City by foot takes about two days).

Some governmental offices for the Mixe region are located in Ayutla, including the educational district, offices for adult education, the postal office, and the governmental office for indigenous affairs. This has brought some improvements in terms of telecommunications: there are several telephone and internet facilities, in addition to the constant transportation to Oaxaca City.

1.3 Ayutla Mixe in the Mixe-Zoque Family

According to the classification of Wichmann (1995a), Ayutla Mixe is a dialect of South Highland Mixe, a language of the Mixe branch of the Mixe-Zoque family. As shown in Figure 2, this linguistic family is divided into two main branches: the Mixe branch and the Zoque branch. In the Mixe branch, all the Mixe languages spoken in the State of Oaxaca can be grouped into the Oaxaca Mixe sub-branch, which contains North Highland Mixe (mainly Totontepec Mixe), South Highland Mixe (Ayutla, Tlahuitoltepec, Tamazulapam, Tepuxtepec, Tepantlali, and Mixistlán Mixe), Midland Mixe (Jaltepec, Puxmetacán, Matamoros, Cotzocón, Juquila, and Cacalotepec Mixe), and Lowland Mixe (Camotlán, Coatlán, Mazatlán, and Guichicovi Mixe). The other Mixe languages, Tapachultec (extinct), Sayultec, and Olutec, do not form a sub-branch. It is worth noting that, as of 2000, there were less than twenty speakers of Olutec, all of them over seventy years old (Zavala 2000:1). On the Zoque branch, the languages can be grouped into Gulf Zoque (Soteapan, Texistepec, and Ayapa Zoque), Chimalapa (or Oaxaca) Zoque, and Chiapas Zoque.

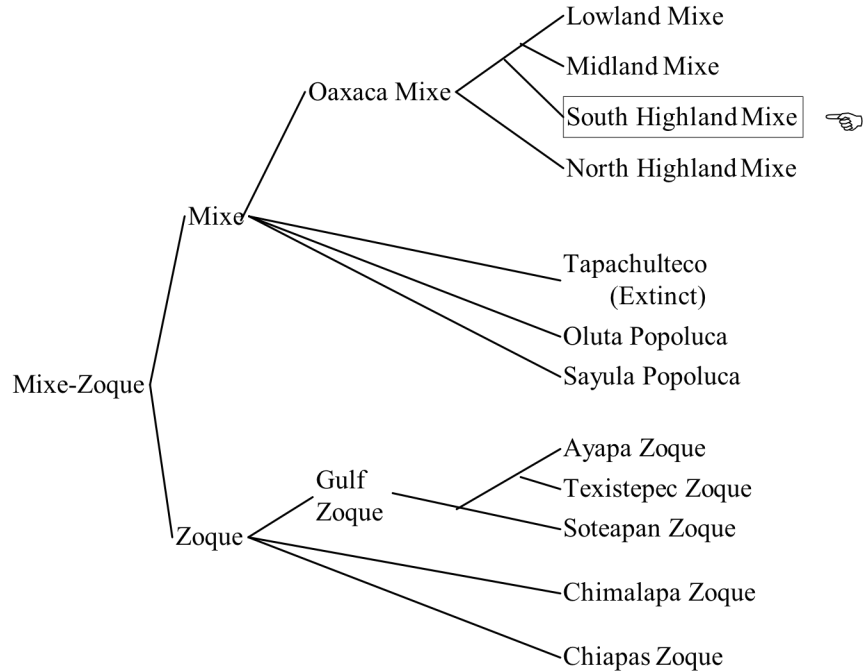


Figure 2. The Mixe-Zoque Family according to Wichmann (1995).

Even though I follow Wichmann’s classification, it is worth mentioning Kaufman and Justeson’s classification (2000; cited in Zavala 2000). There is a general agreement regarding the two branches in the family; however the number of languages and the internal grouping of them are different from Wichmann (1995a). As shown in Figure 3, from Zavala (2000), in the case of the Mixe branch, Kaufman and Justeson (2000) recognize just three languages inside the Mixe Proper branch (Lowland Mixe, Highland Mixe, and Sayultec), while Wichmann does not consider Sayultec to belong to this subgroup and recognizes four Proper Mixe languages instead of two (North Highland Mixe, South Highland Mixe, Midland Mixe and Lowland Mixe). In addition, the Zoquean branch contains two subgroups, the Gulf Zoquean and the Zoque. In contrast, according to Wichmann (1995a), the Chiapas Zoque and the Oaxaca Zoque do not constitute a subgroup.

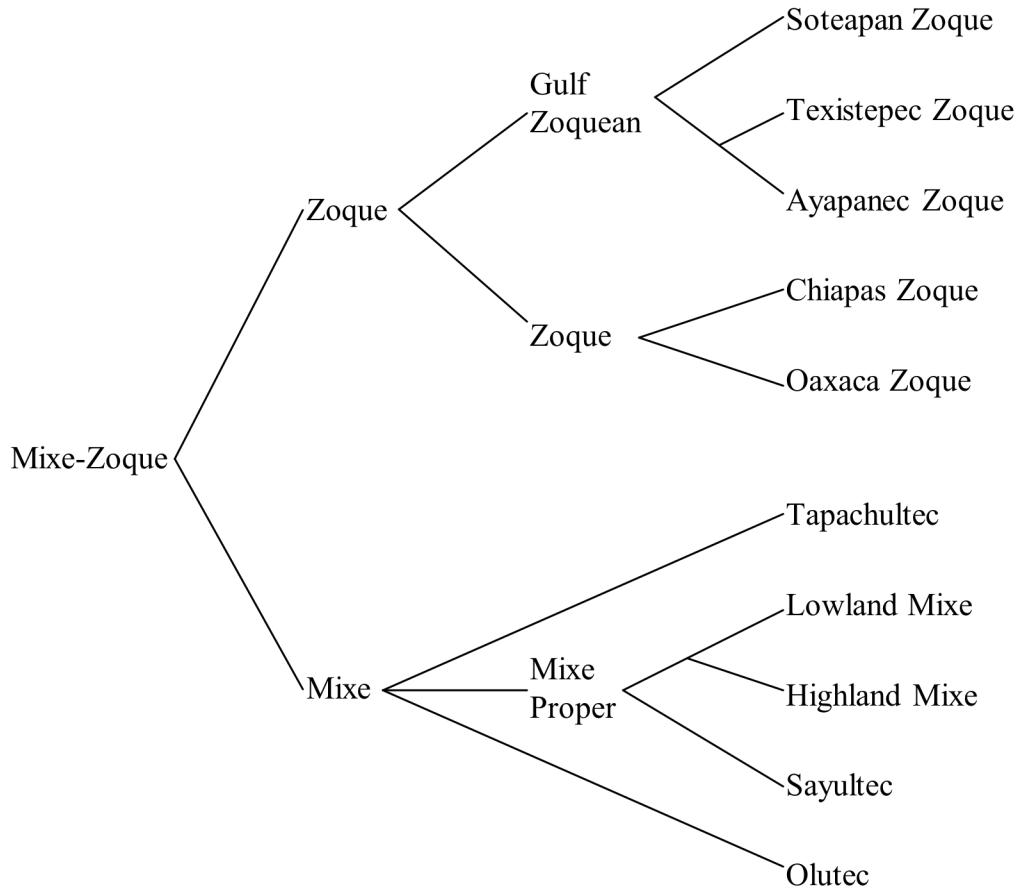


Figure 3. The Mixe-Zoque family according to Zavala 2000.

Since Campbell & Kaufman (1976), it has been argued that there is evidence for a relationship between the Mixe-Zoque family and the Olmec culture, which is known as the *mother culture* in Mesoamerica. Even though Wichmann (1995a, 1998, 2005) has questioned whether the Olmec culture was contemporaneous with proto-Mixe-Zoque or arose after Mixe and Zoque languages had already split, the evidence suggests that the Olmecs spoke an early form of a Mixe-Zoque language.

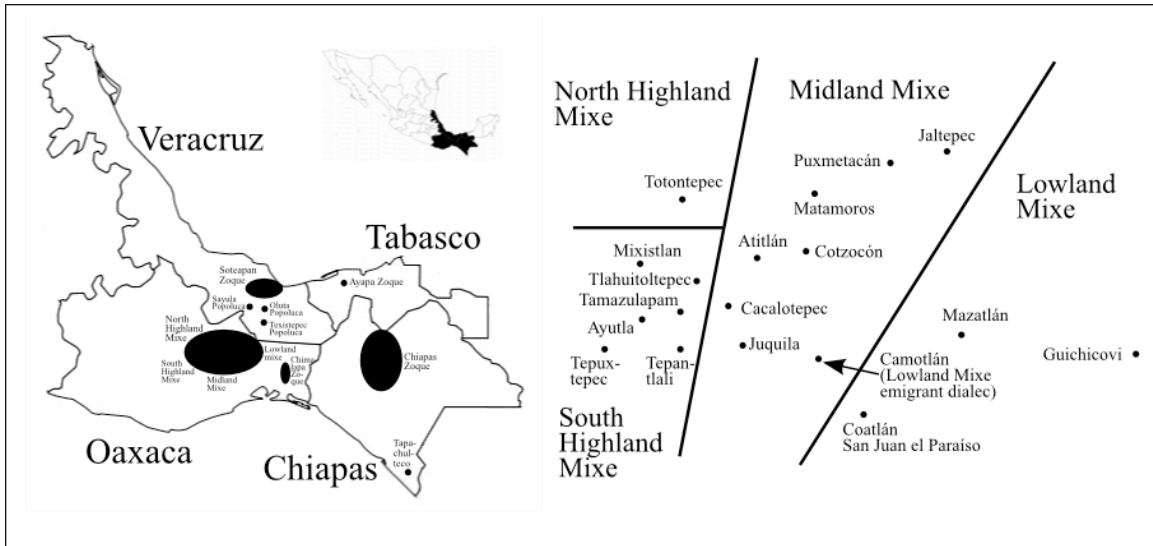


Figure 4. Mixe-Zoque Languages (From Wichmann 1995a).

According to Wichmann *et al* (2005), who used both glottochronology and archaeological evidence, proto-Mixe-Zoque was spoken around 3,800 years ago, i.e., around 1800 B.C. After that date, the language started to diversify into several dialects forming mainly two languages, proto-Mixe and proto-Zoque. Around 400 B.C. to 200 A.D. they split into the different Mixe and Zoque languages. If that is true, some Mixe languages have existed as separate languages for more than two thousand years, longer than the Romance languages.

1.4 Sociolinguistic background

Mixes refer to their language as *Ayuujk* [a'ju:hk] and call *themselves* *Ayuujk jä'äy* [aju:hk'hΛ?Λj], which means 'Mixe people'. The exact origin of the term *Mixe* ['mihe] is unknown, although sometimes it has been regarded as derived from Nahuatl *misli* 'cloud', in reference to the cloudy regions where the Mixe population is located

(Wichmann 1993).² Also, it could be a Zapotec adaptation for the Mixe word *mixy* ‘young boy’, since Zapotec people heard that Mixe people used that word to draw each other’s attention (Valiñas, p.c.). In Ayutla Mixe, Ayutla is called *Tëkyo ’m* or *Tukyo ’m*, and some people, such as Nahmad (1965), believe that its etymology comes from *tu ’uk* ‘one’ and *kām* ‘flat terrain’, although this does not seem entirely plausible because it would be difficult to explain the presence of the palatal glide, represented by “y”, and the glottal stop before the nasal. Another hypothesis, perhaps more plausible, is that it comes from the word *tuk* ‘turtle’ plus an unidentified locative *-yo ’m* ‘place’. The same ending is found in the names of other communities (Aguilar p.c.).

1.4.1 Linguistic fragmentation in Oaxaca

According to the latest demographic results (INEGI 2005), in 2005 there were 6,011,202 people of age 5 and older that spoke an indigenous language in Mexico, about 7% of the national population. Oaxaca is the Mexican state with the highest number of speakers of indigenous languages with respect to the rest of the country: 1,091,502 people, roughly 18% of all speakers of indigenous languages in Mexico. Additionally, in relative terms, it is also the state where the highest percentage of its population speaks an indigenous language, 35%, compared to the 7% among the national population.

Approximately 9.5% (103,089) of the speakers of an indigenous language in Oaxaca are speakers of any Mixe language, and of these, around 3,617 people speak Ayutla Mixe.³

This shows the linguistic fragmentation in Oaxaca and in the Mixe area. Mixe languages,

² Lipp (1998:1) also reports that Rafinesque (1832) proposes that the word *Mixe* is probably derived from Nahuatl *mixitl*, *Datura* sp., or *micqui*, ‘death’.

³ According to INEGI, there were 115,824 speakers of all Mixe languages combined in the whole country, which means that about thirteen thousand Mixe speakers either have immigrated to a different state or were borne outside Oaxaca. Most of the Mixe speakers outside Oaxaca live in Mexico City and the surrounding areas.

as well as Zapotec languages, are spoken in a relatively large territory within the state. However, one could argue that each community has its own linguistic norm or *communolect* (see f.n. 1). Each communolect differs from the surrounding communolects on some grammatical grounds, but it is not completely different; thus it might in fact be difficult to make clear divisions to say that there is a given number of Mixe languages. Rather, it is possible to say that there is a dialectal continuum along the Mixe (and Zapotecan) region where each community's dialect can sometimes be considered a language of its own.

Regardless of the previous consideration, Mixistlan, Tlahuitoltepec, Tamazulapam, Tepuxtepec and Tepantlali Mixe have been proposed to be other dialects of South Highland Mixe, in addition to Ayutla (Wichmann 1995a). The lack of more descriptions makes this grouping a mere hypothesis, and it is necessary to conduct dialectological studies.

Ayutla Mixe speakers are aware of the dialectal differences with their neighbors. In the case of other South Highland Mixe communities, Ayutla Mixe speakers say that the neighbors speak in a different way and use different words (or even that the neighbors speak “funny”). Ayutla Mixe speakers say that they have some difficulties communicating with members of other Highland and Midland Mixe communities. However, given the frequent contact with those communities (the main market for that area is in Ayutla), it is difficult to estimate structural similarities based on inter-intelligibility. The degree of understanding may depend on the exposure to other dialects. Judgments on inter-intelligibility with other Highland and Midland Mixe speakers range from no understanding at all to almost complete understanding. Normally, if people speak

Spanish, they switch to it when they meet someone from a different Mixe community. In the case of Totontepec Mixe and Lowland Mixe, Ayutla Mixe speakers say that they can hardly understand them. Nevertheless, Mixe speakers acknowledge that all the Mixe communities belong to the same people and form a single unit in contrast to outsiders. This does not include Olutec or Sayultec, the two other languages in the Mixe branch spoken in another state. There are Zoque languages spoken next to Lowland Mixe, but Ayutla Mixe speakers (except for some school teachers) are not aware that there are other languages related to Mixe (Olutec, Sayultec or any Zoque language).

As mentioned above, Zapotecan languages are spoken in the proximity of Ayutla, and it is possible to hear Valley Zapotec in the Sunday market. As for the rest of the state (Oaxaca), there are more indigenous languages, of which Oto-Manguean languages are the majority, in addition to Huave, Oaxaca Chontal languages, and Nahuatl. There are Mayan languages in the south and east ends of the Mixe area, in other states in Mexico and in Guatemala. Languages from the Mixe-Zoque and the Mayan families have been in contact for several centuries, and they have been reported to share some grammatical characteristics (Zavala 2000, Campbell, Kaufman and Smith 1986).

1.4.2 Current social roles and status

As of 2005, 93.7% of the population of five years and older in Ayutla speaks Mixe, of which 23% (around 900) are monolingual speakers of Mixe. Even though those figures alone do not seem dramatic, this contrasts with the situation fifty years earlier, when 84% of the population was monolingual and only 15% was bilingual, as depicted in Figure 5.

According to the 1900 census, all people spoke Mixe in Ayutla.⁴ There are not data about indigenous languages in the 1910 and 1921 census, but by 1930 around 80% of the population was monolingual, a situation that persisted until 1960. It is interesting to note that after 1960, there was a drastic drop in the number of monolingual speakers. Since 1970, there has been a continuous drop in the number of monolingual speakers. Also, given the way in which the census is carried out, figures about indigenous languages might be inaccurate in many respects, particularly because interviewers often assume that people speak an indigenous language just because they live in an indigenous area, and so fill the box relative to indigenous languages without actually asking.

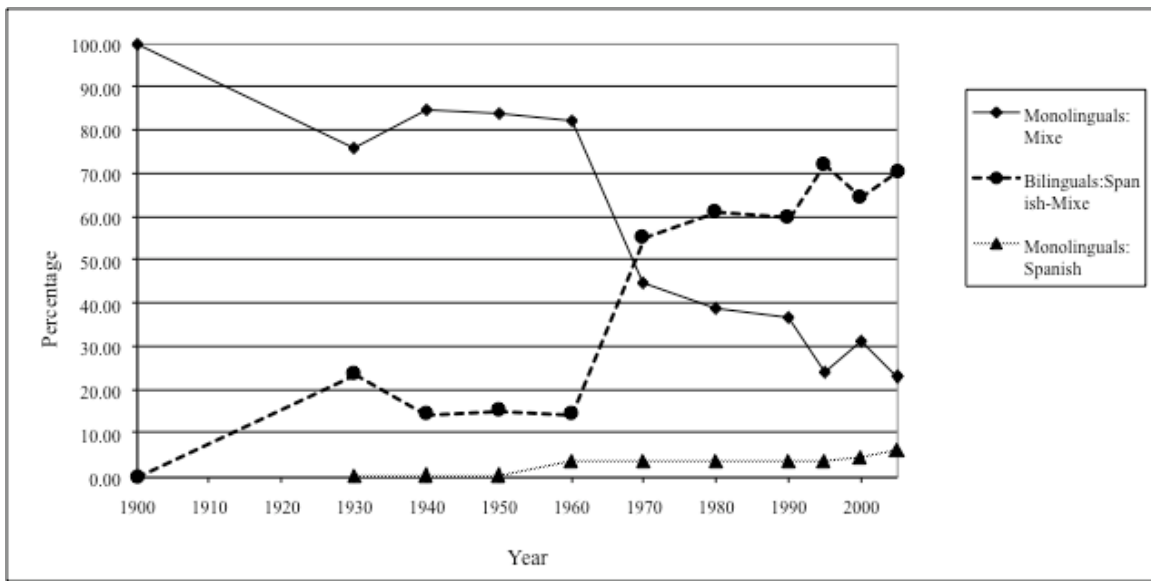


Figure 5. Bilingualism in Ayutla.⁵

Additionally, it has to be taken into consideration that nearly all monolinguals are elders, and therefore in a few years, when that generation dies, there will be almost no monolingual speakers left. As shown in Figure 6, between ages 5 and 9, almost 25

⁴ The first available data corresponds to the 1900 census, although it was not published until 1906. At that time, all inhabitants in Ayuta were reported to speak Mixe.

⁵ Sources: Secretaría de Fomento 1906; Secretaría de Hacienda 1918; Departamento de Estadística Nacional 1927; Dirección General de Estadística 1930, 1948, 1950, 1963, 1971; Instituto Nacional de Estadística Geografía e Informática 1984, 1992, 1996, 2002, 2005.

percent of the population are Mixe monolingual speakers; however, between ages 10 and 19, the percentage of monolinguals drops to only four percent. Again, this is probably due to the obligatory use of Spanish at school. In Figure 6 one can also see that there is an increase in the number of Spanish monolingual speakers among younger people. This means that there is an increasing number of families that do not speak Mixe to their children.

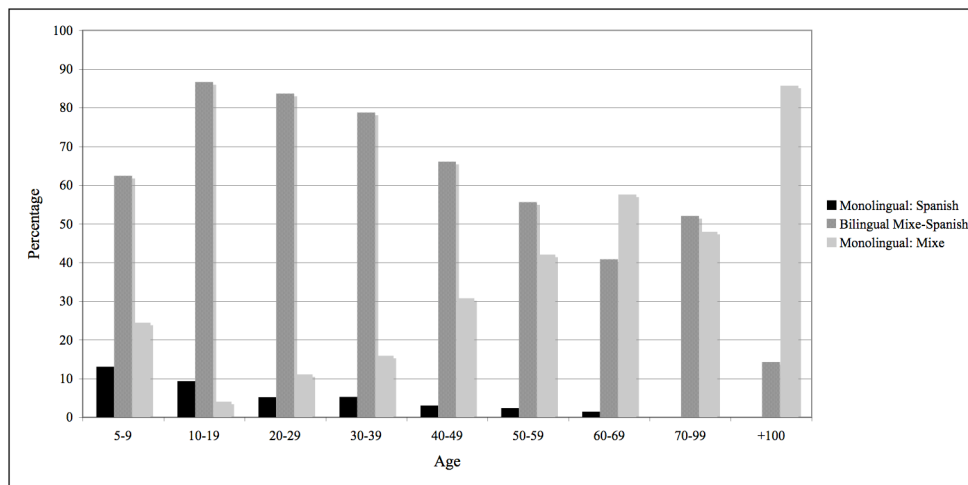


Figure 6. Percentage of bilingualism per age (Source: INEGI 2005).

Furthermore, not all bilingual speakers are as proficient in Mixe as they are in Spanish. Some younger speakers, for example, can understand Mixe, but do not speak it fluently. Thus, they feel more comfortable speaking Spanish than Mixe, and only speak Mixe when addressing a Mixe monolingual speaker. When the number of Mixe monolingual speakers drops to a minimum, there will be no pressure for a big portion of the population to speak Mixe.

Children acquire Mixe at home, but, as noted above, an increasing number of families in the main village of Ayutla do not speak Mixe to their children, only Spanish. Mixe is used to address persons from the surrounding communities, and both Mixe and Spanish

in conversations with speakers from distant communities and Spanish to Zapotec speakers.

Since Ayutla is the first community one encounters on the road from Oaxaca City to the Mixe area, it has been subject to the impact of western culture more than other communities. In addition, education as well as migration to Mexico City are accelerating the loss of the language in two ways: the majority of teenagers speak Spanish with each other even if they are fluent speakers of Mixe, and very frequently people from Ayutla who have migrated to Mexico City or Oaxaca City do not speak Mixe when they return to the community and certainly they do not speak Mixe to their children. In the market, people use Mixe and Spanish, but there is an increasing use of Spanish for commercial purposes.

Almost all of the education is in Spanish. There are a few bilingual primary schools (some of them having only two instructors), but there is no formal instruction in Mixe. According to local authorities, bilingual schools were created for those children who did not speak Spanish, not for providing education in the children's native language. This situation has not changed, since teachers may spend one hour or less a week teaching Mixe. This is mainly due to the lack of educational materials for teaching Mixe, not to mention the lack of funds. In addition, the teacher may speak another dialect, and, according to local educational authorities, bilingual schooling has less prestige than monolingual Spanish schooling. During community meetings, only Mixe is spoken, perhaps because elders' opinion is highly respected and most of them are monolingual speakers. Finally, Ayutla is, for the most part (98%), Catholic, and the religious services are held mainly in Spanish.

1.4.3 Writing and codification

More than twenty years ago, a practical orthography for Mixe was proposed by some linguists and Mixe people interested in writing their language; however, this orthography has remained unknown among most speakers and has never been used in Ayutla. The Oaxaca government has published some textbooks, but they are in another dialect and Ayutla Mixe speakers are almost unable to read them, due to the lack of familiarity with the orthography as well as dialectal differences. As part of school materials, in 1982 the state government published a book containing traditional tales both in Spanish and Mixe (SEP, 1982). Those tales are organized according to the region: Lowland, Midland and Highland Mixe. Unfortunately, the orthography in that publication is not used anymore, and therefore it is inaccessible to Ayutla Mixe people. Besides, none of the tales were collected in Ayutla and therefore they are in different dialects. There are no printed materials which come directly from Ayutla Mixe. In other words, there is Spanish literacy in Ayutla but not literacy in Ayutla Mixe.

With respect to Mixe communities in general, one can use Wölck's (1991) criteria for measuring the degree of cultivation and codification of a language.

1. Translations: As far as I know, the Bible has been translated for one South Highlands Mixe dialect, one Midlands Mixe dialect and one Lowlands dialect, but these translations are difficult to access for Mixe speakers due to the lack of Mixe literacy. There are no other translations of culturally important texts into Mixe languages.

2. Printed poetry and fictional prose. Except for the previously mentioned book of traditional tales published twenty years ago, I am not aware of other printed fictional materials.

3. Non-fictional prose in the oral media and formal speeches. In the entire Mixe territory there are only three community radio stations, with very limited resources, which transmit in Mixe. One of them is located in another community relatively close to Ayutla (in Tlahuitoltepec), but the signal is very weak and it is not always received in Ayutla.

4. Non-fictional (expository) writing. There are no newspapers or magazines written in Mixe. As far as I know, there are only a handful of non-fictional materials published in bilingual editions.

1.4.4 Brief historical report

There is little information about the origins of Mixe people. On the one hand, it can be assumed that the Olmec people spoke a Mixe-Zoque language, but little is known about the fate of the Olmecs and how Mixes migrated from the tropical lowlands to the highlands where some Mixe languages (including Ayutla Mixe) are now spoken. On the other hand, there are some archaeological sites within the Mixe region, such as Moctum in Totontepec, which suggest a developed social organization. However, our knowledge regarding ancient Mixe history does not go further.

A century before the Spaniards came to this continent, it is believed that there was a war between the Zapotec people and the Mixe people (Münch Galindo 2003), when the Zapotec king Zaachila I tried to conquer the Mixe territory by setting several miles of forest on fire. Even nowadays, people believe that the Mixe king Kondoy (whose usually assumed etymology is ‘burned king’) was able to divert several rivers to put out the fire and then led the Mixe army against the Zapotecs.

At the beginning of the 15th century, Zaachila II started another war against the Mixes and expelled them from the Nexapa valley in order to have control over the commercial

activity between the Oaxaca central valleys and Tehuantepec. For the same reason, a century later the Aztec king Moctezuma Xocoyotzin started a war against the Mixes, and some years later Spaniards attempted the same (Münch Galindo 2003, Burgoa 1934). Both the Aztecs and the Spaniards encountered fierce retaliation from the Mixes and realized that the price to pay for conquering those lands was higher than the resources and fortunes they would find there.

The first military contact between Spaniards and Mixes was in 1521. When Mixes did not surrender, Spanish troops tried to advance into Mixe territory, but they were defeated. After that experience, Spaniards and Zapotecs formed an alliance in order to subdue some Mixe communities, but they failed, even though Hernán Cortés sent several expeditions to that area in the following decade (Díaz del Castillo 1984, Münch Galindo 2003; Torres Cisneros 2003). In 1527, the Spaniard General Gaspar de Pachecho founded the town Villa Alta in the Zapotec territory, which was for many centuries the main point of access into the Mixe area. Several expeditions against the Mixe people were conducted from Villa Alta, but, again, they failed (Münch Galindo 2003). Due to those frustrated attempts at gaining control over Mixe lands, Mixes are very proud of never being conquered by Zapotecs, Aztecs or Spaniards. In 1542, a new law known as *Leyes Nuevas* forbade the slavery of indigenous people, and that helped pacify all the area around Villa Alta. After 1550, a taxation system was imposed in Villa Alta, which included the Mixe area. However, in 1570 the Mixe rebelled against Spaniards because of the excessive taxes. Then, the Spaniards sent more troops and confined the Mixe people to the mountains and forced them to pay tributes.

1.5 Brief ethnological report

1.5.1 Clothing

Currently, no one uses traditional clothing in Ayutla except for a few people, mostly women, who do so at certain times during the *patronal* festivities. As far as other Mixe groups are concerned, use of traditional clothing is mostly restricted to the less accessible communities in the midlands. Also in two neighboring communities, Tamazulapam del Espíritu Santo and Santa María Thahuitoltepec, women use clothing with traditional design, although in the latter the cloth itself is made using modern technology and materials.

This situation is not entirely new. According to the 1940 census, around 60% of the population did not wear traditional clothing; of those who wore it, almost all were women (INEGI 1940).

From the narratives I have collected about the history of the community, it would seem that probably fifty or sixty years ago there was a crisis of raw materials that could be used in order to make clothes.

1.5.2 Festivities

All the Catholic celebrations are observed in Ayutla, including Easter, the Day of the Dead, and Christmas. As in most parts of Mesoamerica, Catholic celebrations have been modified and adapted to pre-Hispanic traditions. In this context, the Day of the Dead is the most important celebration of the year. In the Catholic tradition, November 1st corresponds to All Saints Day and November 2nd to All Souls' day.

There are two *patronal* festivities (patron saints' days). The first one is during the last week of January, on the 25th, and according to the Catholic tradition it corresponds to the

celebration of the conversion of Paul. The second festivity is on June 29th, which is the liturgical feast for the Saints Peter and Paul. According to popular beliefs in Ayutla, however, each celebration should correspond to one saint, but both of them are celebrated because otherwise the non-commemorated one would become jealous. Interestingly enough, the main festivity is not the one celebrating the Saints Peter and Paul, but the one that, in the official catholic tradition, corresponds to the conversion of Paul.

1.6 Previous descriptions and research

Ayutla Mixe has not been documented before and the scarce descriptions are from the past four years. Most of the few published papers or presentations on Ayutla Mixe have been presented by the author of this grammar, some of them in collaboration with other scholars. Additionally, there are a few presentations and published papers by Aguilar and Arellanes (2007, in press).

To fully understand the situation of Mixe languages, it would be probably enough saying that there is not even one grammar of any Oaxaca Mixe language.⁶ The only thing that is closest to a grammar in the whole Mixe branch of the family (i.e., including Olutec and Sayultec) is Zavala's (2000) doctoral dissertation. In fact, I would say that Zavala's dissertation and other published papers (1999, 2002b, 2002c, 2004) are the most important descriptions of any Mixe language. However, even though his dissertation discusses in depth four important phenomena in the language (inverse, serialization, noun incorporation and applicatives), it is not by any means a substitution of a grammar. The

⁶ I am aware of a manuscript of a grammar of Totontepec Mixe, elaborated by Daniel Suslak in the context of the PDMLA (see next footnote), but I have not have access to it and, as far as I know, it is not a finished work.

majority of other studies on Mixe languages are oriented to phonological sketches and general morphosyntactic characterizations. They are briefly mentioned below.⁷

More specifically, regarding other South Highland Mixe languages, Tlahuitoltepec Mixe has been the main focus of attention for anthropologists and linguists, although the descriptions produced are still very limited: Don Lyon (1967) and Shirley Lyon (1967) presented a syntagmemic analysis; and Don Lyon (1980) in collaboration with other authors have a compilation of small texts and elicitations with some grammatical notes. Wichmann (1993) refers to a school book (Martínez 1987) to which I have not had access. More recently, Herrera (1997, 1998, 2006) has presented phonetical analysis of the palatalization of consonants in South Highlands Mixe. Just in recent months, an MA thesis on some morphosyntactic aspects of Tamazulapam Mixe was defended (Santiago Martínez 2008).

Midlands Mixe has been largely ignored, although there is a BA thesis on the phonology of Alotepec Mixe (Reyes Gomez 2009) and another short phonological study of vowels in Chuxnabán Mixe (Jany 2006). Studies of Lowland Mixe are restricted to Coatlán and, more recently, to Guichicovi. Van Haitzman & Van Haitzman[Dieterman] 1976 have a sketch of the Mixe spoken in San José el Paraíso, in the Coatlán area. In addition, Hoogshagen (1959) presented a well-known study in which he claims that there is a three way contrast in length in the vowels of Coatlán Mixe. He also published a succinct grammatical overview (1984) and then a dictionary (Hoogshagen & Hoogshagen 1993). With respect to Guichicovi (or Isthmus) Mixe, Dieterman has presented a study of participants in discourse (1995) and a phonological study (2002).

⁷ As part of the Project for the Documentation of the Languages of Mesoamerica (PDLMA), directed by Terrence Kauffman, John Justeson and Roberto Zavala, there have been extensive compilations of lexical databases for Mixe-Zoque and other Mesoamerican languages.

Despite the similitude in the name, North Highlands Mixe has a phonology rather different from that of other Mixe languages, which sometimes makes comparisons somewhat more complicated. However, Totontepec Mixe, in the North Highlands, has been the Mixe language that has received more interest, starting with a pioneering classification of verbs in the sixties (Schoenhals 1962). There is also a phonotagmemic study (Crawford 1963), a study on different types of clauses (Schoenhals 1979), a dictionary with a grammatical appendix (Schoenhals & Schoenhals 1965), and two sociolinguistic studies (Morgan 1980, Suslak 2005).

The Mixe languages spoken in the Gulf of Mexico area (in Veracruz), which are not part of the proper-Mixe sub-branch, have been the focus of attention of two researchers (Clark 1962, 1977, 1981, 1982, 1983, 1995; Zavala 1999, 2000, 2002a, 2002b, 2002c, 2004, 2007).

Relevant works with respect to the rest of the family are a grammar of San Miguel Chimalapa Zoque, one of the two varieties of Oaxaca Zoque (Johnson 2000), a short grammar of Gulf Zoque (Elson 1960), a dictionary of Texistepec Popoluca (Wichmann 2002), a series of articles that can be considered a grammar of Copainalá Zoque (Wonderly 1951-1952), in addition to two dictionaries produced by the Summer Institute of Linguistics (Harrison 1984, Engel 1987). There is a comparative work of the languages of the family (Wichmann 1995a), which is essential for anyone interested in the study of Mixe-Zoque languages. Finally, Wichmann (1993) presents a bibliography of studies on Mixe-Zoque languages published up to 1992.

Chapter two

Grammatical overview and methodological issues

2.1 Overview of the dissertation

In chapter one, I presented a general introduction to the Mixe people, including the location of the community where the language is spoken and a geographical, sociolinguistic and ethnological report. Additionally, I presented the classification of Ayutla Mixe within the Mixe-Zoque family and a brief summary of previous research on other Mixe languages. In this chapter, in addition to a grammatical overview of the language, some methodological aspects are presented, including the orthography, the general theoretical framework and the conventions followed in the examples. Then the rest of this dissertation is divided into two more sections, in addition to this introductory section. In Section two the phonological description of AyMi is presented and in Section three the morphosyntactic characteristics.

In Chapter Three, I present the phonetic inventory of AyMi and the main allophones of vowels and consonants. Chapter Four deals with different aspects related with the syllable structure and prosody (including the syllable structure, the stress patterns and the

correlation between vocalic length and lenis/fortis consonants). The discussion in Chapter Five includes automatic phonological processes two other processes that are better characterized as non-automatic.

Then, in the third section, in Chapter six, I discuss all lexical classes in Ayutla Mixe. Chapter Seven is devoted to nouns, noun phrases and locative phrases. Chapter Eight is dedicated to verbal morphology, and in some respects it is a core chapter of this grammar, as many grammatical phenomena are directly linked to the verbal morphology. In Chapter Nine, the longest chapter of this dissertation, I discuss the basic clause structure. Finally, Chapter Ten is dedicated to complex sentences and complex predication.

2.2 Typological characteristics of Ayutla Mixe

The following are some of the characteristics that define Ayutla Mixe: it is a polysynthetic language with head marking and an inverse system. As with other languages from the Mixe-Zoque family, most of the morphology has its locus on the verb (§§6.3-8). The language allows serial verb constructions (§10.6), and, in addition to incorporation of arguments, it also allows the incorporation of non-arguments (§9.7).

As with other Mixe-Zoquean languages, Ayutla Mixe does not have a contrast between voiced and voiceless obstruents, it has a glottal stop but no ejective consonants (§3.2), it has a high central vowel (§3.3), and it presents vowel fronting as part of a larger process of regressive assimilation caused by a palatal glide (§4.6). The last mentioned phenomenon is known as *vocalic metaphony*. Unlike Olutec, but similar to other Mixe languages, it also has a retroflex fricative (§3.3). Like other Mixe languages, it has seven

complex syllabic nuclei: V, VV, Vh, VVh, V^ʔ, V^ʔV, V^ʔVh (§3.2.2, §3.5.1, §5.6);

although it lacks an eighth type found in other Mixe languages: VV^ʔ.

On the verb, there is a set of morphemes that indicate verbal agreement with the argument that refers to the most prominent participant in the event in terms of grammatical person, animacy and topicality (§8.2). In contrast, there is no case marking. There are, however, remnants of marking for locative cases in nouns, which has been conflated with other locative markers probably derived from verbs (§§6.16, 7.5).

As in other Mixe-Zoque languages, all verb forms are inflected as being independent or dependent, which is not the same as being subordinate (§6.3.2, §10.7): a verb is inflected as dependent if a non-core constituent precedes it; if only core participants appear in the clause, the verb is marked as independent. Therefore even main clauses can have a verb marked as dependent if the conditions for this are met.

The order of constituents in Ayutla Mixe is fairly variable and reflects information structure; however, dependent-marked verb forms are preferred in clause-final position. Additionally, the language has characteristics of both OV and VO languages (§9.3).

Finally, like other Mixe-Zoquean languages, Ayutla Mixe makes a formal distinction between two different types of third persons, reflected in the person markers on the verb, which interacts with the inverse system (§9.5). However, unlike Algonquian languages or Kutenai, it does not have a proper obviative system, marked on nouns (Dryer 1991, 1992, 1998). This difference is more salient from a discourse-pragmatic perspective.

As in other Mixe languages, in Ayutla Mixe nominal number (Corbett 2000) is optional (§7.1). Thus, the absence of plural marking does not entail that the nominal has a singular meaning. When nominal number is marked, there are some restrictions regarding

animacy, as only a handful of nouns, all of them referring to humans, can be inflected for number. It seems, additionally, that a new number marker is emerging.

In all Mixe-Zoque languages there is a distinction between neutral and completive aspect, marked with verbal suffixes and verbal apophony, respectively (§8.3). These suffixes simultaneously express the dependent-independent distinction mentioned above. In Ayutla Mixe the contrast between completive and neutral aspect is almost lost, being used in formal contexts for older speakers in a restricted number of verbs (§8.3.4). Related to this, descriptions of other languages of the family suggest lack of tense marking. In contrast, I have argued in Romero (2008) that Ayutla Mixe has a past tense particle (§6.12).

This dissertation not only offers a detailed grammatical description but also discusses the typological and theoretical relevance of some of the phenomena involved and differences between Ayutla Mixe and other Mixe-Zoquean languages.

2.3 The orthography

The inventory of sounds in Ayutla Mixe is presented in the following chapter (§3.1). The letters that are used in the Mixe orthography for the consonants are the following, represented in Table 1.

	Bilabial	Alveolar	Retroflex	Velar	Glottal
Stops	p	t		k	ʔ
Fricatives		s	x		j
Affricates		ts			
Nasal	m	n			
Lateral		l			

Table 1. Consonants used in the practical orthography

Ayutla Mixe has seven vowels. Again, their phonetic and phonological characteristics are presented in detail in the following chapter (§3.1). Table 2 shows their representations in the orthography.

	Front	Central	Back
High	i	ë	u
Mid	e		o
Low	a		ä

Table 2. Vowels used in the practical orthography.

The orthography used in this grammar is very similar to the one used by linguists and cultural promoters within the Mixe community. In particular, it is almost the same as the one used by Reyes Gómez (2005) and other Mixe native speakers from different communities who are interested in promoting the Mixe language. The adaptation for Ayutla Mixe has been done in collaboration with Yásnaya Elena Aguilar Gil, a fellow linguist and Mixe native speaker from Ayutla with whom I have collaborated closely.

There are some general rules for writing that I should mention here. First of all, all obstruent consonants (plosives, fricatives and affricates) are phonologically unspecified for voicing and have both voiceless and voiced allophones. In the orthography used here, obstruents are represented only by the graphemes used in Table 1, regardless of whether they become voiced or not. This convention differs from the orthography used by some cultural promoters, such as Bernal & Ortega (2006), and by the Summer Institute in Linguistics, who write the voiced version of plosives as <b, d, g>, but not the voiced version of other consonants.¹ Additionally, all consonants have a lenis allophone (§3.3,

¹ It is worth pointing out that there is a discussion within the Mixe community as to whether the voiced version of plosives should be represented in the orthography or not.

§4.7) which might sound very similar to a voiced sound to the untrained ear. Only the lenis allophones of /p, t, k/ are represented as <b, d, g> by some people, but not the lenis allophones for all the other consonants. Again, in this grammar, all lenis allophones of consonants are written using the graphemes in Table 1.

All oral consonants become palatalized in the presence of the palatal glide /j/, represented by <y> (see §3.3). The palatalization is marked just by writing the consonant and the glide together, as in (1).

- | | |
|-------------------------|----------|
| 1. tyeety ‘your father’ | [tʲe:tʲ] |
| tsyoony ‘he went way’ | [tʃʷ:ɲj] |
| kyë’ë ‘his hand/arm’ | [kʲiʲi] |

In Ayutla Mixe there are two glottal stops (§3.1), one is consonantal and only occurs in onset position, and the other one is part of a laryngeally complex nucleus (§3.1, §4.2). In the phonetic description in the following three chapters I distinguish them by using /ʔ/ and /Vʔ/ (or /VʔV/), respectively. Unfortunately, in the Mixe orthography they are not differentiated and both of them are represented by the apostrophe <’>, as shown in the contrast between (2a-b) and (2c-d).

- | | |
|--------------------------------|---------------|
| 2. a) mtu’mp ‘you should work’ | [m̩duʔmp] |
| b) kyaxi’iky ‘it looks like’ | [kʲaʲziʲikʲj] |
| c) n’itsy ‘my younger sibling’ | [n̩ʔitʃj] |
| d) n’amtey ‘I ask’ | [n̩ʔamʲdej] |

Additionally, the (consonantal) glottal stop in absolute initial position in the word is not represented. Thus, when a word starts with a glottal stop, in the orthography it is written as starting with a vowel, as shown in (3).

- | | |
|----------------|--------|
| 3. uk ‘dog’ | /ʔuk/ |
| än ‘hot’ | /ʔʌn/ |
| uuk ‘drink’ | /ʔuuk/ |
| äp ‘grand son’ | /ʔʌp/ |

The consonantal glottal stop is written, however, if there is another consonant in front of the consonantal glottal stop, as in (4).

- | | |
|----------------------|----------|
| 4. n’uk ‘my dog’ | /nʔuk/ |
| n’uuky ‘I drink’ | /nʔuukj/ |
| m’äp ‘your grandson’ | /mʔʌp/ |

As stated, the glottal stop that is part of a laryngeally complex nucleus is also represented by <’>. In this case there are two possibilities: it can be part of a short glottalized vowel, as in (5a-b), or part of a rearticulated vowel, as in (5c-d) (see §3.2.2, §5.6).

- | | |
|-----------------------|------------------------------------|
| 5. a) ka’t ‘negation’ | /ka ^ʔ t/ |
| b) mē’bx ‘squeeze!’ | /m ^ʔ ɪ ^ʔ kʂ/ |
| c) tu’uk ‘one’ | /tu ^ʔ uk/ |
| d) jä’äy ‘person’ | /hʌ ^ʔ ʌj/ |

Also, in AyMi there are aspirated vowels (which are very similar to breathy vowels, as explained in §3.2), which are represented by a vowel followed by a <j>, as shown in (6). However, the voiceless glottal fricative is also represented using <j>, as shown in (7). Thus, in the orthography, it is not possible to distinguish between an aspirated vowel (6) and a plain vowel followed by the glottal fricative (7c-d).

- | | |
|---------------------------------|----------------------|
| 6. a) nēj ^h kx ‘go!’ | /nɪ ^h kʂ/ |
| b) tojkx ‘meal’ | /tɔ ^h kʂ/ |
| c) nääj ^h x ‘ground’ | /nʌ ^h ʂ/ |

7. a) jat ‘wet’ /**h**am/
 b) jeemy ‘new’ /**h**e:mj/
 c) tuj ‘(type of) basket’ /tu**h**/
 d) tāj ‘dig it!’ /t**ʌ**h/

On the other hand, long vowels are represented by writing the same vowel twice, as in (8).

8. a) xuummy ‘woven bag’ /ʃu:mj/
 b) xook ‘wet’ /ʃɔ:k/
 c) ween ‘eye’ /we:n/

High central vowels in Mixe languages are sometimes represented by <i>, <ü>, or by <ë>. In the case of Ayutla Mixe, I chose the last because its use is more widespread for other Mixe languages closely related to Ayutla Mixe.

2.4 General theoretical framework

Until recent years, grammars and grammatical descriptions have often been characterized by their authors as atheoretical or as theoretically neutral. As Dryer has pointed out, there is no such a thing as an atheoretical description because “[t]he analytical assumptions and the concepts one assumes necessarily constitute a set of theoretical assumptions” (Dryer 2006a:212).

The general theoretical framework I will follow here can be characterized as “basic linguistic theory”, following Dixon (1997) and Dryer (2006a, 2006b). This is by no means a newly born theoretical framework. On the contrary, it is the type of linguistic theory that is used regularly in writing grammars or in linguistic typology, except that it is rarely acknowledged as a theoretical framework. What may be new is the acknowledgement of it as a framework (Dryer 2006a).

Unfortunately, so far there is no single book that presents the basic theoretical principles of Basic Linguistic Theory. However, I can refer to two representative books written in this theoretical direction are Payne's (1997) book on describing morphosyntax, and the recent edition of the three volumes of Shopen (2007).

Basic Linguistic Theory is fundamentally descriptive, i.e. it tries to account for what exists in a language and how all the different elements are related to each other. This type of theory contrasts with theories that are fundamentally explanatory, i.e. theories that try to explain why languages are the way they are. Even though it is important to have explanatory theories, such a task is somewhat orthogonal to the description of a particular language. This is because a functional explanation of why languages are the way they are is external to the grammar, not only because the theoretical concepts appear to lie outside the grammar but also because perhaps there is no way to build these explanations into the grammar itself (Dryer 2006a:213).

One step one must take when describing a language is to understand it on its own specificity, i.e. to define the categories of the description as far as possible in terms of their language-specific properties. For example, one could say that even grammatical relations are specific to each language (Dryer 1997).² As Dixon (1997:132) has pointed out, when writing the grammar of a language, every piece of analysis must be fully justified with a satisfactory argumentation, as nothing can be taken for granted. Each part of a grammar is in a complex interaction with other parts of the language, and a decision in one aspect might have repercussions at different levels.

² It is only fair to say that many linguists do not share this viewpoint, although it is endorsed here.

The origins of Basic Linguistic Theory go back to structuralism and traditional grammar. As Dryer points out, “It can thus be roughly described as traditional grammar, minus its bad features (such as a tendency to describe all languages in terms of concepts motivated for European languages), plus necessary concepts absent from traditional grammar.” Additionally, basic linguistic theory has benefited from linguistic typology and, to a certain extent, even from formal theories such as generative grammar. Just to mention an example, the typological interest in passive constructions comes from their central role in early generative grammar, and now passives (and similar constructions) are a central concept in a basic linguistic theory. One can see, then, that it is a cumulative theoretical framework that has been successfully used and refined for many years, mainly in describing languages and in linguistic typology.

2.5 Data and methodology

The data for the dissertation come from two main sources: recorded texts and elicitations. In total, I made six field trips to the community between 2004 and 2008. Most of them lasted between one and two months, but in 2005 I spent around five and a half months in Ayutla. During those fieldwork trips, I collected more than 22 hours of text in audio format (plus more than 16 hours of video recordings corresponding to most of those texts), from which I have transcribed about ten hours. All of these recordings are already in digital format accessible from a computer. There are stories from 23 speakers, many of them monolingual and over the age of 60. In order to record people with these characteristics, the recordings are from persons who do not live in the main town, but in small villages (or even in places relatively distant from other people). In some cases, the

informant was willing to talk for almost two hours, but in other cases recordings were as short as five minutes. There were two main genres: folk tales and historical narratives.

Most of the texts are narrations by mainly one speaker. Since I have primarily had a Mixe speaker (one of my main consultants) interview the storyteller, many of them are in a conversation-like format, although they focus on a specific topic. The rationale for having a Mixe speaker as the storyteller's addressee is to make the situation more natural. In some cases, however, the narrator was asked to tell a story and there was no interviewer, and thus they are more like a monologue. Additionally, there are about four hours of recordings of informal conversation.

As stated, the other source of data is elicitation. This includes data mainly for the purpose of investigating spatial and temporal domains. Some of the data were gathered using stimuli from the Max Plank Institute for Psycholinguistics, including the 1999 Demonstrative Questionnaire (Wilkins 1999), the Topological Relations Picture Series (widely known as "BowPed"; Bowerman & Pederson ms.), the Picture series for positional verbs (Ameka, de Witte, & Wilkins 1999), and the Cut and Break Clips (Bohnenmeyer, Brown, & Bowerman 2001). For temporal semantics, I have mainly used the Tense-Aspect-Mood Questionnaire (Dahl 1985: 198-206), the Future Time Reference Questionnaire (Dahl (ed.) 2000: 789-799) and the Perfect Questionnaire (Dahl (ed.) 2000: 800-809). Additional data were also elicited on distributives, serial verb constructions, applicative-like morphemes, and other phenomena related to verbal morphology and changes in verbal argument structure.

In general, I use data from texts to support my analysis as much as possible. There are occasions, however, in which elicitation data is needed for contrastive analysis or when

targeting specific semantic or morphosyntactic domains. In other cases, data from elicitation is clearer than data from texts as it contains only the target morpheme or construction, and not other phenomena that could potentially confuse the reader.

Therefore, data from elicitation is also included.

In addition to texts and elicitation data, I am developing a database for a Spanish-Mixe dictionary. Even though the grammar does not include a dictionary appendix, having useful lexical information is also necessary for the analysis of grammatical phenomena. Furthermore, the dictionary database is also part of the overall project of description and documentation of Ayutla Mixe. At this point, the database has around 2,500 lexical items.

Finally, comparative data from other Mixe-Zoque languages come from previous descriptions, mainly Wonderly (1951-52), Johnson (2000), Zavala (2000), and Suslak (2005), while data from historical reconstructions come from Wichmann (1995a).

Except for the examples presented in the three chapters on the phonology of the language (chapters 3-6), examples that consists of a phrase or a sentence are represented in the format illustrated below:

9. Ka't ja' meeny tpääty...
 ka't ja'a meeny t-pää-t-y
 NEG DEM.D money 3A-find-DEM
 'He didn't find money' (Aur2-81)

In the first line, the text is presented roughly as it should be written using the Mixe orthography. The second line encodes the morphological analysis. The third line gives the glosses for all morphemes. Finally, in the fourth line, a free translation is presented. In some examples, when there is no need for a morphological break, the second line is omitted.

When an example comes from a text, it will be indicated as such, between parentheses, at the end of the line where the free translation is provided. When an example was taken from elicitation, it has no indication, and when an example is a judgment of a constructed sentence, it has a “J” in parenthesis.

A few comments with respect to the glosses are in order. Here, I use the Leipzig Glossing Rules as far as their “syntax” is concerned, but I do not necessarily follow the abbreviations they propose, as I believe that the ones I use here are more functional for Ayutla Mixe. In general, a problem might arise when there is a one-to-many correspondence, i.e. when a single morpheme is rendered by more than one element of the metalanguage. The general principle here is to separate the different elements by a period, as in DEM.M in (10).

10. Ka't yě nă'āny y'ān.

ka't yě'ě nă'āny y-ān
NEG DEM.M *alote* 3S-hot

‘The *alote* is not hot.’ (*Alote* is a thick hot drink.)

However, it is also possible to distinguish among different types of relations. When a morpheme in AyMi is formally unsegmentable but it has two clearly distinguishable meanings, a semi-colon will be used, as in (11).

11. x'ext

x-ex-t
2A-see-PL;DEP

‘You (pl.) saw it’

In some cases, a detailed morphological analysis that includes all possible morphological breaks is not relevant, and then I could include a “+” symbol to indicate

that I recognize a morphological boundary but that I have chosen not to analyze it, as in (12).³ In this example, *pujx* means ‘metal, iron’ and *ja’ap* ‘a wooden scoop or spatula’.

12. *yë’ puxa’ap*
yë’ë *pujx+ja’ap*
 DEM.M shovel
 ‘The shovel’

When a grammatical property is expressed by a change in the verb stem in AyMi (more specifically by metaphony, see §8.3.8), a backslash is used to separate the one meaning from the other, as in (13).

13. *jäää.*
y-jää
 3A-feel\COMPL
 ‘(s)he felt it’

When a grammatical property is expressed by the lack of a morph in certain position, the glosses corresponding to those properties are included between square brackets, as in (14).

14. *xyun*
y-xun
 3S-sour[INCH.DEP]
 ‘it becomes sour’

In this dissertation this has been extended to some cases in which it is useful to spell out a given meaning when it is inferred by other mechanisms. More particularly, this is the case of the inverse alignment, which in some cases is inferred from the person prefix, as in (15).

15. *Yää yë’ jä’äy te’n m’ixy.*
yää *yë’ë* *jä’äy* *te’n* *m-ex-y*
 DEIC.P DEM.M person M.DEM 2O[INV]-see-DEP
 ‘Here a person is looking at you (i.e. the person is cursing you).’ (AE-665)

³ This is slightly different from using a colon according to the Leipzig Glossing Rules, as it goes in the glosses, not in the object language.

Finally, it is necessary to keep in mind that the interlinear gloss is intended to provide a rough meaning of the item, not the actual meaning. Thus, even though I try to keep consistent the lexical glosses as much as possible, from time to time it is more useful to adapt it to the example at hand.

Section Two
Phonology

Chapter Three

Basic phonological description

In this chapter I present the basic facts about the Ayutla Mixe phonology. In §3.1 I introduce the phoneme inventory of the language. Then, in §3.2 the basic allophones of vowels and consonants are presented. Even though consonants are organized according their mode of articulation, it is not the purpose of the presentation to make generalizations, which is done in the following chapter. In §3.3 I present minimal pairs for all phonemes and in §3.4 I deal with loan sounds. Then, the following two sections are dedicated to syllable structure: in §3.5 I introduce basic syllable structure and in §3.6 I deal with onsets and codas. In §3.7 I discuss the stress patterns in AyMi. The final section, §3.8, is totally different from the other sections in this chapter. There, I analyze AyMi vowels from an acoustic perspective. Even though this last section is a little technical, I believe that ultimately the acoustic (or instrumental) analysis of sounds provides hard evidence about their realization in a given language.

3.1 Phoneme inventory

There are twelve consonants in Ayutla Mixe, as shown in Table 1, and seven vowels, as shown in Figure 1 and Table 2 below. In addition, Ayutla Mixe speakers regularly use all the phonemes from Spanish in loan words. These phonemes are not included in Table 1, which contains only the native sounds of Mixe, but they will be discussed in §3.4.

	Bilabial	Alveolar	Retroflex	Velar	Glottal
Stops	p	t		k	ʔ
Fricatives		s	ʂ		h
Affricates		ts			
Nasal	m	n			
Approximants		j		w	

Table 1. Ayutla Mixe Consonants

As presented in Table 1, Ayutla Mixe does not have a contrast between voiceless and voiced consonants. However, stops, fricatives and affricates have voiceless and voiced allophones, except for the glottal consonants /ʔ/ and /h/, as well as lenis allophones, which sound very similar to voiced sounds to the untrained ear. In fact all consonants (not just obstruents) have fortis and lenis allophones, which are presented in §3.2.3 and discussed in more detail in §5.8. Among the stops, AyMi distinguishes a bilabial, an alveolar, a velar and a glottal stop. The glottal stop, however, occurs only in onset position, but not in coda position. Whenever there is a tautosyllabic glottal obstruction after a vowel, it will be considered as part of the nucleus. AyMi has only three fricative consonants, although the alveolar fricative /s/ is a rather marginal sound, as discussed in §5.1. As explained there, the retroflex fricative /ʂ/ evolved from the proto-Mixe-

Zoque /*s/, but the latter sound is still preserved in a handful of morphemes. The alveolar /ts/ is the only affricate sound in AyMi. In addition, Ayutla Mixe has two nasal vowels, the bilabial /m/ and the alveolar /n/. The latter could also be described as a nasal with underspecified place of articulation, as its actual place of articulation varies greatly depending on the following sound. The approximants /j/ and /w/ are similar to front and back high vowels except that there is less constriction in the vocal tract and in that they are not part of the syllabic nucleus.

AyMi does not have native liquid sounds, although AyMi speakers make extensive use of Spanish lateral /l/ and both *r*-rounds (the alveolar trill and flap) in loan words. Similarly, the voiceless alveolar fricative /s/ is used in Spanish loan words that are frequently used by Mixe speakers. These and other loan sounds are discussed in §3.4.

There are three contrastive properties in Ayutla Mixe with respect to vowels: quality, length, and laryngealization (i.e. glottalized and aspirated (or breathy) vowels).¹ In terms of quality (or place of features), AyMi has seven vowels, and I will refer to them as the basic vowels. They are presented in Figure 1, which offers a phonetic characterization, and in Table 2, which rather represents their phonological organization.

In terms of their articulation, there are three high vowels, two high-mid vowels, and two low vowels. Among the high vowels /i, i̠, u/, usually /i/ is higher than the other two. /i̠/ is a central

¹ I will come back to this point later in this chapter (§3.7) and in more detail in the following chapter (§4.2), but for now suffice it to say that a glottalized vowel is one of the following: /aʔ/ and /aʔa/. On the other hand, an aspirated vowel is /a^h/ or /aʰ/. The term “aspirated vowel” might come across as odd for scholars outside the study Mixe languages. Alternatively, the term *breathy vowel* has been used (Dieterman 2002, Jany 2006). However, I refrain from using the term *breathy voice* because, as will be discussed in the following chapter (§4.2), the contrast is not precisely in terms of phonation type.

vowel but less high than /i/ and /u/. In fact, in some speakers it would seem to have even a mid-close pronunciation. In terms of backness, the articulation of /i/ varies a great deal from speaker to speaker, and oftentimes it is as back as /u/, except that the former is not rounded. The mid vowels are /e, ɤ/, and while the former is unrounded, the latter has inconsistent lip rounding. In other words, it can be freely realized as either [o] or [ɤ]. The two low vowels are /a, ʌ/. The phonetic realization of /a/ is sometimes difficult to characterize, as its articulation varies between being front or central.² The other low vowel, /ʌ/, also varies between having a central and a back pronunciation, although it is consistently less back than mid or high back vowels. In §3.8 a detailed acoustic characterization of Ayutla Mixe basic vowels is offered.

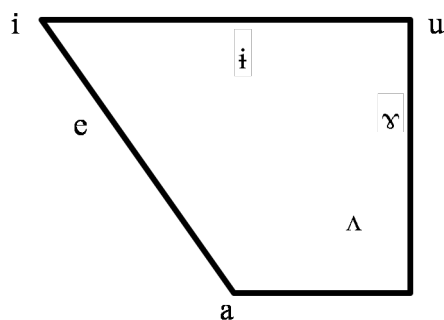


Figure 1. Vowels in Ayutla Mixe

Phonologically, the organization of AyMi basic vowels changes slightly. The two types of vocalic metaphony (§4.6) are the main clue to classify them phonologically. In terms of height,

² Based on previous surveys (Wichmann 1995a) as well as personal experience, it seems /a/-like sounds are sometimes difficult to characterize in other Mixe-Zoque languages as well for the same reason.

/i/ and /u/ are neutralized with /i/, /ɤ/ with /e/, and /ʌ/ with /a/. In terms of backness, /i, e, a/ are treated as front vowels for some types of metaphony. Finally, /i/ does not seem to contrast with other vowels in terms of place of articulation, but rather it contrasts with /u/ in rounding. In fact, this is the only part of the system where rounding is contrastive. Based on these characteristics, the phonological organization of Ayutla Mixe vowels is as presented in Table 2.

	Front	Non-Front
High	i	ɨ u
Mid	e	ɤ
Low	a	ʌ

Table 2. Phonological organization of vowels in Ayutla Mixe.

The second and third parameters are in characterizing vowels are length and laryngealization. More particularly, both short and long vowels can form glottalized and aspirated nuclei (which are marked with /ʔ/ and /h/, respectively), which will be called laryngeally complex nuclei. These other aspects will be dealt with in §3.5 then again, with more detail in §5.6. However, these laryngeal features will be considered characteristics of the nucleus, not features of the segment. For this reason, I will consider that there are only seven vowels in AyMi.

Phonological processes will be discussed in the following chapter. For vowels, the most important process is vocalic metaphony, i.e. the neutralization of two or more vowels with a higher and more front vowel as a result of regressive assimilation due to the presence of a palatal approximant (see §4.6). The other processes found in vowels are devoicing, nasalization and fronting. Additionally, a glottalized nucleus can be realized as a total glottal constriction or as creaky voice.

For consonants, the most prevalent process is their palatalization in contact with a palatal approximant (§4.1). The other important process, and perhaps more problematic to characterize, is lenition of consonants after a long vowel. As presented in §5.8, there is a correlation between length and lenition, but the causality is not entirely obvious. Additionally, all obstruents in AyMi have undergone voicing (§4.2). Conversely, sonorant consonants undergo devoicing (§4.3). Also importantly, all plosives can be fortified by aspiration,³ or they can be weakened by not having a release.

Finally, in terms of stress patterns, Ayutla Mixe has two different patterns (§3.7). For all parts of speech, with the exception of verbs, the stress goes in the last syllable. In verbs, on the other hand, the stress goes on the last syllable of the stem. Stress is related to the neutralization of /a/ and /i/ in posttonic position, and the emergence of a glottal stop in the same context (§5.3).

Throughout this part of the grammar (chapters 3, 4 and 5), I will use phonetic and phonological transcriptions, as needed, as well as the Mixe orthography, which is described in §2.3. In the rest of the dissertation, I will use only the Mixe orthography.

In a comparative perspective among other languages of the family, the list of consonants differs little among proper-Mixe languages, although in Totontepec Mixe there is a labiodental fricative instead of /w/ (Crawford 1963, Suslak 1995). The main difference with proposed inventories for other Mixe-Zoque languages, particularly from early descriptions, is that

³ The term “aspiration” in this grammar refers to the burst of air that accompanies the articulation of consonants and, additionally, of vowels. In the case of aspirated voiceless consonants, the burst of air causes a delay in the voice time onset, but this delay is only a byproduct and not the aspiration itself; notice that the same effect does not occur on preaspirated consonants. When a burst of air follows a vowel, it will be said to be aspirated, as pointed out in Footnote 1.

sometimes plosives are reported to have a voicing contrast.⁴ In addition, /s/ is not always included in the phonemic inventory for Mixe languages. As will be discussed in §5.1, /s/ is a marginal phoneme. Except for the inclusion of /s/ in Table 1, the number of consonants in AyMi is the same as in the reconstruction of proto-Mixe-Zoque (proto-MZ) (Wichmann 1995a), as /s/ from proto-MZ evolved into /ʃ/ in the proper-Mixe sub-branch.

The vocalic systems help in distinguishing Mixe languages. All Mixe languages in the South Highlands and the Midlands have seven basic vowels, the same as Ayutla Mixe. I have encountered some Tlahuitoltepec Mixe speakers who believe that their language, highly similar to AyMi, has eight vowels. It is very likely that the eighth vowel, also a central vowel, is an allophone of /i/. In the North Highlands, Totontepec Mixe has nine vowels in stressed syllables but only four in post-stressed position (Suslak 2005). Finally, the languages from the Lowlands have only six vowels, the five cardinal vowels plus a central vowel, generally /i/. Even though Otomangue languages surrounding Mixe-Zoque languages have tone, none of the Mixe-Zoque languages has a tonal distinction.

In the next section, I present a more precise description of vowels and consonants, including their main allophones.

⁴ In general, differences in the number of consonants can be attributed to whether people count the number of phonemes or allophones, to the fact that they include loan sounds, or both.

3.2 Description of phonemes and basic allophones

3.2.1 Vowels and their allophones

As expressed above, vowels contrast in quality and length, in addition to forming complex nuclei. Here, I will present the allophonic variation without taking into consideration length or laryngealization, because the allophones dealt with will be also found in long or laryngealized vowels. Nonetheless, it is worth pointing out that long vowels in general are more resistant to phonological processes.

First, I will describe the vowels and then the most common allophones.

1. /i/ high front unrounded vowel.

- | | | | |
|----------|-------|------------|--------------|
| a) /ni:/ | [ni:] | <i>ni</i> | ‘hot pepper’ |
| b) /ti:/ | [ti:] | <i>tii</i> | ‘what’ |

There are only a few words whose phonological representation has /i/. It is found in many words, but in most cases it is the result of the vowel metaphony. I will come back to discussing its phonological status in §5.2.

2. /e/ mid front unrounded vowel.

- | | | | |
|----------|---------------------|------------|------------------|
| a) /nek/ | [nek ^h] | <i>nek</i> | ‘humid’ |
| b) /tek/ | [tek ^h] | <i>tek</i> | ‘(small) lizard’ |

3. /a/ low front unrounded vowel.

- | | | | |
|----------|-------|------------|-------------|
| a) /ka:/ | [ka:] | <i>kaa</i> | ‘very much’ |
| b) /tam/ | [tam] | <i>tam</i> | ‘like’ |

4. /ʌ/ open-mid back unrounded vowel.

- | | | | |
|----------|---------------------|------------|----------|
| a) /hʌw/ | [hʌw] | <i>jäw</i> | ‘feel!’ |
| b) /kʌk/ | [kʌk ^h] | <i>käk</i> | ‘basket’ |

5. /ɤ/ mid back vowel with inconsistent lip rounding

- a) /tɤ:/ [tɤ:]~[to:] *too* ‘rusty’
 b) /ak'ʂɤn/ [ak'ʂɤn]~[ak'ʂon] *akxon* ‘very’

While older speakers usually produce this vowel as unrounded, it tends to be produced as a mid back rounded vowel among younger speakers. As far as I can tell, the variation is related to different idiolects, not to any phonological context. In the previous examples, it is more likely that an older speaker would produce an unrounded vowel while a younger speaker would produce a rounded one. In order to avoid further confusion, I will systematically represent this vowel as unrounded [ɤ], but bear in mind that it could also be pronounced as rounded [o] in any case.

6. /u/ high back rounded vowel

- a) /ku/ [ku:] *kuu* ‘when’
 b) /jʔuk/ [juk^h] *y'uk* ‘his dog’ (FrogA-85)

7. /i/ mid-high central unrounded vowel

- a) /hɪpk/ [hɪp^hk^h] *jěpk* ‘corn (on the cob)’
 b) /mɪh/ [mɪh] *měj* ‘big’

Perhaps, /i/ is the vowel that presents the most variation, particularly between stressed and unstressed syllables. However, even among stressed syllables, it can be articulated as a high central unrounded vowel or as a mid-high unrounded vowel.

The most common allophones in vowels are the result of nasalization, fronting and raising. Nasalization affects all vowels as long as they are between two nasal consonants, as in (8a) or if they are preceded by a nasal and a glottal fricative, as in (8b). Fronting affects /u/ and /i/ when

they are between two coronal consonants, as shown in (9). Finally, raising affects mid vowels (/e, ʌ/) when they preceded by or between two palatal consonants, as exemplified in (10).

8. Nasalization

- | | | | | |
|----|------------------------|--|----------------|-------------------------|
| a) | /mentɨ ² p/ | [¹ mɛ̃n.də ² p] | <i>mentë'p</i> | ‘(they) came’ (NL2-182) |
| b) | /mhʌ ² ʌtj/ | [m ⁰ h̃ʌ̃t ¹] | <i>mjä'äty</i> | ‘you arrive’ |

9. Fronting

- | | | | | |
|----|--------|-----------------------------------|-------------|-----------|
| a) | /tutk/ | [tʉ ^h k ^h] | <i>tukt</i> | ‘chicken’ |
| b) | /tik/ | [tʉ ^h k ^h] | <i>tëk</i> | ‘come in’ |

10. Raising

- | | | | | |
|----|--|---|-----------------|---------------------------------|
| a) | /jke:t/ | [k ¹ je: ¹] | <i>kyeet</i> | ‘it is horizontally’ (CV3-3401) |
| b) | /te. ¹ kjʌ ² tk/ | [te. ¹ k ¹ ʌ ² t ^h k ^h] | <i>tekyo'tk</i> | ‘ankle’ |

Also, particularly for older speakers, /ʌ/ has a central allophone when followed by the palatal approximant, shown in (11). For younger speakers, /ʌ/ has been recategorized as /e/ in this environment. More on this will be comment in §4.6.

- | | | | | |
|-----|-------|---------------------|-----------|--------|
| 11. | /ʌʌj/ | [ʌ ⁰ əj] | <i>ey</i> | ‘good’ |
|-----|-------|---------------------|-----------|--------|

In addition, when /i/ is in a post-stress position it becomes a schwa /ə/. This almost exclusively happens in verbs, as the stress goes in the last syllable of the stem, and all the inflectional suffixes are unstressed.

- | | | | | |
|-----|---|--|------------------|----------------|
| 12. | /a. ¹ nʌ ² ʌ.nɨ ² n/ | [a. ¹ nʌ: ¹ .nə̃n] | <i>anä'änë'n</i> | ‘we(INCL) say’ |
|-----|---|--|------------------|----------------|

3.2.2 Length and laryngeal features in vowels

As state above, there are two other types of features that are contrastive for vowels in Ayutla Mixe: length and laryngeal features. In (13a) the vowel is short, but in (13b) the vowel is long

and the word has a different meaning. Similarly, in (14a) the word has a long vowel, in (14b) there is also a long vowel but there is also a laryngeal closure while in (14c) there is an aspiration sound by the end of the nucleus.

13. a) /menj/ ‘dawn’
 b) /me:nj/ ‘money’
14. a) /hɜ:n/ ‘bird’
 b) /hɜ²ɜn/ ‘loose, baggy’
 c) /pa:^ht/ ‘broom’

In (14b-c) the glottal constriction appears in a long vowel, but laryngeal features can occur in short and long vowels. An aspirated vowel can be short, as in (15a), or long, as in (15b). Notice that the aspiration always occurs towards the end. In a glottalized vowel, the glottal constriction appears towards the end in a short vowel, as shown in (16a), but it appears in the middle of a long vowel, as shown in (16b). The glottal stop does not appear towards the end of long vowels (see §3.5.1, §5.6).

15. a) /ne^ht/ ‘affirmation’
 b) /ni:^h/ ‘water’
16. a) /ji:²kɕ/ ‘eat (vegetables)’
 b) /pa:²an/ ‘nest’

Length and laryngeal features are intertwined, and they will be treated at length in §5.6. For the moment being, suffice it to say that there are two plausible analysis of this phenomenon: one in which length and laryngeal features are a feature related to the segment itself and one in which it is suprasegmental, and thus it is a syllabic feature. Since I am more inclined to favor the second option, this topic will be treated again in the section on syllabic structure (§3.5).

Even though it is widely accepted that Mixe-Zoque languages have a length contrast in vowels, there have been alternative explanations for this phenomenon. In particular, for Ayutla Mixe, there is a study that suggests that length is a prosodic byproduct of a tenseness contrast in consonants (Aguilar & Arellanes *in press*). This will be also discussed at length in §5.8.⁵

3.2.3 Consonants and their allophones

In this section I will present the phonological representation of consonants and their allophones. There will be many similarities among them; in particular one can observe the following processes: voicing of obstruents, aspiration of plosives, weakening of consonants, and palatalization of all consonants.

Regardless of this, here I enumerate all the allophones without making generalizations across phonemes. In next chapter I discuss in detail all the phonological processes that one can extract from this description. A comment is in order here. There are several restrictions regarding the voicing of obstruents, which are in general related to vowel quantity and morphological boundaries. I ignore those constraints in the description below, but they are dealt with in §4.2.

3.2.3.1 Plosives

Ayutla Mixe has three oral plosives, which are presented and exemplified in (17)-(19). Although strictly speaking the glottal stop is also a plosive, it has rather different characteristics and is treated in a separate subsection (§3.2.3.4)

17. /p/ voiceless bilabial stop

⁵ Particularly in verbs, there is some morphological variation that seems to shorten or lengthen the last vowel of the verbal stem, as shown below. This will be treated in the chapter on verbal morphology, more specifically under verbal apophony (§8.3.9). This phenomenon will be regarded as morphologically conditioned allomorphy and does not mean that length is neutralized in verbs.

i. [kaj] ‘eat!’ vs. [ka:pj] ‘(I/she/he) eats’

- a) /pikj/ [pikʲ] *piky* ‘part’
 b) /tkwentpikj/ [θkwentʰ.pikʲ] *tkwentpiky* ‘He pays attention’

18. /t/ voiceless alveolar oral stop

- a) /ti/ [ti:] *tii* ‘what’
 b) /hĩptʌʔkp/ [hĩp.ʔtʌʔkʰpʰ] *jěptäʔkp* ‘he comes down’

19. /k/ voiceless velar oral stop

- a) /ku/ [ku:] *kuu* ‘when’
 b) /ʔixkiʔpj/ [ʔix.kĩpj] *ěxkiʔpy* ‘behind’

In addition to the allophones in (17)-(19), plosives have the following allophones:

20. Aspirated before another plosive or in final position:

- a) /hipk/ [hĩpʰkʰ] *jěpk* ‘corn (on the cob)’
 b) /jĩtsp/ [hĩʰtspʰ] *jějtsp* ‘(she) grinds (corn)’
 c) /anĩtk/ [a.nĩʰtkʰ] *anětk* type of mushroom
 d) /wet/ [wetʰ] *wet* ‘cloths’
 e) /jaktunj/ [jaʰkʰ.tĩj] *yaktiny* ‘(s/he) made him work’ (Aur2-215)
 f) /jʔuk/ [jukʰ] *yʔuk* ‘his dog’ (FrogA-85)

21. Non-released before a stop

- a) /thĩpkujjeʔej/ [θʰĩpʰ.ku.ʔje:j] *tjěpkuyjeʔey* ‘(she) met (her)’ (Aur2-738)
 b) /jkʌmotp/ [kʲjʌ.mohtʰpʰ] *kyämojtp* ‘his farm’ (Aur2)
 c) /tpĩktʌʔʌk/ [tʰpĩʰkʰ.ʔtaʌkʲ] *tpěktaʔaky* ‘(s/he) puts it’ (FrogA-93)
 d) /nimatsk#n.../ [ni.ʔmahtskʰ.n...] *němatsk* ‘two’ (Aur2-1077)

22. Lenis after a long vowel

- a) /pɣ:p/ [pɣ:p] *poop* ‘white’
 b) /ka:p/ [ka:p] *kaap* ‘cut it! (with scissors)’
 c) /mi:t/ [mi:t] *měēt* ‘with’ (Aur2-743)
 d) /ʂtapʌ:t/ [ʂta.pʌ:t] *xtapäät* ‘I was included’ (NL1-619)
 e) /jtʌ:k/ [tʰʌ:k] *tyääk* ‘his mother’ (Aur2-317)
 f) /tikĩ:k/ [ti.ʔgi:k] *těkěäk* ‘three’

23. Voiced between a nasal and a vowel, and between two vowels

- | | | | |
|--------------|--------------|----------------|------------------|
| a) /npʌ:tj/ | [mbʌ:tʃ] | <i>mpääty</i> | ‘I found it’ |
| b) /apatp/ | [a.ˈbaʰtʰpʰ] | <i>apajtp</i> | ‘it gets longer’ |
| c) /mte:tj/ | [mde:tʃ] | <i>mteety</i> | ‘your father’ |
| d) /kɪtʌkp/ | [kə.ˈdʌkʰpʰ] | <i>kētäkp</i> | ‘he comes down’ |
| e) /nkajj/ | [ngaj] | <i>nkay</i> | ‘I eat’ |
| f) /mukuʷuk/ | [mu.ˈguʷük] | <i>mukuʷuk</i> | ‘companion’ |

24. Approximant between vowels

- | | | | |
|-----------------|---------------|-----------------|---------------------------|
| a) /ki.pʌkp/ | [ki.ˈWʌʰkʰpʰ] | <i>köpäjkp</i> | ‘head’ |
| b) /jkupatj/ | [kʲju.ˈWetʃ] | <i>kyupety</i> | ‘(he) suffered’ (Aur2-77) |
| c) /ku.mu.ˈtʷ:/ | [ku.mu.ˈðʷ:] | <i>kumutoo</i> | ‘punish (him)!’ |
| d) /hatukojk/ | [haðu.ˈɣʷhk] | <i>jatukojk</i> | ‘once’ (Aur2-293) |

25. Palatalized in contact with a palatal glide

- | | | | |
|---------------|-------------|----------------|--------------------------------|
| a) /jpa:ʰt/ | [pja:ʰt] | <i>pyaajt</i> | ‘his broom’ |
| b) /mnimempj/ | [nimimpj] | <i>nēmimpy</i> | ‘you come (to this)’ (NL1-731) |
| c) /jtik/ | [tʲikʰ] | <i>tyäk</i> | ‘(it) entered’ (FrogMJ-140) |
| d) /tʷʷtʌtj/ | [θʷʷ.ˈðatʃ] | <i>tʷotaty</i> | ‘(he) believed’ (FrogMJ-335) |
| e) /ttsokj/ | [tsekʲ] | <i>ttsekj</i> | ‘he wants it’ (Aur2-203) |
| f) /jkaxj/ | [kʲje:ʃ] | <i>kyeexy</i> | ‘he was ordered’ (Aur2-219) |

When there are two adjacent plosives, the most common result of the first plosive is aspiration, as shown in (20). The other solution is to produce a plosive with no audible release, as in (21). In this context, i.e. when a plosive is before another plosive, the two allophones are in free variation. Lenition in example (22) and palatalization in example (25) are a common phenomenon to all consonants, and is discussed in other chapters (§4.1, §5.8). It is necessary to point out that lenis plosives often become voiced, particularly when they have a very short closure, as in (26).

⁶ According to the 2005 version of the International Phonetic Alphabet, /W/ represents a voiced labial-velar approximant.

26. /apɣ:p=a/ [a'βɣ:ba] *ɿpoopa?* ' (Is it) white?'

Also, consonants in general become voiced between vowels. Plosives, in addition, can become approximants, as in (24) above. Sometimes, there is also some fricative noise, and a plosive becomes a voiced fricative rather than an approximant, as shown in (27). Nonetheless, the degree of frication is less than in a sound that is phonologically a fricative.

27. a) /miŋgɣɣsk/ [mi.'ŋɣɣsk^h] *mëkoxk* 'five'
 b) /mi.tɒkp/ [mi.'ðɒ^hk^hp^h] *mëtäkp* 'he hurries up'

In addition, the alveolar stop /t/ becomes an interdental voiceless fricative when followed by /ʔ/ or /h/ in a word-initial consonant cluster or in final position after a long vowel. This is shown in (28).

28. a) /tʔextɒ²ɒj/ [θe^hx.'tɒɒj] *t'extä'äy* '(he) is looking for her'
 b) /pɣ:t/ [pɣ:θ] *poot* 'raining season'

Plosives are also deleted, although the context changes for each of them. /p/ disappears between another consonant and a pause, as in (29); /t/ disappears in contact with a homorganic plosive or affricate, as in (30).

29. /hinpɒhkkɿɣp/ [hin.bɒh.kɿɣ] *jënpäjkëxp* 'On the fire'

30. a) /tɣ:kj/ [tɣ:k^j] *tooky* 'he sells them' (Aur2-125)
 b) /ttsɣ:kj/ [tsek^j] *ttsek^y* 'he wants it' (Aur2-203)

In many cases, though not always, a /k/ is deleted between an aspiration and a bilabial oral stop. However, this deletion is the effect of another phonological process, namely that there is

aspiration before the sequence of an obstruent and a consonant. Therefore, in the example in (31), the sequence would be /km/ → [hkm] → [hm].

31. /nukmɪtʃΛ²Λ¹kΛ²Λnj/ [nũh.mi.ɖʰΛ.ʰʏΛ.ɲʰ] nukmetyä'äkä'äny 'I will tell'(Aur2-62)

3.2.3.2 Sibilants

Ayutla Mixe has three fricatives, /ʃ, s, h/, and one affricate consonant, /ts/. In this section, I will describe the sibilants only, i.e. /ʃ, s, ts/, as /h/ will be dealt with in §3.2.3.4. Also, the phonological status of /s/, which is a somewhat marginal sound, is discussed in §5.1.

/s/ has only one allophone, as exemplified in (32).

32. a) /jnaswΛ²Λkit/ [ɲas.wΛ²Λ.gət] *nyaswä'äkët* '(if he) come walling'
 b) /tʰiʃhɪj/ [tʰɪs.ʰɪj] *t'ēsɟy* '(they) went buy (it)' (NL12-29)

The other two sibilants are /ʃ/ and /ts/, exemplified in (33) and (34), respectively.

33. /ʃ/ voiceless retroflex fricative.

a) /ʃi:/ [ʃi:] *xëë* 'day'
 b) /nΛʃ/ [nΛʃ] *näx* 'pass!'

34. /ts/ voiceless alveolar affricate

a) /tsa²nk/ [tsa²ŋk] *tʰa'nk* 'hey'
 b) /pu²ts/ [pu²ts] *pu'ts* 'yellow'

In addition to the allophones in (33) and (34), these consonants have the following allophones:

35. Voiced after a nasal when followed by a vowel, or between vowels.

a) /tʰaʃΛh/ [dʰa.ʰzΛh] *t'axäj* 'he receives it'
 b) /jɪnʃi²kp/ [hɪn.ʰzɪkʰpʰ] *jënɬë'kp* '(s/he) sickens'

- c) /atsi^ʔikj/ [a.ɬi:k^j] *atsi'iky* ‘suddenly’
 d) /ntsi:nn/ [nɬi:n^h] *ntsëännë* ‘I have lived (there)’ (Aur2-564)

36. Lenis after a long vowel.

- a) /ni:s/ [ni:s] *nëëx* ‘daughter’
 b) /au:s/ [a.'u:s] *auux* ‘dinner’
 a) /jnaswa:ts/ [nas.'wa:ts] *nyaswaats* ‘(he) comes closer (to X)’ (CV6-475)
 d) /kɔ:ts/ [kɔ:ts] *koots* ‘night’

37. Palatalized in contact with a palatal glide.

- a) /jʃitut/ [ʃi.'dit^ʔ] *xyëtity* ‘(he) coughs’ (CV4-2459)
 b) /jni:kʃj/ [ni^hkʃ] *nyijkxy* ‘(s/he) went’
 a) /nmΛtsj/ [n^hmatʃ] *nmatsy* ‘I grab it’ (Aur2-25)
 b) /jtsi^ʔik/ [tʃi^ʔk] *tsyë'ëk* ‘(s/he) got scared’ (NL1-177)

In addition to the previous allophones, very often, though not always, /ts/ undergoes

deaffrication after plosives, as shown in (38), and, rarely, after fricatives.

38. a) /jΛhkts/ [jΛhks] *yäj^hts* ‘memela’ (type of tortilla)
 b) /tuktsu:h / [tuk.'su:h] *tuktsuuj* ‘at night’ (NL1-1341)

Additionally, between vowels, /ts/ is often realized as a voiced alveolar fricative between

vowels, as in (39).

39. /tʔatso:j/ [t^ʔa.'zej] *t'atsey* ‘(she) answered’ (NL1-308)

3.2.3.3 *Nasals*

Ayutla Mixe has two nasal stops, one bilabial, in (40), and one alveolar, in (41).

40. /m/ bilabial nasal stop

- a) /maj/ [maj] *may* ‘a lot’
 b) /himi^ht/ [hi^hmi^ht^h] *jëmëjt* ‘year’

41. /n/ alveolar nasal stop

- | | | | |
|------------|-------------------------------------|--------------|--------------|
| a) /nek/ | [nek ^h] | <i>nek</i> | ‘humid’ |
| b) /hinΛk/ | [hi ^h nΛk ^h] | <i>jënäk</i> | ‘come down!’ |

As is common cross-linguistically, the bilabial nasal is more resistant to assimilation of place of articulation, while the alveolar nasal changes its place of articulation depending on the following consonant (due to regressive assimilation). For this reason, depending on the theoretical framework one would like to assume, it would also be possible to say that its place of articulation is rather unspecified and that the coronal articulation is the default one.

In addition to those presented in (40) and (41), nasals have the following allophones:

42. Devoiced between two voiceless sounds, between a voiceless sound and a pause, and before another nasal.

- | | | | |
|---|--|-------------------|---------------------------------------|
| a) /ntsi ^h mt/ | [n̥tʃi ^h m̥t] | <i>ntsë'mt</i> | ‘(I) held (him in my arms)’ (NL2-532) |
| b) /mpikj/ | [m̥pik ^h j] | <i>mpiky</i> | ‘(you) got sick’ (NL1-1105) |
| c) /njɣ ^h ɣj ^h n/ | [^h n̥ɣ: ^h j ^h n̥] | <i>nyo'oyë'n</i> | ‘We (inclusive) walked’ |
| d) /tʔanihm/ | [tʔa. ^h n̥ihm̥] | <i>t'anëjm</i> | ‘(he) told (him)’ (Aur-811) |
| e) /jhΛtn ka ^h t/ | [^h çjΛt ^h n̥. ^h ka ^h t] | <i>jyätñ ka't</i> | ‘...it happened not...’ (Aur2-256) |
| f) /nmΛtsj/ | [n̥matʃ] | <i>nmatsy</i> | ‘I grab it’ (Aur2-25) |
| g) /mnΛsj/ | [m̥naʃ] | <i>mnaxy</i> | ‘(you) go through’ (Aur2-644) |

43. Lenis after a long vowel.

- | | | | |
|------------|-------------------------|--------------|----------------------|
| a) /amu:m/ | [a. ^h mu:m̥] | <i>amuum</i> | ‘complete’ (NL2-910) |
| b) /kΛ:n/ | [kΛ:n̥] | <i>kään</i> | ‘salt’ |

44. Creaky after a glottal stop or a glottalized vowel.

- | | | | |
|----------------------------|---|------------------|---------------------------------|
| a) /nʔanuʔkʃt/ | [n̥ãnuʔkʃt] | <i>n'anu'kxt</i> | ‘(I) borrow it’ (NL1-335) |
| b) /pitsi ^h mp/ | [pi ^h zi ^h m̥b ^h] | <i>pëtsë'mp</i> | ‘I exit’ (NL1-945) |
| c) /jmitu ^h nt/ | [mj ^h iðu ^h nt] | <i>myëtu'nt</i> | ‘(he) works for him’ (irrealis) |

Also, the alveolar nasal undergoes regressive assimilation and so it takes the place of articulation of the following consonant, so /n/ can be realized as [m] before a bilabial consonant,

as in (45a-b), as [ŋ] before a velar consonant, as in (45c-d), and as [ɲ] in contact with a palatal glide, as in (45e-f).

45. Regressive assimilation of /n/.

a) /npa:ht/	[mba:ht]	<i>npaajt</i>	‘my broom’
b) /tunp/	[tump ^h]	<i>tump</i>	‘(I, s/he) work(s)’
c) /nka:hkj/	[ŋge:hk ^j j]	<i>nkeejky</i>	‘my shoulder’
d) /wenk/	[weŋk̚]	<i>wenk</i>	‘different’
e) /jni:s̺/	[ɲi:s̺]	<i>nyëëx</i>	‘his/her daughter’
f) /ɲjɣ ^ʔ ɣj ^ʔ n/	[ɲjɣ:j ^ʔ ŋ]	<i>nyo ’oyë ’n</i>	‘We (inclusive) walked’

3.2.3.4 Glottal consonants

There are two glottal consonants in Ayutla Mixe, /ʔ/ and /h/. The consonantal glottal stop should not be confused with the non-consonantal glottal stop that is a feature in a laryngeally complex nucleus, which is discussed at length in §5.6. In order to differentiate these two sounds, I will use the superscript /V^ʔ/ for the laryngeal feature in a nucleus, where /V/ represents any vowel (see §§3.2.2, 3.5.1). The consonantal glottal stop, however, is restricted to the onset position, as presented in (46). It never appears as part of the coda.

46. a) /ʔΛ ^ʔ Λ ^{ht} /	[ʔΛ ^ʔ Λ ^{ht}]	ä’äjt	‘louse’
b) /tʔɣtΛtj/	[θʔɣ.ʔat ^j]	t’otaty	‘(he) believed’ (FrogMJ-335)

Despite its position in the phonological chart, /h/ is not strictly speaking a fricative sound since there is no constriction in the vocal tract. Keeping this in mind, and for the sake of simplicity, I will still refer to it as glottal fricative. In addition to the glottal fricative, just described, there is an aspiration that is part of a laryngeally complex nucleus. This will be discussed in detail in §5.6. This laryngeal feature in the nucleus is represented by the

superscript /V^h/, where /V/ represents any vowel, in order to avoid confusing it with the consonantal glottal continuant, represented as /h/.

The glottal stop has only one allophone. As for the glottal fricative /h/, it can have an oral constriction in the pre-velar region, and even in the palatal region. Thus, its allophones are the following:

47. Pre-velar between two open syllables.

/hʌha/ [ʰhʌ.xa] *jäja?* ‘itching?’

48. Palatal in contact with the palatal glide.

a) /jhinkonj/ [çjɪŋ.ʰgəŋj] *jyënkeny* ‘(S/he) is coming’

b) /wejy/ [wiçj] *wijy* ‘smart’

The contact of a nasal with /h/ very often produces a sound very similar to an aspirated nasal, as shown in (49a).⁷ In more rare occasions, /h/ disappears without leaving a trace, as in (49b).

49. Coalescence of /n/ and /h/.

a) /nhʌ²ʌtj/ [n^hʌ²ʌtʰ] *njä 'äty* ‘I arrive’

b) /nhamjatsj/ [na.ʰmjetʃ] *njamyetsy* ‘I remember’ (NL1-404)

Dieterman (2002) says that there is a voiced allophone of /h/ in Lowlands Mixe. This is noticeable because of the periodicity of the wave form and because of the voicing bar on the spectrogram. In AyMi, however, none of these characteristics are found in an acoustic analysis, and I conclude that there is no voiced allophone of /h/ in this language.

3.2.3.5 *Approximants*

There are two approximants in Ayutla Mixe, the palatal approximant /j/ and the labiovelar approximant /w/, shown in (50) and (51), respectively.

⁷ Phonemic aspirated nasals are found in Burmese (Ladefoged 2001), for example, a Sino-Tibetan language.

50. /jaktunj/ [ja^hk^h.^htɨŋ] *yaktiny* ‘(s/he) made him work’ (Aur2-215)
51. a) /hΛw/ [hΛw] *jäw* ‘feel!’
 b) /wenk/ [weŋk̚] *wenk* ‘different’

The palatal approximant has two allophones: the voiced approximant [j] and the its devoiced counterpart [j̥]. It undergoes partial or total devoicing in final position. This is particularly true after a long vowel, perhaps because the long vowel causes lenition. After a consonant, and also in final position, the approximant undergoes total devoicing, as shown in (52).

52. a) /kutsu:j/ [gudzu:j] *kutsuuy* ‘good night’ (ESonAs)
 b) /ka:jp/ [ka:pj̥] *kaapy* ‘s/he/I eat(s)’

When the speaker pronounces it emphatically in absolute final position, it may even be realized as a sequence of the approximant plus a palatal fricative [jç], as exemplified in (53).

53. /tse²eʔΛ:j/ [tse.^hʔΛ:jç] *tse’ääy* ‘squash leaf’

The palatal approximant usually causes the palatalization of an adjacent consonant, in which case it sometimes disappears. I will not list the possibilities here since they have already been exemplified for all other consonants. In addition, this will be dealt with in §4.1.

The labiovelar approximant has three allophones, namely [w, b, ɸ], as shown below.

54. Voiced bilabial stop between two vowels, an in contact with the palatal glide.
55. a) /wa²a/ [ba²a] *wa’a* dubitative particle
 b) /wyɣhj/ [bjɣhç] *wyoyj* ‘it barked’
56. Labialized palatal glide in contact with a palatal glide.
57. /jwet/ [ɸet^h] *wyet* ‘cloth’

First of all, it is necessary to point out that even though [w] occurs between two vowels, an in contact with the palatal glide, it is in free variation with [b], as the latter can occur in the same contexts. Second, there seems to be a dialectal difference in AyMi, and while some speakers change from /w/ to a bilabial approximant in contact with a palatal glide, other speakers merge both segments into the voiced labialized palatal glide [ɥ], as in (57) above.

3.3 Minimal pairs

In this section I present a list of minimal pairs, first for vowels and then for consonants. For each minimal pair, there are two examples. The transcription for these words is in a broad phonetic transcription.

3.3.1 Vowels

58. /a/ vs. /e/

/a/		/e/
/kaj/ [kaj] 'eat'		/kej/ [kej] 'rabbit'
/tamp/ [tamp ^h] 'he pours'		/temp/ [temp ^h] 'it rolls'

59. /a/ vs. /i/

/a/		/i/
/ta:/ [ta:] 'then'		/ti:/ [ti:] 'what'

60. /a/ vs. /ɤ/

/a/		/ɤ/
/tkɑʃn/ [θkɑʃn ^h] 'he had told'		/tkɤʃn/ [θkɤʃn ^h] 'he had punched'
/tkɑht/ [θkɑht ^h] 'he untied it'		/tkɤht/ [θkɤht ^h] 'he did it (irrealis)'

61. /a/ vs. /u/

/a/		/u/
/tkɑht/ [θkɑht ^h] 'he untied (irrealis)'		/tkuht/ [θkuht ^h] 'he threw it away (irrealis)'
/tkamɲ/ [θkamɲ] 'he has fenced it'		/tkumn/ [θkumn] 'he has stabbed him'

62. /a/ vs. /ʌ/

/a/		/ʌ/
/mats/ [mats] 'come!'		/mʌts/ [mʌts] 'grab it!'
/tan/ [tan] 'stand!'		/tʌn/ [tʌn] 'late'

63. /a/ vs. /i/

/a/		/i/
/tamp/ [tamp ^h] 'he pours'		/timp/ [timp ^h] 'he defecates'
/tsak/ [tsak ^h] 'tasteless'		/tsik/ [tsik ^h] 'little chicken'

64. /e/ vs. /i/

/e/		/i/
/te:/ [te:] 'negation'		/ti:/ [ti:] 'what'

65. /e/ vs. /ɣ/

/e/		/ɣ/
/tsep/ [tsep] 'difficult'		/tsɣp/ [tsɣp] 'type of cactus'
/wehp/ [wehp ^h] 'he wakes'		/wohp/ [wohp ^h] 'it barks'

66. /e/ vs. /u/

/e/		/u/
/temp/ [temp ^h] 'it rolls'		/tump/ [tump ^h] 'he works'
/thepn/ [θhehp ^h n ^o] 'he has scrubbed'		/thupn/ [θhuhp ^h n ^o] 'he has turned it down'

67. /e/ vs. /ʌ/

/e/		/ʌ/
/weh/ [weh] 'wake up!'		/wʌh/ [wʌh] 'horn'
/ken/ [ken] 'impurities'		/kʌn/ [kʌn] 'salt it'

68. /e/ vs. /i/

/e/		/i/
/teht/ [teht ^h] 'he kneaded it (irrealis)'		/tiht/ [tiht ^h] 'he broke it (irrealis)'
/hep/ [hep ^h] 'scrub it!'		/hip/ [hip ^h] 'sharpen it!'

69. /i/ vs. /ɣ/

/i/		/ɣ/
/ti/ [ti:] 'what'		/tɣ/ [tɣ:] 'rusty'

70. /i/ vs. /u/

/i/		/u/
/tihj/ [tiç] 'he kneads it' (dependent)		/tuhj/ [tuhç] 'he shoots it' (dependent)

71. /i/ vs. /ʌ/

/i/		/ʌ/
/tihj/ [tiç] 'he kneads it' (dependent)		/tʌhj/ [tʌhj] 'he digs it' (dependent)

72. /i/ vs. /iː/

/i/		/iː/
/ti/ [tiː] 'what'		/tiː/ [tiː] 'before now'

73. /ɤ/ vs. /u/

/ɤ/		/u/
/tɤ²nt/ [tɤ²ntʰ] 'he touched it (irrealis)'		/tu²nt/ [tu²ntʰ] 'he did it (irrealis)'
/tsɤkn/ [tsɤʰkʰnə] 'he has wanted it'		/tsuɤkn/ [tsuɤʰkʰnə] 'he has chopped it'

74. /ɤ/ vs. /ʌ/

/ɤ/		/ʌ/
/ɤː/ [ɤː] 'affirmation'		/ʌː/ [ʌː] 'mouth'
/kɤʂ/ [kɤʂ] 'punch!'		/kʌʂ/ [kʌʂ] 'glutton'

75. /ɣ/ vs. /i/

/ɣ/		/i/
/tsɣk/ [tsɣk ^h] 'you want it'		/tsik/ [tsik ^h] 'little chicken'
/ɕɣts/ [ɕɣts] 'tie it!'		/ɕits/ [ɕits] 'take a shower!'

76. /u/ vs. /ʌ/

/u/		/ʌ/
/huhtp/ [huht ^h p ^h] 'it gets holes'		/hʌht ^h p/ [hʌht ^h p ^h] 'it happens'
/kup/ [kup ^h] 'pierce it'		/kʌp/ [kʌp ^h] 'older brother'

77. /u/ vs. /i/

/u/		/i/
/tsum/ [tsum] 'sash'		/tsim/ [tsim] 'carry it!'
/puhp/ [puhp ^h] 'he washes'		/pihp/ [pihp ^h] 'it blows up'

78. /ʌ/ vs. /i/

/ʌ/		/i/
/tʌhp/ [tʌhp ^h] 'he digs'		/tihp/ [tihp ^h] 'he breaks'
/mʌh/ [mʌh] 'solid'		/mih/ [mih] 'big'

3.3.2 Consonants

As in the case of the vowels, two examples of minimal pairs are offered, one for the onset and one for the coda, except in two cases: the glottal stop and the labiovelar approximant, which never occur in the coda as a consonant.

79. /p/ vs. /t/

/p/		/t/
/puh/ [puh]		/tuh/ [tuh]
‘wash it’		‘basket’
/pɣ:p/ [pɣ:p]		/pɣ:t/ [pɣ:t]
‘white’		‘cut!’

80. /p/ vs. /k/

/p/		/k/
/pʌʔʌk/ [pʌʔʌk]		/kʌʔʌk/ [kʌʔʌk]
‘sweet’		‘mamey’ (<i>Pouteria sapota</i>)
/kʌp/ [kʌp ^h]		/kʌk/ [kʌk ^h]
‘brother-in-law’		‘basket’

81. /p/ vs. /ʔ/

/p/		/ʔ/
/pʌ:ts/ [pʌ:ts̚]		/ʔʌ:ts/ [ʔʌ:ts̚]
‘skunk’		‘root’
/pʌk/ [pʌk ^h]		/ʔʌk/ [ʔʌk ^h]
‘pigeon’		‘skin’

82. /p/ vs. /m/

/p/		/m/
/puhp/ [puhp ^h]		/muhp/ [muhp ^h]
‘he washes’		‘it gets dissolved’
/kʌp/ [kʌp ^h]		/kʌm/ [kʌm]
‘brother in law’		‘land’

83. /p/ vs. /w/

/p/		/w/
/pʌʔʌk/ [pʌʔʌk ^h] 'sweet'		/wʌʔʌk/ [wʌʔʌk ^h] 'step!'
/pɤh/ [pɤh] 'air'		/wɤh/ [wɤh] 'bark!'

84. /t/ vs. /k/

/t/		/k/
/tɤmp/ [tɤmp ^h] 'he puts some effort'		/kɤmp/ [kɤmp ^h] 'it (small) is there'
/tʌk/ [tʌk ^h] 'naked'		/tʌt/ [tʌt ^h] 'father'

85. /t/ vs. /ʔ/

/t/		/ʔ/
/taj/ [taj] 'scar'		/ʔaj/ [ʔaj] 'older.bother'
/tʌ:j/ [tʌ:j] 'mischievous'		/ʔʌ:j/ [ʔʌ:j] 'leaf'

86. /t/ vs. /n/

/t/		/n/
/tʌn/ [tʌn] 'late'		/nʌn/ [nʌn] 'ma'am'
/nʌt/ [nʌt ^h] 'deaf'		/nʌn/ [nʌn] 'ma'am'

87. /t/ vs. /ts/

/t/		/ts/
/tuh/ [tuh] 'basket'		/tsuh/ [tsuh] 'beautiful, nice'
/pɹtɪp/ [pɹ ^h tɪp ^h] 'it breaks'		/pɹtɪsp/ [pɹ ^h tɪsp ^h] 'he puts concrete'

88. /k/ vs. /ʔ/

/k/		/ʔ/
/kɹn/ [kɹn] 'short'		/ʔɹn/ [ʔɹn] 'fat, grease'
/kʌk/ [kʌk] 'basket'		/kʌk/ [ʔʌk] 'skin'

89. /k/ vs. /h/

/k/		/h/
/ka:p/ [ka:p] 'cut! (with scissors)'		/ha:p/ [ha:p] 'scoop!'
/kʌk/ [kʌk] 'basket'		/kʌh/ [kʌh] 'jaguar'

90. /m/ vs. /n/

/m/		/n/
/mɪh/ [mɪh] 'big'		/nɪh/ [nɪh] 'water'
/kɹm/ [kɹm] 'a lot of (liquid)'		/kɹn/ [kɹn] 'short'

91. /s/ vs. /ʃ/

/s/		/ʃ/
/hiːks/ [hiːks] 'hiccup!'		/hiːkʃ/ [hiːkʃ] 'eat (vegetables)!'
/jiːspʊtj/ [jiːspitʰ] 'he went to run'		/jiːʃpʊtj/ [jiːʃpitʰ] 'he runs in vain'

92. /ʃ/ vs. /h/

/ʃ/		/h/
/ʃʌ:m/ [ʃʌ:m] 'Tlauhi'		/hʌ:m/ [hʌ:m] 'lime'
/pʁʃ/ [pʁʃ] 'guava'		/pʁh/ [pʁh] 'air'

93. /h/ vs. /ʔ/

/h/		/ʔ/
/hʌtp/ [hʌ ^h t ^h p ^h] '(it) happens'		/ʔʌtp/ [ʔʌ ^h t ^h p ^h] '(he) resents'
/hekj/ [hek ^ʰ j] 'ash'		/ʔekj/ [ʔek ^ʰ j] 'tripe'

3.3.3 Length and laryngeal features

It is possible to find minimal pairs that contrast only in the length of the vowel. This is shown in (94) for plain vowels, i.e. for nuclei that do not have laryngeal features.

94. a) /haj/ 'spicy' vs. /ha:j/ 'close'
 b) /kʌn/ 'salt it! (imp.)' vs. /kʌ:n/ 'salt (noun)'
 c) /menj/ 'dawn' vs. /me:nj/ 'money'
 d) /hi:j/ 'buy it' vs. /hiːj/ 'brother-in-law'
 e) /ʔʁk/ 'to eat grass' vs. /ʔʁ:k/ 'to die'
 g) /hut/ 'hole' vs. /hu:t/ 'take it out!'

The previous examples show minimal pairs for six of the seven vocalic qualities found in AyMi. There are no minimal pairs or near minimal pairs for /i/ vs. /i:/, most likely due to the fact that the basic vocalic quality /i/ is rather rare in the language. This point will be discussed in §5.2.

Length is also a factor to take into account for laryngeally complex nucleus. Here, I present a few minimal pairs and near minimal pairs for glottalized nucleus containing a non-consonantal glottal stop in (95), and for aspirated nucleus in (96).

95. a) /pa²t/ ‘under’ vs. /pa²at/ ‘sweep!’
 b) /w²ts/ ‘only’ vs. /w²ʌts/ ‘clear, pure’
 c) /jh²kʂ/ ‘it gets hot’ vs. /jh²ʔkʂ/ ‘it got hot’
 d) /pu²ts/ ‘short’ vs. /pu²uts/ ‘rotten’
 e) /tu²tst/ ‘tail’ vs. /tu²uts/ ‘pot’
 f) /ne²kʂ/ ‘flesh’ vs. /ne²ek/ ‘much’
 g) /jan²kʂ/ ‘he is tired’ vs. /jan²ʔikj/ ‘he leans’
96. a) /pa^hkʂ/ ‘eat (crunchy food)!’ vs. /pa:^hkʂ/ ‘he ate (crunchy food)’
 b) /k^hpʂ/ ‘speak!’ vs. /k^hpʂ/ ‘he spoke’
 c) /mu^hkʂ/ ‘bite!’ vs. /mu:^hkʂ/ ‘he bit’
 d) /ni^hkʂ/ ‘go!’ vs. /ni:^hkʂ/ ‘he went’

Finally, laryngeal features are also contrastive in Ayutla Mixe. Thus, a glottalized nucleus contrasts with a plain nucleus. This is shown in (97) for short vowels and in (98) for long vowels.

97. a) /kipj/ ‘stick’ vs. /ki²pj/ ‘together’
98. a) /k^hp/ ‘stir it!’ /k^hʌp/ ‘(wooden) spatula’
 c) /h^hn/ ‘bird’ /h^hʔn/ ‘loose, baggy’

Even though complex nuclei are extensively used in the language, there are only a few minimal pairs for them. Apparently this is also the case in other Mixe languages (Dieterman 2002).

3.4 Loan sounds

In addition to the sounds described up to here, Ayutla Mixe speakers also make regular use of Spanish consonants in loan words. These consonants are shown in Table 3, as native consonants were presented in Table 1.

	Bilabial	Labio-dental	Dental	Alveolar	Pre-palatal	Velar
Stops	b		d			g
Fricatives		f		s		x
Affricates					tʃ	
Nasal					ɲ	
Trill				r		
Lateral				l		

Table 3. Phonemes in loan words.

As described earlier, in AyMi [b, d, g, tʃ, ɲ] are allophones of /p, t, k, ts, n/, respectively.

However, they are phonemes of their own in Spanish loan words. Also, there are only a few native morphemes that contain /s/, but this sound is extensively used in Spanish loans. The Mexican Spanish /x/ is not in fact a velar fricative, as the Peninsular Spanish is, but rather a pre-velar voiceless fricative.

There are two words that contain an alveolar lateral sound and that are not clear cases of Spanish loans.

99. a) /kʉlʌk/ *kuläk* ‘turkey’
 b) /ki.pljɣ:/ *kiplyoo* ‘stump (of a tree)’

It is necessary to point out that in related Mixe languages ‘turkey’ is *tutk*, or similar forms, from proto-Mixe **tuutuk* (from Wichmann 1995a), but it means ‘chicken/hen’ in AyMi. It might be

very well that *kuläk* ‘turkey’ is an onomatopoeia, but it would be the only one with a lateral sound. On the other hand, *kiplyoo* seems to be composed of *kipy* ‘stick’, plus an unidentifiable string.

Most loan words in Ayutla Mixe come from Spanish. Traditionally, these words were adapted to the Mixe phonology, to the closest sounds. In order to illustrate this, some proper names are given in (100): the /d/ becomes /t/, the fricative /x/ was replaced in some words by the retroflex /ʂ/, and the labiodental fricative is traditionally replaced by the bilabial stop /p/.

100.	Spanish	Mixe	
	Pedro	/pedro/	/pΛ:t/
	Juan	/xwan/	/ʂwΛ:n/
	Josefina	/xosefina/	/pi:n/

Interestingly enough, Spanish /a/, which often has a back articulation as [ɑ], is systematically borrowed as /Λ/.

Currently, most Spanish loans are pronounced using the Spanish phonological system. There are a few words in which the Mixe adaptation and the Spanish pronunciation co-exist (101a), or where the Spanish word was borrowed into Mixe (though with a different meaning), thus assimilating a non-Mixe sound (101b).

101. a)	Spanish: /se.'ma.na/	‘week’	Mixe: /semΛ:n/	‘week’
	b) Spanish: /sera/	‘beeswax’	Mixe: /se:r/	‘bee’

3.5 Basic syllabic structure

As in other Mixe-Zoque languages, Ayutla Mixe has a basic (C)V(C) syllabic structure. Most syllables have in fact a CV(C) structure, as illustrated in (102), even though there are a few cases

of a VC syllable structure, as in (103). This only occurs word internally, as there are some words that have a sequence of two heterosyllabic vowels that do not have an intervening consonant, not even an epenthetic glottal stop.

102. a) [ka:] ‘a lot’

b) [tʌn] ‘late’

103. y-koo-am-py [kjo.'ampj] ‘(he) will play guitar’

3A-play.guitar-DES-INDEP

AyMi allows for complex onsets and complex codas, although codas are more complex than onsets. The maximum expansion of a syllable is schematized in (104), and exemplified in (105).

104. CCVVCCCC

105. a) /ʃtɪkʰp/ [ʃtɪ^hk^hp^h] *xtëjkp* ‘the day after tomorrow’

b) /hʌ:m/ [hʌ:m] *jääm* ‘ash’

c) /hi^ʔkʃp/ [hi^ʔkʃp^h] *jë'kxp* ‘he is eating (vegetables)’

d) /tʔanu^ʔkʃnit/ [tʔa.'nu^ʔkʃnɪt] *t'anu'kxnt* ‘they borrowed it’

As illustrated in the previous examples, a syllable can have up to two consonants in the onset, as in (105a), and a nucleus with a long vowel, as in (105b). Usually the coda has a maximum of three consonants, as in (105c), but in some cases, after the deletion of a post-tonic vowel, it might end up with four consonants, as in (105d). All this will be treated in detail in the following subsections.

3.5.1 Syllabic nucleus

Ayutla Mixe does not allow two vowels to form a complex nucleus; whenever there is a sequence of two vowels, they correspond to two different syllables, as in (106).⁸

⁸ Even though it is difficult to test whether two vowels belong to two different syllables, if one asks speakers to clap when there is a syllable, then a word like *kjooampy* ‘he will play guitar’ has two syllables.

106. /jko:ʌnjp/ [kjo.ʰampj] *kooampy* ‘(he) will play guitar’

Nonetheless, AyMi does allow glottalized nuclei with the form Vʔ or VʔV, and aspirated nuclei, either V^h or V:^h. I will refer to them as laryngeally complex syllabic nuclei. Taking into account length and laryngeal features, there are seven types of syllabic nuclei, namely [V, V^h, Vʔ, V:, VʔV, V:^h, VʔV^h]. All of them are exemplified below:

107. CVC

- a) [nʌt] ‘deaf’
- b) [jet] ‘it exists’ (cambio verbal)
- c) [pʰs̺] ‘guava’

108. CVʔC

- a) [kaʔt] ‘NEGATION’
- b) [kiʔm] ‘same’
- c) [nʌʔk] ‘squashed, crushed, flattened’

109. CV^hC

- a) [ne^ht] ‘affirmation’
- b) [pʌ^hk] ‘bone’
- c) [pu^hs̺] ‘iron’

110. CV:C

- a) [ʔʌ:ts] ‘root’
- b) [hʌ:m] ‘ash’
- c) [hʰ:m] ‘fire’

111. CVʔVC

- a) [kʌʔʌk] ‘mamey’ (*Pouteria sapota*)
- b) [tsʌʔʌm] ‘ripe’
- c) [paʔʌn] ‘nest’

112. CV:^hC

- a) [nɬ:^hʂ] ‘land, ground’
- b) [pa:^ht] ‘broom’
- c) [jɣ:^ht] ‘stomach’

113. CVʔV^hC

- a) [mɪʔi:^ht] ‘son in law’
- b) [ʔɬʔɬ:^ht] ‘louse’

When length and laryngeal features are taken into consideration, the first six syllabic nuclei can be organized in the following way:

114.	Short vowels	Long vowels
	V	V:
	V ^h	V: ^h
	Vʔ	VʔV

The long versions of syllabic nuclei have several restrictions. A consonant cluster never follows them, at least not in roots.⁹ In addition, V:^h nuclei are even more restricted. They occur in several nouns, but there are only a couple of verb roots with that form; they usually arise from morphological concatenation. I will come back to the phonetics of laryngeally complex nuclei in the following section.

The seventh type, VʔV^h, does not enter in the opposition illustrated above, but it is not unusual for other Mixe languages (Schoenhals & Schoenhals 1965).¹⁰ Additionally, in the

⁹ There are two exceptions: Cj consonant clusters, which are somewhat different than other consonant clusters, and the word /uʔunk/ ‘child’.

¹⁰ For Tlahuitoltepec Mixe (South Highlands) (Lyon 1980), there is a report of a syllabic nucleus with the form Vʔh. I think that this seemingly impossible sequence is in fact the syllabic nucleus that I describe as VʔV^h, not just because of the unlikelihood of a glottal stop being followed by an aspiration in the nucleus (not as part of the coda!), but also because some of the words with this nucleus are cognates with VʔV^h words in AyMi.

following particular sequences, I find it almost impossible to distinguish between CV?V^hC and CV?VhC in nouns (where /h/ is a consonant and /V^h/ represents an aspirated nucleus; in verbs it is very likely that it is an aspirated nucleus, not a CC sequence). Finally, in verbs this nucleus only appears as a result of morphological interaction. Nonetheless, I will consider it another type of syllabic nucleus.¹¹

3.6 Onsets and codas

So far I have discussed the basic syllabic structure plus length and laryngeal features in the nucleus. In this section, I will discuss the other two components of a syllable: onsets and codas.

Any consonant can appear as a single onset, either word initially or word internally. There is only one exception to this, /s/, which is a marginal phoneme, never appears in word initial position, but always word internally in words containing the prefixes *ēs-*, *kas-* and *nas-*. On the other hand, all consonants, including approximants, can be part of the coda, with the exception of the glottal stop.

3.6.1 Complex onsets

As in other Mixe-Zoque languages, onsets are generally composed of only one consonant. Moreover, single morphemes do not have complex onsets. There are only two exceptions to this, shown in (115).

¹¹ This type of nucleus is problematic for some phonological theories, because it involves features where the glottis is both spread and constricted (*cf.* Kehrein & Golston 2004).

115. a) /ʂna:ʂj/ ‘good afternoon’
 b) /ʂtikp/ ‘the day after tomorrow’

In the case of the inflectional morphology, either personal prefixes in verbs or possessive prefixes in nouns, it is possible to create complex onsets. In this case, the consonants /n, m, ʂ, t, j/ can be the first consonant in a complex onset, as shown in (116).

116. a) /ntik/ ‘I enter’
 b) /mkɨ^ʔi/ ‘your arm’
 c) /ʂmɨtsj/ ‘you grabbed it’
 d) /tkɨhj/ ‘He did it’

There are no restrictions for the second element of the cluster, it could be any consonant. These complex onsets only appear word initially, as they are the result of prefixation. In the last example (116d), the initial /t/ very often becomes a fricative /θ/.

The palatal approximant also occurs in complex onsets but, as already mentioned, it undergoes metathesis with the consonant following it, as shown in (117a) or it could coalesce with the consonant (117b) (cf. §4.1). AyMi does not allow more than two consonants in an initial cluster, and in the only case that has three in the phonological representation (117c), the two approximants are merged.

- | | | | | |
|---------|-----------------------|---|---------------|------------------------------|
| 117. a) | /jma ^ʔ pʂ/ | [mja ^ʔ pʂ] | <i>mya px</i> | ‘his scissors’ |
| b) | /jwet/ | [βjet ^h]~[ɥet ^h] | <i>wyet</i> | ‘his cloths’ |
| c) | /jkwentpɨkpj/ | [kɥent.pi ^h k ^j pj] | <i>wyet</i> | ‘he pays attention’ (CV-295) |

3.6.2 Complex coda

Unlike the onset, there is more complexity in the coda in AyMi. Many monomorphemic roots have consonant clusters with two consonants, and it is possible to have consonant clusters with

up to four consonants, although in this case there would be at least three morphemes involved.

There are some sounds that never occur in complex codas, such as /w/, /s/, and /ʔ/. Additionally,

/j/, if present, will always be the last element, for reasons already explained. I will present first

complex codas that do not have any suffix on it and then the ones that involve suffixation.

3.6.2.1 Monomorphemic complex codas

There is a fairly large number of roots that have a complex coda with two consonants. Some examples are presented below:

118. a) /tukt/ ‘chicken’

b) /ʔΛ^hkʂ/ ‘fish’

c) /ʔΛ^hkts/ ‘corn leave’ (the leave that covers the corncob)

d) /tΛtsk/ ‘ear’

e) /pʁ:pʔatsn/ ‘weak’

f) /ʔΛnk/ ‘cave’

Below there is a chart with all the possible combinations of a cluster with two consonants in monomorphemic words.

C1 \ C2	p	t	k	s	ʂ	ts	n	j
p			pk		kʂ	pts		pj
t	tp		tk		tʂ		tn	tj
k	kp	kt		ks	kʂ	kts	kn	kj
ʂ	ʂp	ʂt	ʂk					ʂj
ts		tst	tsk				tsn	tsj
m	mp	mt	mk	ms	mʂ			mj
n		nt	nk			nts		nj

Table 4. Monomorphemic complex codas.

Except for /w/, which almost never appears as part of the coda, all the consonants can be the C1 in a complex coda. When a plosive is the first element of a cluster and it is followed by an affricate or another stop, then it is aspirated. Notice that /m, h, w/ never occur as the second members of a consonant cluster. In the very few examples in which a nasal is the second element, it usually is devoiced.

There are relatively few words with a consonant cluster with three consonants without suffixation, and they form the following clusters: /pkj/, /ntsɟ/, /nkj/, /mtsɟ/, /psɟ/, /kɟ/, and /ʃkj/.

Some examples of complex codas with three consonants are presented in (119). In all of these cases, the last consonant is a palatal approximant, and, except for one (119a), the second element is either a fricative or an affricate.

119. a) /ʔapkj/ ‘anona’ (type of fruit, *Annona spp.*)
 b) /jantsɟ/ ‘truly’
 c) /hekɟ/ ‘tasty’
 d) /mapɟ/ ‘thick’
 e) /piʃkj/ ‘joker’
 f) /tu^hmtsɟ/ ‘unique’

3.6.2.2 *Heteromorphic final clusters*

In addition to the complex codas presented above, it is possible to have word final clusters resulting from inflectional suffixation to verbs. This creates complex codas with two (120), three (121), and, in a few cases, four consonants (examples discussed below). Since those inflectional morphemes are suffixed only word finally, it is not possible to create complex codas word internally.

120. a) /putp/	<i>put-p</i> run-INDEP	‘he runs’
b) /ʔatsk/	<i>ats-k</i> dance-NMLZ	‘dance’
c) /tunp/	<i>tun-p</i> work-INDEP	‘he works’
121. a) /ʔanu ^ʔ kʂp/	<i>anu^ʔkx-p</i> borrow-INDEP	‘he is borrowing it’
b) /ʔi ^h kʂp/	<i>ěj^hkx-p</i> remove.corn-INDEP	‘he is removing the corn (from the cob)’
c) /hi ^ʔ kʂp/	<i>jě^ʔkx-p</i> eat-INDEP	‘he is eating (vegetables)’
d) /jk ^ʌ ʔpʂn/	<i>y-kä^ʔpx-n</i> 3S-be.complete-PREF;DEP	‘it is complete’

The longest possible consonant cluster emerges not only from the suffixation of inflectional morphology, but also from the deletion of a vowel. This is not a regular phonological process, since it does not happen with all speakers and even the same speaker could say [...nət] or [...nt], and I have no explanation for this, except perhaps that post-tonic vowels are very weak anyway. Interestingly enough, this happens only when the fricative /ʂ/ occurs before [...nt].

122. a) /jni ^h kʂnit/	[jni ^h kʂnt]	<i>y-něj^hkx-ně-t</i>	‘they went’ (Aur2-473)
		3S-go-PERF-PL;DEP	
b) /tʔanu ^ʔ kʂnit/	[tʔa. ^ʔ nu ^ʔ kʂnt]	<i>t-anu^ʔkx-ně-t</i>	‘they borrowed it’
		3A-borrow-PERF-PL;DEP	

Finally, it is also possible to create consonant clusters by the addition of the clitics =*ts* ‘EVIDENTIAL’ or =*ts* ‘1SG.PRON’ (reduction of *ějts*).

3.7 Stress

In Ayutla Mixe, there are two patterns for stress. Except in verbs, the stress is word final. In verbs, on the other hand, the last syllable of the verb stem is stressed. The verb stem is defined as what is left after the inflectional morphology is removed.¹² In most cases, this makes no difference because the inflection is simply a consonantal suffix that does not form a syllable on its own. Therefore, in many cases the last syllable in the whole word is the last syllable in the verb stem. In some cases, for example in the plural, the suffix can form a syllable in combination with other inflectional morphemes but they do not bear the stress. All this will be explained in more detail in this section.

In phonetic terms, the stress is usually realized as both higher pitch and greater intensity. In phonological terms, stress does not have any contrastive function, i.e. there are no minimal pairs with exactly the same segments in which the only difference resides in a different location of stress.

Many words in AyMi are monosyllabic and therefore the only syllable takes the stress, as in (123).

123. a) [ʃʁh] ‘tree’
 b) [pu^htp] ‘(he) runs’
 c) [tʁ^ʔʁk^j] ‘petate’ (type of straw mat)

In compounds, the last syllable of the second root takes the stress, as illustrated in (124).

124. a) kāj-tse’e [kʌh.ʔse^ʔe] ‘chilacayote/cidra’
 jaguar-pumpkin
 b) kapy-käp [kap.k^jʌk] ‘bamboo basket’
 bamboo-basket

¹² To be more precise, the leftmost limit of the verb stem is defined by the last verb root in it. The difference between this and the characterization presented in the main body of the text is not relevant here. See §8.1.

c) kǎjpx-tǎ'ǎk [kʌ^hpʂ.ʼtʌʔʌk] ‘to pray’
speak-embroider

d) to'ok-jǎtet [tʰʊʔʰ.ʉjǎ.ʼdet] ‘to go sell’
sell-walk

Prefixes do not interact with stress patterns. When a prefix is added, the root still bears the stress (125).

125. a) nǎ-majtsk [ni.ʼma^htsk] ‘second’
ORDINAL-two
- b) t-ak-jo'kx [dak.ʼhʊʔkʂ] ‘s/he heats it’
3A-CAUS-heat
- c) a-kǎ'ǎy-y [a.ʼgǎʔij] ‘lid’
EDGE-cover.with.hands-DEP

Verbs are the only word class that has a robust inflectional morphology and, as stated above, inflectional suffixes do not take stress, as in (126).

126. a) m-ex-ǎ-p [mǎʔe^h.ʂip] ‘you are seen’
2O-see-INV-INDEP
- b) put-tǎ-p [pu^h.tǎp] ‘they run’
run-PL-INDEP

In the verb, it is possible to add one (127a), two (127b), and up to three syllables to the right of the root (127b), and in all of these cases the main stress will still be on the last syllable of the stem.

127. a) pǎjk-ǎ-p [pǎ^h.kǎp] ‘s/he got sick’
be.sick-INV-INDEP
- b) pǎjk-ǎ-tǎ-p [pǎ^h.kǎ.ǎp] ‘they got sick’
be.sick-INV-PL-INDEP
- c) pǎjk-ǎ-nǎ-tǎ-p [pǎ^h.kǎ.nǎ.ǎp] ‘they have got sick’
be.sick-INV-PERF-PL-INDEP
- d) amǎjk-ǎ-nǎ-tǎ-p [a.ʼmǎh.kǎ.nǎ.ǎp] ‘they have had nightmares’
have.nightmare-INV-PERF-PL-INDEP

Other word classes have minimal or no inflectional morphology after the stem. Thus, it is difficult to evaluate whether inflectional morphemes, in general, cannot bear the stress. The plural marker, which, as described in §7.1.1, can be used with only a few nouns, is the only inflectional suffix that nouns can take. In this case, the suffix receives the stress, as in (128).¹³

128. a) mējä'äy [mɨ. hʌʔʌj] 'old person' vs.
 b) mējä'äy-tēj̥k [mɨ. hʌʔʌ. 'dʰɨʰk] 'old people'

In contrast, the diminutive marker, which also appears after the base, as shown in (129), does not take the primary stress, although historically it comes from the noun *u'unk* 'child'.

129. tēj̥k-u'unk [tʰɨʰ.kuʔŋk] 'little house'

In fact, for the diminutive, the stress pattern helps to decide between affixation and composition. In the following example *u'unk* can be interpreted as 'child' or as a diminutive marker, depending on the stress pattern. In (130a), both words *mixy* 'boy' and *u'unk* 'child' are stressed, and then the latter is interpreted as a noun (i.e. as a kind of vocative); in contrast, in (130b) *u'unk* is unstressed and thus it is interpreted as the diminutive.

130. a) mixy, u'unk 'boy, (my) child'
 [miʃ' uʔŋg]
 b) mixyu'unk 'little boy'
 [miʃ.uʔŋg]

As one can expect, clitics cannot bear stress, even if they are in final position, as illustrated in (131).

131. a) /tʌk = a/ [tʌ.kə] 'hairless?'
 mother=INT

¹³ It is worth mentioning that the penultimate syllable bears the secondary stress, which is somehow anomalous, because in most cases, even in noun-noun compounding, there are no sequences of two contiguous syllables bearing secondary and primary stress (cf. 124a-b).

- b) /miʃj = ik/ [ˈmi.fɪk] ‘(they say) it was a boy’
 boy=hearsay

In a trisyllabic word, the first syllable from left to right receives the secondary stress and the last syllable retains the primary stress, as in (132). If the third syllable in a trisyllabic word is a suffix, then the stress goes on the second syllable and there is no secondary stress, as in (133).

132. a) [ni.ti.ˈgi:k] ‘third’
 b) [da.gam.ˈbikʲ] ‘s/he makes him angry’
 c) [a.jɔ:.ˈnʌʃp] ‘very poor’ (Au2-73)
133. a) amək-ē-p [a.ˈmih.kip] ‘s/he has nightmares’
 be.sick-INV-INDEP
 b) amtoo-tē-p [am.ˈtɣ²ɣ.tip] ‘they hear’
 hear-PL-INDEP

It is possible to have a secondary stress to the right of the stem, but only if there are two or three suffixes, as in (127) above, or (134) below. In cases like this, the last syllable of the stem will have the primary stress and the last syllable of the word has the secondary stress.

134. a) [ˈti.h.ki.ˌdip] ‘They enter’
 b) [ˈti.h.ki.ni.ˌdip] ‘They are entering already’

As far as I have seen, some other Mixe languages seem to have a stress pattern very similar to that in (134), where there seems to be a competition between the first and the last syllable.

3.8 Acoustic analysis of vowels

Despite the fact all Mixe-Zoque languages have five cardinal vowels and a high-central vowel (plus one more for Lowland and Highland Mixe, and three more for Totontepec Mixe), based on the descriptions available, the organization in the vowels might differ among languages. In particular, mid-open or open vowels seem to vary with respect to their place of

articulation. Unfortunately, there is practically no detailed description of the vocalic quality of any Mixe-Zoque language, much less acoustic analyses.

To the best of my knowledge, only Dieterman (2002) has presented an acoustic analysis of the quality of vowels, although her analysis is mostly restricted to show that a reported seventh vowel in Isthmus Mixe is an allophone of /i/ in unstressed position, and no data from other vowels is presented.¹⁴ In this section, I present a brief acoustic analysis of the quality of Ayutla Mixe vowels.

The following data were obtained by digitally recording five speakers, three of them female (ages 24, 48, and 60) and the other two male (ages 53 and 64). Each speaker repeated each word three times, and there were, in average, six words per vowel.¹⁵ Words were produced using either of the following frames:

135. a) /an²ʌn/____/tunmajʔʌhti²n/ ‘Say ____ please’
 b) /kʌpʂ/____/tunmajʔʌhti²n/ ‘Say ____ please’

For each vowel, different environments were provided. Insofar as possible, I tested vowels in open syllables having a glottal stop or /h/ as the only element in the onset, so that the formants were not affected by the consonant; however, I also included coronal consonants in order to account for fronting. In a few cases, it was necessary to use velar or bilabial stops as onsets. In all cases, the transition from the previous or to the following consonant was eliminated, analyzing only the middle, steady portion of the vowel.

¹⁴ In fact, there are only a handful of studies presenting acoustic analysis of Mixe-Zoque languages. The most extensive is Dieterman 2002, although her data is very restricted, the recording of a text read aloud. In particular for the acoustic analysis of vowels, no particular controlled elicitation was done, which compromises her results. In addition, there are some studies on focalized phonetic aspects of Mixe-Zoque languages: Bickford 1985, Aguilar & Arellanes in press, Herrera 2006, Hamann & Avelino 2007.

¹⁵ Due to problems during the elicitation, in some cases it was necessary to eliminate a word for a given vowel or speaker.

In addition, I elicited both long and short vowels, and both types were included here because no bias on either one was detected. Finally, only vowels with modal voice were used.

Vowel		F1	F2	F3
i	Female	375	2721	3272
	Male	323	2204	3065
e	Female	547	2197	3167
	Male	468	1835	2815
a	Female	880	1718	2964
	Male	633	1552	2779
ɪ	Female	444	1507	3095
	Male	369	1388	2502
ʌ	Female	771	1454	2858
	Male	614	1364	2809
ɚ	Female	563	1095	3029
	Male	447	953	2602
u	Female	428	919	3064
	Male	367	836	2437

Table 5. Mean values for all the first three formants in all vowels.

The information for the frequencies of the first three formants is presented in Table 4. In order to present the data visually, frequencies are plotted in Figure 3 and Figure 3. It is well known that in vowels the first two formants correlate with the height and backness (Johnson 2003); therefore F1 is represented on the y-axis and F2 on the x-axis.

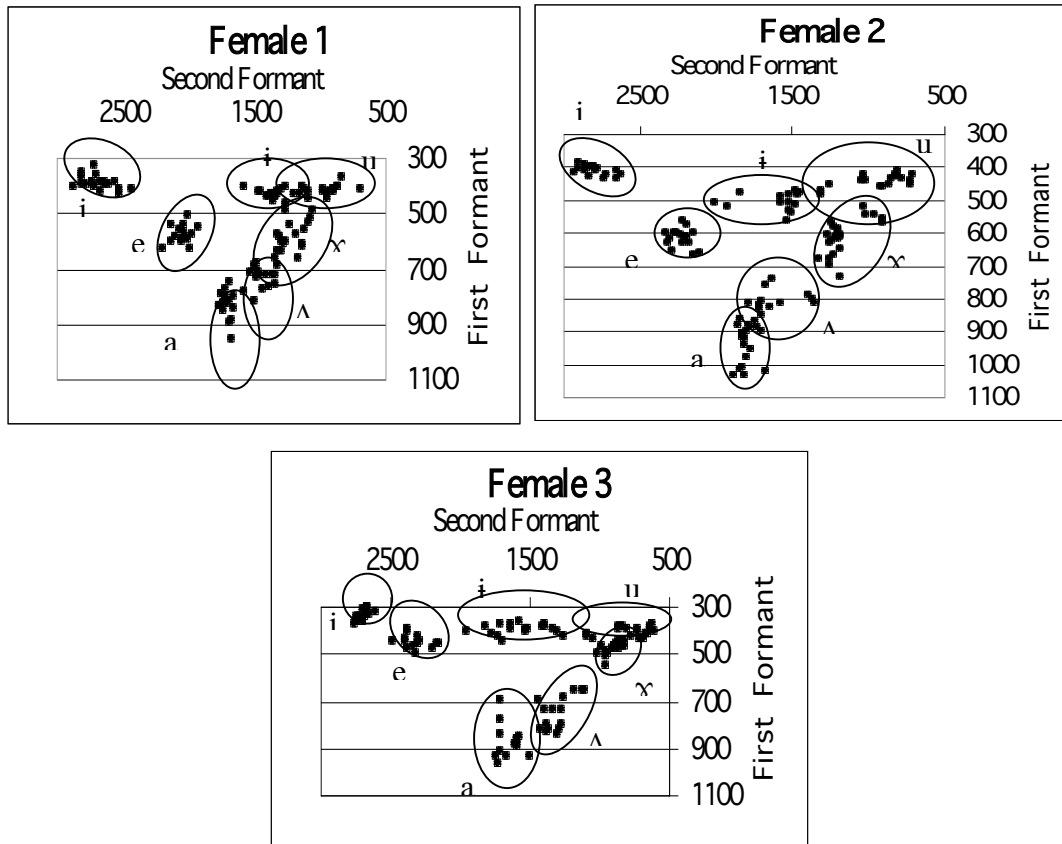


Figure 2. Stressed vowels in three female speakers.

Overall, the plot of the vowels produce a triangular shape, where /i, a, u/ are the extremes.

However, the vowels are not equidistant. As one can see, the space between /i/ and /e/, or /u/

and /ɜ/ is smaller than the space between /a/ and the two mid vowels, /e/ and /ɜ/. This, in addition

to the central high vowel, means that there are more vowels with a lower F1.

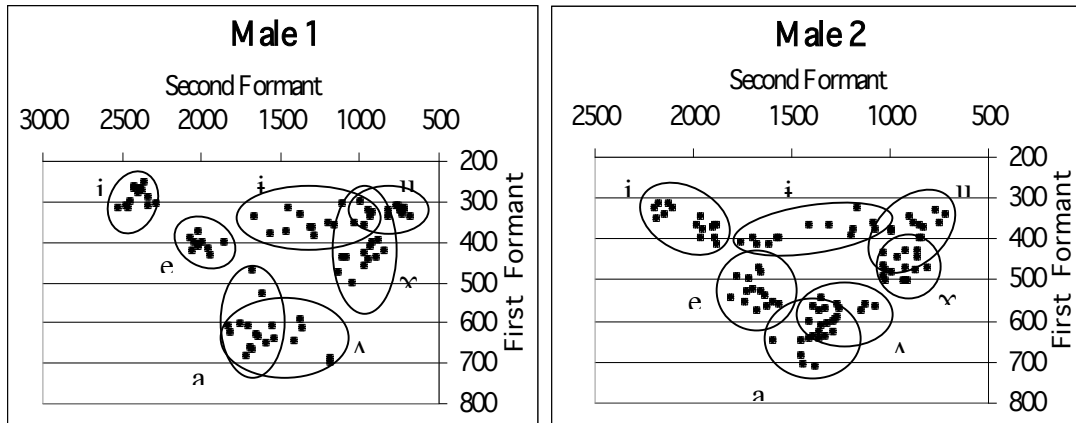


Figure 3. Stressed vowels in two male speakers.

For all speakers /i/ and /e/ are clearly apart from each other, with no overlapping between them. However, /i/ very often overlaps with /u/, and /u/ with /ɔ/. For some speakers, there seems to be a continuum between /i/ and /u/, and in fact sometimes the central vowel can have an articulation as far back as [u]. For the lower vowels, /a/ and /ʌ/ fall very close to each other.

One possible reason for having more overlapping among non-front vowels is simply that there are more of them. However, front vowels have a lower F1 than the corresponding back vowels, which means that they have a higher articulation.

It was said before that /u/ is fronted between coronals, in particular if they are followed by /t/, as in the following example:

136. /tutk/ [tʉt^hk^h] *tukt* ‘chicken’

For a female speaker, F2 in words such as like [hu:n] ‘when?’, [ku:] ‘when’, or [muk^h] ‘together’ is in average 867Hz. However, in words starting with a coronal such as [tʉt^hk^h], F2 goes up to

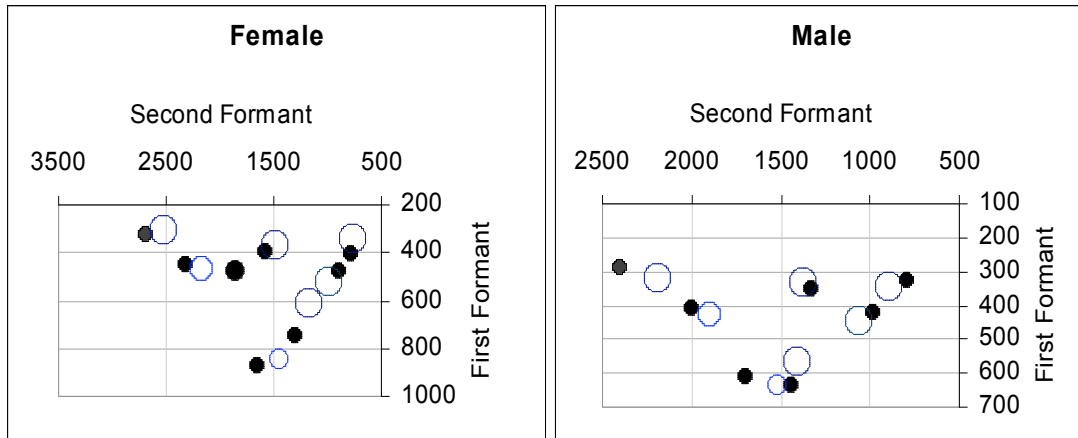
1359 Hz. As we can imagine, the numbers follow the same tendency for other speakers. This represents the problem that F2 for /u/ often falls in an area very close to /i/.

As in the case /u/, /i/ is fronted in contact with an alveolar consonant, particularly with short vowels. For example in, [hi:] ‘yes’ F2 has 1461HZ, but in [tik^h] ‘come in’, it reaches 2057Hz. This holds true for stressed syllables and pretonic syllables, but not for syllables in a postonic position.

137. /tik/ [tik^h] tĕk ‘come in’

In §5.3, I will discuss the fact that some pretonic vowels alternate with /i/, and also that Totontepec Mixe has a reduced vocalic system for unstressed vowels. In order to test it based on an acoustic analysis, I also analyzed unstressed vowels of four speakers (two males and two females). Below, I present the charts for two speakers, one male and one female.

One interesting finding was that unstressed vowels had less distance among them. Indeed, as one can see in Figure 4, the articulation of unstressed vowels, compared to stressed vowels, is towards the center of the chart. However, this is only a tendency and it is not even followed by all of the vowels. In addition, even though the mean values change for unstressed vowels, in general, they fall into a similar region as stressed vowels, perhaps not enough for triggering a recategorization, as in Totontepec Mixe, or even a systematic allophonic variation. The only vowel whose values change systematically is /i/, which goes to a mid central region when postonic.



- Stressed vowel
- Unstressed

Figure 4. Stress and unstressed vowels.

Chapter Four

Phonological processes

In the previous chapter, the basic facts about Ayutla Mixe phonology were outlined, including the description of phonemes and their allophones, the syllabic structure and stress. Even though phonemes were grouped according to natural classes, few generalizations were made with respect to the phonological processes that cause the allophonic variation. In this chapter, I will generalize across natural classes and discuss those phonological processes. An important phonological process is not treated in this chapter: lenition of consonants. However, it is discussed at length in the following chapter in terms of the distinction between fortis and lenis consonants and their correlation with long vowels.

4.1 Palatalization

4.1.1 Primary and secondary palatalization

Palatalization is a very common phonological process across languages and involves a change in place of articulation caused by a high front vowel or the palatal glide (Ladefoged 2001:217-218). In the specific case of Mixe languages, a palatal approximant

at the end of words is the cause of important phonological processes, not only because it affects consonants but also because it causes vocalic metaphony. In this section, I will restrict the analysis of palatalization to consonants and then, at the end of this chapter (§4.6), I will come back to discuss how the same process affects vowels.

In many Mixe-Zoque languages, palatalization affects all the consonants. Perhaps this has led some authors to include a series of palatal consonants as part of the phonemic inventory (Wonderly 1951b, Engel & Longacre 1963, Schoenhals & Schoenhals 1965, Elson 1967, Harrison 1984, Clark 1981; Reyes Gómez 2009). While I cannot make claims regarding other languages, and in particular, I do not consider it impossible for other languages to have developed a palatal series, it would be necessary to rule out allophonic variation. Perhaps the situation is very similar to Ayutla Mixe and other Mixe languages. An addition, it is worth mentioning that according to Dieterman (2002), the fact that the entire consonantal inventory is palatalized by a morpheme is typologically unusual.

It is necessary to distinguish between palatalization as a phonological process and palatalization as the description of the place of articulation, in particular as a type of secondary articulation (usually referred to as palatal articulation). Here, we are dealing with palatalization as a process, which involves both a palatal consonant, i.e. a consonant where the palate is the first place of articulation, and a palatalized consonant, i.e. a consonant where the palate is a secondary place of articulation, and even cases in which a palatal approximant does not affect the place of articulation of the consonant but that are part of the same phenomenon.

Parallel to the previous distinction, people have distinguished between two types of palatalization (as a process). One could consider primary palatalization as occurring when there is a modification of the primary articulation of the consonant itself, and secondary palatalization when a high front tongue position as a secondary articulation occurs in addition to the primary place of articulation (Dieterman 2002:65; Hume 1994).

In this chapter, I will make a distinction along the same lines, although with one more clarification. Thus, I will distinguish the following situations:

1. a) A palatal approximant changes the consonant's primary place of articulation, and the resulting consonant has a pre-palatal or palatal articulation.
- b) A palatal approximant only partially modifies the consonant's place of articulation, and the resulting consonant has a palatalized secondary articulation.
- c) In addition, the palatal approximant may be deleted or may stay.

In AyMi, palatalization has the following effects in articulatory terms. In the case of coronal consonants, /t, ts, s, n/, the primary place of articulation changes to the palatal region, resulting in palatal and prepalatal consonants [tʃ, ʃ, ɲ]. In addition, /h/ also becomes palatal (/h/→[ç]) when it is in the onset but not in the coda (except when the previous vowel is [i]). For the velar consonant /k/, the place of articulation changes, but it results in a secondary articulation, not in the total change of place of articulation, rendering [kʲ]. The place of articulation of the remaining consonants is not affected by the palatal glide. More specifically, for the bilabial consonants /p, m/, the palatal approximant does not change the place of articulation, though there is still a glide as

secondary articulation.¹ Even though in articulatory terms bilabial consonants are not palatalized, I will still consider them as part of the palatalization process because it is not blocked by the bilabial consonants. As one can see in (2), the retroflex fricative and the syllabic nucleus are affected by the palatal approximant even with the intervening bilabial consonant.

2. /jakkisjɔp/ [ja.'kɪʃpɔ]² ‘He finishes it’

The labiovelar approximant very often behaves like bilabial consonants, i.e. the place or articulation does not change (although in some cases it is merged with [j]). As mentioned in §3.2.3, in initial position one of the allophones of /w/ is [b], as in (3), which is in free distribution with [w]. The selection of one or the other seems to be related to a dialectal difference in the community.

3. /w/ → [b] / #_³

Now, there are three possible solutions when the labiovelar approximant is combined with the palatal approximant. First, for those speakers who usually pronounce /w/ as a voiced bilabial stop, then the natural solution is just to produce [bj], as in the case of the other bilabials. However, some speakers who usually preserve the approximant pronunciation, also change to [b] when in contact with [j], as one can see in the following sequence, produced naturally in a conversation:

¹ I am not considering in this description loan sounds, but the borrowed /b, s/ do not modify their place of articulation in contact with the palatal approximant.

² Notice that the palatal glide and the voiceless bilabial stop undergo metathesis.

³ In this chapter I provide generalizations regarding phonological processes in this way. They should be taken just as informal statements whose function is to present in a concise manner the phenomenon under discussion.

In fact, even though all of the consonants undergo palatalization in all Mixe languages, the modifications in the manner of articulation set it apart from the other Mixe languages, as in the case presented in the previous example.

As a final point, it is necessary to say that for the palatalization to occur, it is necessary that both the consonant and the palatal approximant be tautosyllabic. This could be in the phonological representation of the word or even after the palatal approximant is resyllabified. However, when both the consonant and the approximant are not in the same syllable, the former does not undergo palatalization. This can be seen in the following example, where one vowel is dropped (the /i/) but /j/ is not syllabified as part of the coda of the previous syllable, but as the onset of the following.

8. /kuʃtaniʝʌmp/ [kuʃ.tan.ʝʌmp] *kuxtaniyämp* ‘She will kneel down’
(EMorfV07)

4.1.2 Deletion of the palatal approximant

As for the third parameter, the deletion or non-deletion of the palatal approximant, a crude generalization is that, in cases of palatal consonants, the glide disappears, while in the other cases it remains. There are some adjustments to this, though. In the first place, it is necessary to distinguish between palatalization when it occurs in an onset and when it is word finally (in a coda, of course). In the latter case, the palatal approximant is deleted (9a-c) or it undergoes total devoicing (9d-g).

9. a) /tʃʌtʌtj/ [θʃʌ.ʔatʃ] *t'otaty* ‘(he) believed it’ (FrogMJ-335)
t-otät-y
3A-believe-DEP
- b) /jnɪkʃj/ [jnɪ^hkʃ] *nyijkxy* ‘(s/he) went’
y-nëjk-y
3S-go-DEP

- c) /nmʌtsj/ [n̥matʃ] *nmatsy* ‘I grab it’ (Aur2-25)
n-mäts-y
1A-grab-DEP
- d) /jaktunj/ [ja^hk^h.ʔij̥n̥] *yaktiny* ‘(s/he) made him work’ (Aur2-215)
y-ak-tun-y
3O[INV]-CAUS-work-DEP
- e) /mn̥imemjp/ [nimimpj] *mn̥emimpy* ‘you come (to this)’ (NL1-731)
m-n̥e-men-yp
2A-ON-come-INDEP;TR
- f) /ttsokj/ [tsekʲj] *ttseky* ‘he wants it’ (Aur2-203)
t-tsok-y
3A-want-DEP
- g) /jwɣh̥j/ [bjɣh̥ç] *wyojy* ‘(it) barks’
y-woj-y
3S-bark-DEP

When the palatalized consonant is part of an onset, the presence of the palatal approximant depends on the following vowel. When the consonant is followed by a high front vowel, there will be no approximant, but if it is followed by a back vowel, it is very likely that the approximant will be preserved. I present all the possible combinations below, in Table 1.

C \ V	a	e	i	ɣ	u	ɨ	ʌ
p	pja	pje	pi	pjɣ	pju	pʲi	pjʌ
t	tʰa	tʰe	tʰi	tʰjɣ	tʰju	tʰi~tʰjʲ	tʰjʌ
k	kʲja	kʲje	kʲi	kʲjɣ	kʲju	kʲi~kʲjʲ	kʲʌ~kʲjʌ
ʃ	ʃʲa	ʃʲe	ʃi	ʃjɣ	ʃu	ʃʲi	ʃʲʌ
ts	tʃa	tʃe	tʃi	tʃɣ	tʃu	tʃi~tʃjʲ	tʃʌ~tʃjʌ
m	mja	mje	mi	mjɣ	mj̥	mʲi	mjä
n	na	ne	ni	njɣ	n̥ju~nu	nʲi	njʌ
h	çja	çje	çi	çjɣ	çju	çʲi	çjʌ
w	bja	bje	bi	bjɣ	*	bʲi	bjʌ
j	ja	je	ji	jɣ	ju	jʲi	jʌ

Table 1. Deletion of the palatal approximant.

Here are some examples.

10. a)	/jpa: ^h t/	[pja: ^h t]	<i>pyaajt</i> y-paajt 3POSS-broom	‘his broom’
b)	/jma [?] pʂ/	[mja [?] pʂ]	<i>mya[?]px</i> y-ma [?] px 3POSS-scissors	‘his scissors’
b)	/jtik/	[tʃi ^h k]	<i>tyëk</i> y-tëk 3S-enter[INCH.DEP]	‘It entered’ (FrogMJ-140)
c)	/jtiki [?] n/	[tʃi ^h kin]	<i>tyëkën</i> y-tëk-ë-n 3S-enter-INCH-PREF;DEP	‘He became...’ (Aur2-169)
d)	/jkupatj/	[k [?] jubetʃ]	<i>kyupety</i> y-kupat-y 3S-suffer-DEP	‘He suffered’ (Aur2-77)
e)	/jʂitut/	[ʃi. [?] ditʃ]	<i>xyëtiy</i> y-xëtut-y 3S-cough-DEP	‘He coughs’ (CV4-2459)
f)	/jtsi [?] ik/	[tʃi [?] k]	<i>tsyë[?]ëk</i> y-tsë [?] ëk 3S-get.scared[INCH.DEP]	‘He got scared’ (NL1-177)
h)	/jni:ʂ/	[ni:ʂ]	<i>nyëëx</i> y-nëëx 3POSS-daughter	‘his/her daughter’

The presence of the palatal approximant depends greatly on the following vowel.

Even with the same consonant-vowel combination, in some cases there is a clear transition and in other cases there is no transition. Additionally, since some vowels are fronted in contact with palatal consonants, the transition in these cases is even less clear. It is worth mentioning that there is a clearer transition when there is a long vowel than when there is a short vowel.

The duration of the [j]-like sound is not categorical; in phonological terms it makes no difference if it is there or not because there is no phonemic distinction between a palatal consonant followed by [j] and one that is not followed by a [j]. In other words, the two phonetic representations in (11) are equivalent in phonological terms.

11. [C^jV] ≈ [C^jV]

The descriptions in this respect vary among Mixe-Zoque languages. For Chapultenango Zoque, Herrera (1995) claims that the palatal approximant is deleted in many cases because there is a disassociation between the node ROOT and a higher node. However, she does not explain why it happens sometimes but not always. According to Dieterman (2002), it disappears in Isthmus Mixe. For Ocotepéc Mixe, Hamann & Avelino (2002) report that the palatal approximant remains with all the sibilants, unless they are followed by the front vowels /i, e/. I think that part of the problem is whether one considers the transition between the palatal(ized) consonants to be long enough to count as a segment, and thus as a palatal approximant. Of course between a palatal(ized) consonant and a front vowel there will be no or only a minimal transition, but between the consonant and an open or back vowel there will be a noticeable transition. For this reason, the transition between the palatal(ized) consonant and the syllabic nucleus is greater, and therefore more prominent, when there is a long vowel. However, as mentioned in the previous paragraph, the different realizations are not phonologically relevant.

4.1.3 Directionality of palatalization

When the palatal approximant is the last element of a complex coda and it causes the palatalization of the previous consonant, it is clear that there is regressive assimilation.

12. /te:ʃj/ [te:ʃj] *teexy* ‘plate’

However, the sequence /jC/ also produces a palatalized consonant. There are two possible solutions.

13. a) Progressive assimilation
b) Metathesis and regressive assimilation.

The fact that the sequence /jC/ surfaces as [Cj]~[Cʲj] suggests that the second option is the correct one. This is particularly clear for bilabials because /j/ after the consonant is rather clear and it does not trigger secondary articulation. Indeed, metathesis has been the analysis for other related languages (Herrera 1995, 1998, 2006; Dieterman 2002).

Metathesis happens whether the palatal glide is a prefix (14a) or it is part of the root. In the latter case, it can appear word internally (14b) or word finally (14c), when the consonant is a suffix.

14. a) /j + tʌ:k/ [tʰʌ:kʲ] *tyääk* ‘his mother’
b) /thajtikejj/ [θha.tʰi.ʰgej] *jatyëkey* ‘he forgot it’
c) /kay + k/ [ka:kʲ] *kaaky* ‘tortilla’

As mentioned earlier, when the palatal is in final position, it not only palatalizes the immediately preceding consonant, but also all the previous consonants up to the nucleus. In fact, the palatalization goes from the rightmost syllabic edge up to and including the nucleus.

15. /jnɪkʃj/ [jnɪ^hkʃ] *nyijkxy* ‘S/he goes’

18. a) /timj#ha²a/ [tim.çja²a] ...timy ja'a... 'just him'
 timy ja'a
 only DEM.D
- b) /te:tj#ha²a/ [te:t^ɰ.çja²a] ...teety ja'a... 'father this'
 teety ja'a
 father DEM.D

4.1.4 Long vowels and palatalization

For AyMi, there is another interesting issue related to the directionality of assimilation: for long vowels there is a [j] before the palatalized consonant (19). This also happens with rearticulated vowels, although /j/ is less clear due to the laryngealization of the syllabic nucleus. Notice that this happens whether /j/ is already after the consonant at the phonological level (19a) or before it (19b-c).

19. a) /jp_Λ:tj/ [pj_Λ:t^ɰj] *pyäät_y* '(he was) found' (NL1-1273)
 y-pää_t-y
 3O[INV]-find-DEP
- b) /šhinteejp/ [šhin.¹de:çp^ɰ] *xjēntee_yp* '(they) envy (me)' (NL1-321)
 x-jēntey-p
 1O[INV]-envy-INDEP
- c) /jawa:jp/ [ja.¹wa:çp^ɰ] *yawa_{ap_y}* 'he brings it' (CRV-725)
 y-awää_{-yp}
 3A-bring-INDEP;TR

The relevant point here is that such a [j] before the consonant does not surface when there is a short vowel in the nucleus. In (19b), one might argue that /j/ is copied from the nucleus to the coda, after the consonant, and only then does palatalization take place, as shown in (20). However, this analysis would be problematic when /j/ is suffixed, as in (19b).

20. Hypothesis: V:jC → V:jCj → V:jC^j

In an alternative analysis, one might argue that the palatal approximant is only the transition between the vowel and the consonant. The reason why it only surfaces in long

vowels is related to the fact that vowels are not long at the segmental level but rather at the metrical tier. In other words, long vowels are not really two vowels one after the other, but rather a single vowel associated with a longer duration. This line of thought will not be developed in detail here due to restrictions of space, but it is important to keep it in mind. One important point here is that the long vowel in the cases at hand is usually shorter than other long vowels that do not have the palatal approximant, but longer than short vowels. Therefore, in metrical terms, the required length is satisfied either by a long vowel or by a diphthong of a slightly shorter long vowel plus a [j], as shown in (21).

21. a) Short Vowel (μ): VjC/VCj → VC^j
 b) Long Vowel ($\mu\mu$): VjC/VCj → V:C^j or V^j:C^j

So, at the segmental level, both (21a) and (21b) are similar, but at the metrical tier one has an extra mora.

4.2 Voicing

As shown in §3.2.3, all [-sonorant] consonants have a voiced allophone. In this section, I will summarize the facts and comment on some issues. As presented in that section, any non-sonorant consonants will undergo voicing between vowels and between a nasal and a vowel. This can be summarized in the following form.

22. [-sonorant] → [+voice]/ [+sonorant] _ [+vowel]

In the case of the affricate /ts/, very often the voicing does not go through the whole segment but rather it affects only the fricative part of the complex segment, leaving the occlusion out of it. On the other hand, particularly between vowels, /ts/ also becomes a fricative, i.e. it loses the occlusion and only the frication remains. In these cases, it is

common that only part of the frication undergoes voicing. So, even though being between vowels is typically a context that favors voicing, the /ts/ presents some resistance to it.

These cases very often sound as if they are voiced all the way through, but using acoustic analysis, it is clear that a portion of the segment is voiceless.

Additionally, the consonantal glottal stop has some interesting effect on the voicing process. The glottal stop is not very often realized as a segment, but only leaves traces in the vowel, changing it from modal voice to creaky voice. This is particularly true in rearticulated vowels, but it also happens (though to a lesser extent) when the glottal stop is in the onset. In these latter cases, the important fact is that there is no total obstruction of the glottis and therefore there is no actual onset anymore. If the previous syllable ends in an obstruent, then there exists the appropriate context for voicing.

It is necessary to point out that the characterization in (22) includes N_V but not V_N, because voicing does not happen in the latter context, as shown in the contrast in (23).

23. a) /tunkʔʌtn/ [tuŋ.ˈgʌt˦ŋ] *tunkäjtnë* ‘(he) worked’ (NL1-55)
 b) /ʃtukmɪtʁɪtp/ [ʃtuk.miˈtʁi.ðip] *xtukmëtootëp* ‘we were told’ (NL1-161)
 c) /ʃtukmɪtʁɪtp/ *[ʃtug.miˈtʁi.ðip]

As one can see, it is not enough for an obstruent to be between two sonorants in order to undergo voicing. This raises the question as to why the order of the nasal and the vowel affects the voicing of the consonant. It is necessary to ask whether it is the vowel, and not the nasal, what causes the voicing of the obstruent, and finally whether this process happens from the right to the left, or vice versa.

In Chapultenango Zoque (as in other Mixe languages) there is also voicing of [-continuants]. Herrera (1995) states that [-continuants] become voiced after nasals, and

following an auto-segmental approach, she suggests that the feature [+voice] spreads from the nasal, as illustrated below:

24. [-sonorant] → [+voice]/ [+nasal] _

One could wonder whether something similar happens in AyMi, that is to say, whether the [+voice] spreads from the nasal. This would correctly account for the fact that there are no voiced [-sonorants] before a nasal, but it would also predict that the first element of a consonant cluster after a nasal would undergo voicing, as follows:

25. NCC → NC_[+voice]C

However, as shown in (26), this does not happen. In other words, for AyMi, having a nasal before a [-sonorant] is not enough for triggering voicing; in addition, it is necessary that there be a vowel after such a consonant.

26. /tkwentpikj/ [θkwent.^lpik^j] *tkentpiky* ‘(s/he) pays attention’

There is a case of voicing of a [-sonorant] consonant that is correlated with the devoicing of a nasal (which is treated in §4.3.3). There are several prefixes that consist solely of a nasal: *n-* corresponds to a first person (possessive, S in an intransitive verb and A in a transitive verb), and *m-* corresponds to a second person (possessive, S in an intransitive verb, and either A or O in a transitive verb) (see §7.4.1, §8.2.1). When any of these morphemes is prefixed, the [-sonorant] consonant becomes voiced but the nasal undergoes partial or total devoicing, as exemplified in (27).

27. a) /ntsi²mt/ [ṅɕi²ṁt] *ntsë'mt* ‘I held him’ (NL2-532)
 b) /mpikj/ [ṁbik^{ɰj}] *mpiky* ‘(you) got sick’ (NL1-1105)

the nucleus. So, for example, an onset wherein the first segment is higher in sonority than the second element is disfavored; conversely, in a complex coda, the first segment should preferably have a higher sonority level than the second segment (Blevins 1995).

4.3.1 Final vowel devoicing

Open syllables always correlate with a long nucleus. In those cases and before a pause, the final part of the vowel always undergoes partial devoicing towards the end, as exemplified in (31).

31. a) /ni:/ [ni:] *nii* ‘hot pepper’
 b) /ape:/ [a.be:] *apee* ‘put grains in!’

Sometimes the final devoicing can seem like an aspirated vowel. However, the duration of the voiceless portion of the vowel and the intensity are much shorter than when there is an aspirated vowel, as in (32).

32. /jɪ^hkʃj/ [jɪ^hkʃ] *nyijkxy* ‘He went’

The devoicing in vowels does not mean, however, that just being in final position will devoice any sonorant, since nasals are never devoiced in simple codas (33a), i.e. when they are immediately after the vowel. In the case of glides, they are generally not devoiced either (33b-c). There is one exception to this, and that is when the palatal glide preceded by a long vowel is pronounced emphatically. The emphasis consists of producing the glide with more energy and partially devoicing it, as in (34); sometimes it can even sound as if there is a palatal fricative after the glide.

33. a) /nʌn/ [nʌn] *nän* ‘mom’
 b) /hij/ [hij] *jëy* ‘buy!’
 c) /jʌw/ [jʌw] *jäw* ‘feel!’

34. /tseʔeʔΛ:j/ [tse.ʔΛ:jç] *tse 'ääy* 'squash leave'

The most important case of devoicing happens after a voiceless segment. In general, sonorants undergo devoicing in final position after a voiceless segment. The sonorant can be a palatal approximant (35) or a nasal (36-37). Some examples of devoicing of a final palatal approximant were presented in §4.1. In the case of nasals, the final devoicing is more obvious after a /h/ in (36), but it occurs after any other voiceless consonant as well, as in (37).

35. a) /mnimempj/ [nimimpj] *mnëmimpy* 'you come (to this)' (NL1-731)
 b) /jwɣhj/ [bjɣhç] *wyojy* '(it) barks'
36. a) /tʔaʂΛhn/ [ta.ʔzΛhŋ] *t'axäjn* 'he got it' (Aur2-138)
 b) /tuhn/ [tuhŋ] *tujn* 'gun' (Aur2-717)
 c) /tʔanihm/ [tʔa.nihm] *t'anëjm* 'he told him' (Aur2-811)
37. a) /jhΛtkiʂn/ [çjΛt.kiʂŋ] *jyätkëxn* 'he was finished' (Aur2-231)
 b) /jkyaxiʔikn/ [kʲja.ʔzʲʲkŋ] *kyaxë'ëkn* 'he had been born' (Aur2-512)

One cannot make the generalization that sonorants undergo devoicing after voiceless consonants because it also happens after a complex nucleus with a non-consonantal glottal stop, as in (38).

38. a) /nateʔn/ [na.ðeʔŋ] *t'axäjn* 'He got it' (Aur2-138)
 b) /njɣʔɣjiʔn/ [ʔjɣ:.jiʔŋ] *nyo 'oyë'n* 'We (inclusive) walked'

Often, a nasal is partially devoiced if followed by any other sound, i.e. if it is part of a phonological phrase, but it is completely devoiced if there is a pause after it. In the latter case, there is literally no sound, and thus nothing shows in a spectrogram; the only clue that there is a nasal is that one can see the speaker's oral gesture.

On a similar note, the devoiced nasal is realized as a nasal release after a homorganic consonant, i.e. after /t/. This can be seen in the following examples in (39).

39. a) /jhΛ[?]tn/ [ç^jΛ[?]tⁿ] *ɟyä'tn* 'he (has) arrived'
 b) /jpatn/ [pja^htⁿ] *pyajtn* 'he (has) gone up'
 c) /tpΛ[?]tn/ [θpΛ[?]tⁿ] *tpä'tnë* 'he has found it'

It is worth mentioning that in most cases, a nasal in final position after another consonant corresponds to the perfective morpheme, to be discussed in §8.3.3.

As expressed at the beginning of this section, devoicing of a word final sonorant can be attributed to the Sonority Sequencing Generalization. In a complex coda, the second element should preferably have less sonority than the first one. Thus, when a nasal or an approximant occurs after a voiceless sound, it is necessary to reduce the sonority of the sonorant, and one way to do it is by devoicing. Quite apart from this generalization, in articulatory terms it would be almost impossible to stop the vibration of the vocal cords for one segment and then to resume it for the final segment.

4.3.2 Devoicing of adjacent nasals

In the previous subsection I mentioned that final nasals are often devoiced. There are two other cases of devoicing when there are two tautosyllabic nasals next to each other, either word initially or word finally.

In the first case, the two nasals are part of the onset and the first one undergoes devoicing, as in (40).

40. /mnΛsj/ [m̥nΛsʃ] *mnaxy* '(you) go through' (Aur2-644)

This does not happen if the first one is the coda and the other is the onset of two contiguous syllables, as shown in (41).

41. /jpitsimnit/ [pjɪ.ˈzɪm.nɪt] *pyëtsëmnët* ‘(they) got out’ (NL1-790)

In the second case of devoicing of two adjacent nasals, they are word-final, and now the last one undergoes devoicing, as shown in (42).

42. a) /twʌːnn/ [tˠwʌːnˠ] *two ’nn* ‘he had stretched it’
 b) /jpitsimn/ [pjɪzɪmˠ] *pyëtsëmn* ‘he had gone out’

Notice that it is not just the effect of occurring word finally, since a nasal in a simple coda does not undergo devoicing. In the following pair of examples in (43), one can see the contrast between these two cases.

43. a) /tun/ [tun] *tun* ‘work!’
 b) /ttunn/ [tunˠ] *tunn* ‘he has done it’

Again, if the second nasal is not tautosyllabic, it does not undergo devoicing. This happens, for example, when it is resyllabified as the onset of the following syllable. In the example in (44), the last nasal would normally be word-final, except that the interrogative clitic =*a* is placed after it, and then it is possible to resyllabify the nasal. In this case, as one can observe, the nasal is not devoiced.

44. /jpitsimn = a/ [pjɪzɪmna] (*tëë*) *pyëtsëmna?* ‘did they go out already’

It is interesting that one case is the reverse of the other, and not just the fact that the first or second of two contiguous nasals undergoes devoicing. Again, due to the Sonority Sequencing Generalization, in a complex onset, the first element should have less sonority than the second one; the converse can be said of a complex coda. Additionally, in the case of two adjacent nasals, one can hypothesize that the Obligatory Contour Principle (McCarthy 1986, Broselow 1995, Clements & Hume 1995, *inter alia*)

contributes to favoring the devoicing. According to this principle, two adjacent identical elements are highly disfavored.⁴

4.3.3 Devoicing of initial nasals

As mentioned earlier (§4.2), nasals are also devoiced in initial position before an obstruent consonant (45-46). In most cases, the nasal is only partially devoiced (45), but usually it undergoes total devoicing before /ʔ/ (46a) or before /h/ (46b).

45. a)	/mpikj/	[m̥bik ^{hi}]	<i>mpiky</i>	‘You got sick’ (NL1-1105)
b)	/ntsi ^ʔ mt/	[n̥tʃi ^ʔ mt]	<i>ntsë'mt</i>	‘I held him’ (NL2-532)
46. a)	/nʔotatj/	[n̥ʔo ^l dat ^{hi}]	<i>n'otaty</i>	‘I think’
b)	/nhept/	[n̥hẽp ^h t ^h]	<i>njept</i>	‘I rub’ (irrealis)

Again, to maintain an increase in the sonority at the beginning of the syllable, the voicing of the nasal goes to the consonant, which is otherwise voiceless. As one can see in the previous examples, the only cases where the voicing does not change is with /ʔ/ (for obvious articulatory reasons) and /h/. Dieterman (2002) reports that /h/ undergoes voicing in Isthmus Mixe, but this does not happen in AyMi.

4.4 Nasalization.

As presented in §3.2.1, vowels are nasalized after a nasal. Very commonly, though, when a vowel is preceded by a nasal it becomes only partially nasalized; it undergoes complete nasalization only between vowels, as in (47).

47. a)	/mentip/	[^l mẽn.də ^ʔ p]	<i>mentë'p</i>	‘(they) came’ (NL2-182)
b)	/nɔn/	[nɔ̃n]	<i>nän</i>	‘mother’

⁴ The principle was originally formulated to prohibit adjacent identical tones, but it has been extended to identical elements.

The nasalization also propagates through glides, as shown in (48), although in this case the syllabic nucleus is usually only partially nasalized.

48. a) /jɪnwΛʔʌts/ [jɪ.nw̃ʔʌts] jɛnwāʔäts ‘clear’
 b) /mjʌʔp/ [mjʌʔp] myäʔp ‘Your *compadre*’ (NL2-434)

In §3.2.1, I also presented examples in which the nasal spreads through the glottal fricative /h/, which is fairly common, as shown in (49). In this case, the nasal usually undergoes devoicing.

49. /nhept/ [n̥h̃ɛpʰtʰ] njept ‘I rub’ (irrealis)

Finally, the nasality goes through a glottal stop. When there is no obstruction, but only creaky voice, the following vowel will become nasalized, as in (50a). When there is total obstruction, the nasal usually becomes a voiceless (unreleased) nasal stop, and the vowel becomes nasalized, as in (50b).⁵

50. a) /nʔanuʔkʂt/ [ñʔanuʔkʂt] nʔanuʔkxt ‘(I) borrow it’ (NL1-335)
 b) /nʔuhts/ [ñʔʔũhts] nʔujts ‘my herbs’ (NL1-444)

There is a difference, however, between the glottal stop and /j, w, h/. The first two do not only propagate the nasal, but also become nasalized themselves, as in (48a); the glottal stop is transparent to nasalization, but does not become nasalized, as in (50b).

In any case, the nasal has to be part of the onset. When there is no consonant between the nasal and the vowel, both of them have to be in the same syllable, and therefore the nasal would be the onset. When there is a glide or an aspiration, they form a complex

⁵ Sometimes, the vowel becomes only partially nasalized:

i. /nʔaʂʌh/ [ñʔaʂʌh] nʔaxäj ‘(I) receive it’ (NL2-630)

onset with the nasal. So, (48a) could also be syllabified as [jɪn.ˈwʌʔʌts], in which case the nasal would have no effect on the following syllable.

On the other hand, the nasal does not affect the following vowel if there is any consonant but /w, j, h, ʔ/, as exemplified in (51).

51. a) /npʌ:tj/ [mbʌ:tʃ] *mpääty* ‘I found it’
 b) /nkaj/ [ngaj] *nkay* ‘I eat’

Summarizing all these facts, one could say that the nasality spreads from the nasal to the vowel, either directly or through a continuant. Crucially, it spreads from the onset until it reaches a vowel, but it does not go further.

Here, it is important to pay attention to two morphemes, *n-* and *m-*, which are the first and second person markers in verbs and possessive markers in nouns, respectively. These morphemes are prefixed to the stem. While I will discuss them in the appropriate place (§8.2), they are relevant here because they create consonant clusters of a nasal plus another consonant. So, in most cases, when the nasal propagates through a continuant, usually one of those morphemes is involved.⁶

A similar phenomenon in Zoque languages has become rather famous. In an early description of Copainalá Zoque, Wonderly (1951b:107) pointed out that the nasal disappears before /j, w, h/, while nasalizing these segments. This has motivated different analyses. For some scholars, the nasal is a segment that triggers nasalization and voicing in the following consonants (Archangeli & Pulleyblank 1986, *inter alia*). On the other

⁶ This has to do with the fact that usually a sequence VNC will be syllabified as VN.C, and thus the nasal will not be part of the onset.

hand, for Chapultenango Zoque, Herrera (1995) proposes that the nasal is a floating autosegment.⁷

For AyMi, I consider the nasal a segment of its own, not a floating autosegment. There are three important differences between Zoque languages and Mixe languages. First of all, in Zoque the nasal does not stop in the first vowel, but goes all the way through the whole word, which does not happen in AyMi. Secondly, in Zoque the nasal does not appear as a segment when the word begins with a sonorant, it is manifested only through the nasalization; in contrast, in AyMi the nasal appears even in these cases. These differences are shown in (52).

52. a) Zoque: /n-/ or /m-/ + /juwi/ → [jũwĩ] ‘(my/your) scratch’ (Herrera 1995:104)
 b) AyMi: /m/ + /awehʂtit/ → [mã.wehʂ.tət] ‘(you) waited’ (NL1-948)

There is a third difference. In Chapultenango Zoque, the nasal appears as pre-nasalization with a non-continuant, but the place of articulation will always coincide with it, regardless of whether the first or second person is involved. In other words, the place of articulation of the nasal is not independent of a stop or an affricate. In contrast, in Mixe there is a distinction between the first or second person markers, as {n-} versus {m-}, respectively. While it is true that the coronal nasal takes the place of articulation of the following consonant, the bilabial never does. Thus, one can say that {m-} is totally independent of the place of articulation of the following segment while {n-} is not, but only by virtue of being “underspecified”, if one will, not by being an autosegment. So, even though Herrera (1995) is correct with respect to her criticism of other explanations for Zoque nasals, those analyses can be correctly applied to AyMi.

⁷ Herrera (1995) restricts her analysis to the first and second person prefixes in verbs and possessives in nouns.

4.5 Simplification of segments

4.5.1 Vocalic simplification

Not all VV sequences form a single syllable in AyMi; some of them are the result of the simplification of two contiguous rearticulated vowels.

53. a) /hΛ[?]Λ + Λ[?]Λm + p/ → [hΛ.[?]Λmp] *jä'ämp* 'it will collapse' vs.
 b) /hΛ[?]Λ + kiʂ + j/ → [hΛ:[?]giʂ] *jyääkixy* 'it collapses completely'

Even though at first glance both have what might seem like a long vowel (both have the same length), when there are two syllables, as in (53a), the sequence has a rising intonation while when there is a long vowel (in which case there is only one syllable), as in (53b), the sequence has a falling tone.

One question in (53a) above or (54) below is what happens to the rearticulation in both the root and the desiderative. As stated above, in most cases there is only a sequence of two vowels, and in some cases it is possible to see a glottal constriction in the middle of the sequence.

54. /mΛ[?]Λ + Λ[?]Λm + p/ [mΛΛmp] *mä'ämp* 'S/he/I will sleep'

4.5.2 Fortification of homorganic consonant clusters

The simplest type of simplification is fortification of one consonant when two identical sounds are present in a sequence, as schematized in (55).

55. C_i C_i → C_i

There are two consequences of this process. First of all, the resulting consonant is resistant to voicing. As explained above, a consonant undergoes voicing between vowels (56a), but when two identical consonants are simplified into one, this does not happen (56b). Of course, there is an alternative analysis here, namely, that the rule that triggers

voicing does not apply because at the phonological level when neither consonant is between vowels. Then another process would delete one of the consonants.

56. a) /j+ak+ampik+pj/ → [ja.gam.bi^hk^lp^j] ‘He annoys him’
 b) /j+ak+kiş+pj/ → [ja.^lkiʃp^j] ‘He finishes it’

Notice that it is not just that there is one segment at the articulatory level (or tier), but also, that there is only one segment at the skeletal tier, which amounts to saying that the resulting segment is not a geminate consonant. Thus, in the context V_V, the fortified consonant is resyllabified as the onset of the second syllable.

On the other hand there are some false minimal pairs that might make one suppose that there is a contrast between voiced and voiceless consonants, or between fortis and lenis consonants for that matter. However, this only happens at the surface level, as in (57).

57. /tapettuʔutj/ [ða.be.tuʔut^j] *tapettu'uty* ‘he opened (a twist-up)’

4.5.3 Deletion of plosives after nasals

Plosives are very often deleted after a homorganic nasal:

58. /pi.^ltsimp/ [pi.ðim] *pëtsëmp* ‘he goes out’

This is very often the case for the neutral independent AM marker, which is just /p/, particularly if followed by a vowel.

4.6 Vocalic metaphony

In Mixe languages, there is another type of regressive assimilation related to the presence of a palatal approximant at the end of a word. In this case, the nucleus of the syllable where palatalization takes place changes its phonetic realization. As shown in

Table 2, the metaphony involves raising for front the vowels [e, a], and fronting for all non-front vowels, [ɨ, u, ʌ, ɯ], while preserving the same height.

	Front	Non-Front
High	i	ɨ u
Mid	e	ɯ
Low	a	ʌ

Table 2. Metaphony in Ayutla Mixe.

This process becomes clearer with the following examples:

59. a) /u/ /t-tun-j/ [tɨnj] ‘(S/he) does (it)’
3A-do-dep
- b) /e/ /t-ʔeɣ-j/ [θʔiɣ] ‘(S/he) sees (it)’
3A-see-DEP
- c) /ɨ/ /j-kɨn-j/ [kjɨnj] ‘(S/he) falls’
3S-fall(.leaves)-DEP
- d) /ɯ/ /t-tʌn-j/ [teɨnj] ‘(S/he) touches (it)’
3A-touch-DEP
- e) /a/ /t-han-j/ [θheɨnj] ‘(S/he) takes (it) off’
3A-take.off-DEP
- f) /ʌ/ /t-hʌt-j/ [θhatɨj] ‘(S/he) knows (how to do it)’
3A-know.how-DEP

As one can see from Table 2 and the examples in (59), the realization of the modified vowel overlaps with the phonetic realization of another vowel. So, in most cases the contrast between such vowels is neutralized in this context. The more extreme case is the neutralization of /i, e, ɨ, u/, all of them neutralized as |i|; then, /ɯ, a/ are neutralized as |e|, and finally /ʌ/ is neutralized as |a|.

There is only one case in which the modified vowel does not overlap with another vowel and there thus is no neutralization. This happens with the mid back vowel /ɯ/. In

First of all, one can see that in the case of the neuter independent transitive AM marker, there is a metathesis before assimilation takes place. The motivation for this phonological representation will be discussed in §8.6. In the case of the neuter dependent, already exemplified above, there is only regressive metathesis.

One question that arises is whether it is a case of long distance assimilation, from the final palatal approximant to the vowel independently of the consonants, or rather of successive adjacent assimilations, from the approximant to the consonant, and from the consonant to the nucleus. In the examples above, one can see that the consonant in the coda becomes palatalized, and this triggers the metaphony in the nucleus.

There are some cases in which the metaphony is blocked. The conditions are different for the neuter independent transitive and the neuter dependent transitive AM markers, but in both cases /h/ preceding a back vowel always blocks the metaphony, as shown in (63).

63. a) /j-puh-jp/ [pjuhpj] ‘(S/he) washes (it)’
 3A-wash-INDEP.TR
- b) /t-puh-j/ [θpuhç] ‘(S/he) washes (it)’
 3A-wash-DEP

Another case in which the metaphony is often blocked is when the root ends in a palatal glide, as in (64).

64. a) /j-hij-jp/ [çji:pj] ‘(S/he) buys (it)’
 3a-buy-indep.tr
- b) /t-hij-j/ [θhij] ‘(S/he) buys (it)’
 3A-buy-DEP

There are some exceptions to this, but as mentioned previously, all the conditions will be discussed in §8.3.8. The important point in this section is that the regressive assimilation can be blocked by some sounds that do not undergo assimilation. This suggests that the metaphony observed in AyMi verbs is not a case of long distance

assimilation, but rather the result of successive assimilations, from the palatal approximant to the consonant and from the consonant to the vowel.

4.6.2 Vocalic metaphony as a historical process

There are some words in which metaphony has operated as a diachronic process. Thus, the vowel in a nucleus is no longer taken as the neutralization of a vowel in the context of palatalization but rather has been reanalyzed as a different vowel. In general, this happens when the word ends in a palatal approximant, as in (65), regardless of the part of speech. It is possible to know that the vowel has changed by comparing AyMi with neighboring Mixe languages or by comparing AyMi with a reconstruction of a previous state of the language.

65. a) /kipj/ ‘stick’ < pMZ */kɪpi/
 b) /nekʲj/ ‘paper’ < pMZ */nokɪ/

It is necessary to say that in historical terms, not all words have been equally affected by this process, for not all vowels in contact with a palatal consonant have changed, as shown in (66).

66. a) /ʔaʃi:j/ ‘yesterday’ (and not */ʔaʃi:j/)
 b) /ʃɣ:kj/ ‘nail’ (and not */ʃe:kj/)

In (66a), /ʔaʃi:j/ ‘yesterday’ has /i/ in the last syllable, and not /i/, even though it has /j/ at the end. Similarly, in (66b) /ʃɣ:kj/ ‘nail’ the mid back vowel /ɣ/ did not change to /e/ in the presence of the palatal approximant. Words like this are one of the reasons why the metaphony is not an automatic phonological process, either synchronically or diachronically.

On the other hand, ‘to cure (with medicine)’ in (67a) comes from the word for ‘medicine’ (67b). Notice how the vowel in the noun is different from the vowel in the verb. As I said, this change is to be taken as reanalysis.

67. a) /tsey/ ‘cure!’ (imperative)
 b) /tsɣ:y/ ‘medicine’

In some verbs, the palatalization has changed the quality of the vowel in almost the entire conjugational paradigm, except for the completive aspect or for the inverse conjugation (§8.3.1, §8.4). As will be discussed later, the completive conjugation is being lost in younger speakers, and older speakers use it only in restricted contexts, such as formal speech. Thus, it might be considered a conservative verbal form in this dialect, and as such it preserves the original vowel quality. In such cases, I will consider that the vowel in the root has been reanalyzed rather than a case of metaphony. In fact, it is quite common that in these verbs there is still metaphony, as a synchronic process, in addition to the historical vowel change. So, typically, these verbs will have three different vowel qualities in their conjugation. The imperative will have the historically changed vowel, the neuter (could be the dependent or the independent) will undergo assimilation, but the completive form will have the historically original vowel. This is case for the verb *kay* ‘to eat corn’, in (68).

- | | | | |
|--------|-------------|------------------------|--|
| 68. a) | /kaj/ | [kaj] | ‘eat!’ (imperative) |
| b) | /jkajjp/ | [k ^j ja:pj] | ‘(S/he) eats (it)’ (neuter independent transitive) |
| c) | /tkajj/ | [θkaj] | ‘(S/he) eats (it)’ (neuter dependent) |
| d) | /kaj/+COMPL | [kΛ:j] | ‘(I/she/he) eat(s)’ (completive independent) |

In the imperative form, in (68a), in the neuter independent transitive, in (68b), and in the neuter dependent, in (68c), the vowel in is /a/. However, for the completive aspect, which is signaled by the apophony, the vowel is /ʌ/.

4.6.3 Vocalic metaphony among Mixe-Zoque languages

Vocalic metaphony occurs in all Mixe languages to a different extent. AyMi stands out among Mixe languages for two reasons. On the one hand, the process occurs with more vowels than in other languages, and articulation when there is metaphony usually overlaps with another existing vowel.

This phenomenon has also been called vowel umlaut (Wichmann 1995a) in other Mixe languages. I prefer avoiding the term “umlaut” because of its ties to Germanic languages; so vocalic metaphony seems a more neutral term.

AyMi goes further than other South Highlands languages because the vowel shift affects the complete vocalic inventory, except for /i/, whose place of articulation cannot change to a higher or more front position. Even neighboring languages do not have this widespread change, as shown in Table 3.

Dialect ⁸	Changing Vowels	Non-Changing vowels
Tlahuitoltepec (Tl)	æ > e, i > i (unstressed syllables), u > i,	i, e, a, u
Tepantlali (Tp)	æ > e, i > i, a > æ	i, e, o, u
Tepuxtepec (Tu)	æ > e, i > i, u > ui/i, o > oe/e	i, a

Table 3. Metaphony in other South Highlands languages (from Wichmann 1995a).

⁸ There is almost no data from Mixistlán, except that /i/ changes to /e/. In the other cases, Wichmann does not explicitly say which vowels do not change, but I completed the information based on the vocalic inventory he offers.

As one can see, in other South Highlands languages, only three or four vowels change (for Tepuxtepec Mixe), while in AyMi all the vowels change, except for /i/.

On the other hand, in AyMi, except for /ɤ/ in older speakers, the changed vowel always overlaps with another existing vowel. This is not necessarily the case on other Mixe languages. In Mixistlán Mixe (Highlands), for example, the vowel is moved all the way to a fronted position, as in AyMi, but it retains the rounding of the vowel (69). There are no phonological front rounded vowels in AyMi.

69. a) /kɯtpj/ [kyʃpj] ‘avocado’ (Mixistlán Mixe, Highlands)
 b) /nokj/ [nøk^j] ‘paper’ (Mixistlán Mixe, Highlands)

Chapter Five

Phonemic distribution and phonotactic restrictions

In this chapter I will deal in more detail with different phonological phenomena that are more related to phonemic distribution and phonotactic restrictions. In some cases I will discuss the phonemic status of sounds, and whether they are phonemes of their own or rather allophones of other phonemes. In the first two sections, I will discuss two sounds that have a rather restricted distribution: /i/ and /s/. Even though I think that they are indeed separate phonemes, I think it is worth discussing the possibility of their being allophones of other phonemes. Then in §5.3, I will discuss the behavior of unstressed vowels.

In the rest of the chapter, I will treat different phenomena related to syllabic structure. In particular most of the discussion revolves around length and laryngeal features. §5.4 treats the syllabic structure from a comparative perspective and §5.5 deals with some syllabic restrictions. Following that, §5.6 is dedicated to the discussion of laryngeally complex nuclei and to the possibility of a three-way contrast in phonation type: plain vowels, creaky voice and breathy voice. At the end, this hypothesis turns out to be

impossible for Ayutla Mixe due to the coexistence of aspiration and glottal constriction in the same syllable. A different approach is advanced. The next section, §5.7, deals exclusively with aspirated vowels, first, comparing it with the glottal stop and highlighting their differences, and then showing that in spite of many regularities one can find, the aspiration of vowels does not correspond to synchronically productive phonological rules. Finally, in the last section, in §5.8, I explore the correlation between length in the nucleus and lenition in the coda.

5.1 The phonemic status of /s/

Ayutla Mixe has three sibilant sounds: the alveolar fricative /s/, the retroflex fricative /ʂ/, and alveolar affricate /ts/. While /ʂ/ and /ts/ have a widespread distribution and appear in many words, there are only a few morphemes containing /s/ and it has a rather restricted distribution. This alone makes the existence of /s/ as an independent phoneme suspicious. Furthermore, /ts/ has [s] as one of its allophones. Thus, the question arises: what justifies having /s/ as an independent phoneme? First of all, there are a few minimal pairs between /s/ and /ʂ/, which were presented in §3.3.2, and are repeated in (1).

1. /s/ vs. /ʂ/

- a) /hiʔks/ [hiʔks] ‘hiccup!’ vs. /hiʔkʂ/ [hiʔkʂ] ‘eat (vegetables)!’
 b) /jiʂputj/ [jiʂpitʰ] ‘he went to run’ vs. /jisputj/ [jispitʰ] ‘he runs in vain’

Additionally, as will be discussed in this section, /s/ and /ts/ have overlapping distributions, and even though there are no minimal pairs between /s/ and /ts/, one does find near minimal pairs.

The cases where the phoneme /s/ is present are restricted to the following. First of all, there are a few native morphemes that have the alveolar fricative (2). Thanks to these morphemes, which are highly productive, the morpheme /s/ does not seem extremely uncommon. Additionally, there are two other words in which the alveolar fricative appears before the alveolar stop (3) and some other words, not all exemplified here, where the alveolar fricative appears after another consonant (4).

2. a) *ēs-* ‘Motion cum purpose’
b) *kas-* ‘directional’
c) *nas-* ‘directional’
3. a) *mastu'ut* ‘drop’
b) *pestä'äk* ‘garbage’
4. a) *tä'ms* ‘salty’
b) *tsäns* ‘smell of grease’
c) *jë'ks* ‘hiccups’

On these cases, the /s/ cannot be regarded as an allophone of either /ʃ/ or /ts/ for the following reasons. With respect to /ʃ/, there is one monomorphemic word with /s/ that contrast with a word with the alveolar fricative, as presented in (1a). All the other possible minimal pairs or near minimal pairs, one of which is also included in (1b), have the following verbal prefixes: /is/- ‘motion cum purpose’ and /is/- ‘backwards’. These morphemes are further exemplified in (5).

5. a) /jɪsto:kj/ ‘he went to sell’ vs. /jɪʂtamjp/ ‘he spills it’.
 b) /jɪskey/ ‘he went to play (guitar)’ vs. /tɪʂkuhj/ ‘he throws it’.

With respect to /ts/, when it undergoes deaffrication, [s] occurs as one of its allophones. However, it is always possible to say the affricate in an emphatic pronunciation. This is unacceptable for the words in (3). However, the situation is not entirely clear with the words in (4) because some speakers would accept the affricate as an emphatic pronunciation but other speakers would not accept it.

The alveolar fricative /s/ appears in the same distributional contexts as the alveolar affricate /ts/, as shown in (6).

6. a) /tatspɪkp/ ‘it got strong’ vs. /kasputp/ ‘(I/she/he) jumps down’
 b) /tatspɪkp/ ‘it is reinforced’ vs. /naspu²u/ ‘scattered’
 c) /tatsk/ ‘ear’ vs. /nkaskonp/ ‘I put it down’

In the previous examples, /s/ and /ts/ appear in the same contexts. In all those cases, these sounds appear between the vowel /a/ and a plosive, in (6a-b) between /a/ and /p/, and in (6c) between /a/ and /k/. Thus, even though they are not minimal pairs, they constitute enough evidence to consider them different phonemes.

Nonetheless, the alveolar fricative has a characteristic that sets it apart from other consonants: unlike the rest of them, it does not undergo voicing between vowels, as shown in (7).

7. a) /tnasʔu:k/ [θnasu:k] *tnas 'uuk* ‘He drank it’
 b) /jkashipepjp/ [kʰasibi^hpj] *kyasëpijppy* ‘He throws it’

On the other hand, looking at the phonemic chart, the retroflex fricative /ʂ/ seems to have an isolated position: there are no other retroflex sounds in the language. This is due

to the fact that historically this fricative has moved from an alveolar articulation to a retroflex one. Proto-Mixe-Zoque had a voiceless alveolar fricative [**s*] (Wichmann 1995a), but it became a retroflex fricative or a pre-palatal fricative in many Mixe-Zoque languages, particularly in the proper-Mixe sub-branch (Wichmann 1995a; Crawford 1963; Suslak 2005, *inter alia*). Thus, the words that had an alveolar fricative [**s*] in proto-Mixe-Zoque (and that have the same sound in many Zoque languages), have a retroflex fricative /*ʂ*/ in Mixe, as exemplified in (8).¹

8. Ayutla Mixe	proto-Mixe-Zoque	Francisco León Zoque
ʂu ^ʔ uʂ ‘whistle’	<i>*su:sʔ</i>	sus

Thus, historically most [**s*] from pMZ became [*ʂ*] in Ayutla Mixe, except in the few words that still have [*s*].

A consideration from a comparative view is that /*s*/ has been included in the phonemic inventories of other Mixe languages, although it seems that it is marginal in those languages as well. For example, Crawford (1963) includes it in the phonemic inventory of Totontepec Mixe, although Suslak (2005) does not list it as the “core consonants” of this language.

5.2 Palatalization and the phonemic status of /i/

In the previous chapter (§4.1 and particularly §4.6), I discussed the effects that the palatal approximant has on phonology of the language. Here, I raise some issues with respect to the phonological status of /i/.

¹ Proto-Mixe-Zoque example from Wichmann 1995a and Francisco León example from Engel & Engel (1987).

So far, we have seen that vowels change under the influence of a final palatal glide in either of the Aspect-Mood markers, *-yp* ‘neuter independent transitive’ or *-y* ‘neuter dependent’ (§4.6). Furthermore, it has been shown that three vowels, /e, i, u/, are realized as [i] in the context of palatalization and I have argued that the opposition among these phonemes is neutralized in the context of palatalization. Then, one might start to wonder whether /i/ is really an independent phoneme. Additionally, about five sixths of all monomorphemic words containing /i/ (in the last syllable) have a palatal approximant that might have triggered the change from another vowel to [i]. A few examples are shown in (9).

9. a) /miɟj/ [miɟ] *mixy* ‘boy’
 b) /ki:ɟj/ [ki:ɟ] *kiixy* ‘girl’
 c) /kipj/ [kipj] *kipy* ‘stick’

Then, one question arises: what happened historically? Did proto-Mixe-Zoque not have /i/ as part of its phonemic inventory? As it turns out, it did, but high front vowels from pMZ were lowered as part of a historic change, as depicted in Figure 1. As one can see, /*i/ changed to /e/, /*e/ to /a/, and /*a/ to /ʌ/; /i/, /o/ and /u/ remained more or less the same.

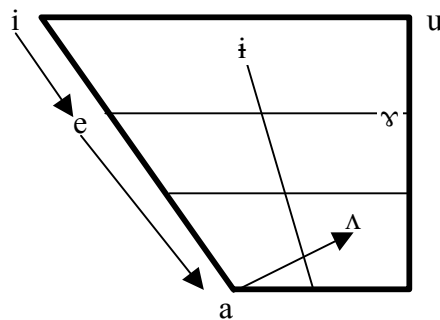


Figure 1. Historical vocalic change from proto-Mixe-Zoque to present Ayutla Mixe

So, if the historical /i/ was lowered, and synchronically three vowels are realized as [i], can one really maintain it as a different phoneme? I think it is still a different one, for the following reasons. As I said, there are a handful of cases in which there is no palatal glide that could justify change, as in (10). So, in these cases it would not be possible to postulate that there is a vowel other than /i/ in the phonological representation, for nothing would justify a fronting.

10. a) /ti:/ *tii* ‘what’
 b) /ni:/ *nii* ‘hot pepper’

Furthermore, even in words where historically there was another vowel it would be hard to argue that the phonological representation does not include an /i/. For example in (9c), /kipj/ ‘stick’, it would be incorrect to say that the phonological representation is */kipj/ because, apart from the historical reconstruction, there is no evidence that would suggest this form in Ayutla Mixe.

One can say, at most, that in some cases the palatal approximant blocked the lowering of front vowels. So, while /ʔet/ (<pMZ */ʔit/) ‘to exist’ changed, /piʃ/(<pOM */piʃj/) ‘cotton’ did not. However, the same can be said of other vowels: while /ha:p/ (<pMZ */he:ʔp/) ‘to scoop’ has a different vowel, /ʔe:mj/ (<pMZ */ʔe:ʔme/) did not undergo lowering.

5.3 Unstressed vowels

5.3.1 Vowel reduction in unstressed vowels

Some vowels in unstressed position tend to lose their contrastive value and become high central vowels. In pre-tonic position, it is possible to see two types of alternation: /a/~i/, and [u]~[i]. On the other hand, in post-tonic position, the only possible vowel is a schwa.

With respect to the first alternation, some words in AyMi may have /a/ or /i/ in a pre-tonic syllable, as shown in (11).

11. a) /atⁱa[?]akⁱ/ or /itⁱa[?]akⁱ/ ‘slowly’
 b) /kaʃi[?]ik/ or /kiʃi[?]ik/ ‘to appear’
 c) /tsa[?]pa^hkʃ/ or /tsi[?]pa^hkʃ / ‘peach’

It is worth emphasizing that in these words the two vowels are not in free variation for the same speaker, but rather a given speaker would use one or the other. Mostly, the variation is among speakers. In addition, the choice of either vowel may seem to be a dialectal variation within the community. However, it seems that in neighboring Mixe languages there has been a change from the central open vowel towards the high central vowel. For example, in Tamazulapam Mixe, the reflexive and the causative prefixes, which are unstressed, have a /i/, not a /a/ as in AyMi (historically these morphemes have /a/).

In the second type of alternation, some words can be pronounced by the same speaker either as having a [u] or having a [i], as in (12). Unlike the /a/~i/ alternation, in this case the same speaker can pronounce the same word either with the high central vowel or with the high back vowel. In fact, for verbs, in many cases the speaker would produce [u] in

the imperative, which is presumably an emphatic pronunciation, but [i̯] in some other conjugations.

12. /kukɨʂ/ [ku.ˈgɨʂ]~[kɨ.ˈgɨʂ] *kukëx* ‘to finish’

Less commonly, it is possible to find the /e/ pronounced as [i̯] in pre-tonic syllables, as in (13).

13. /tehempet/ [tɨhɨm.ˈbet] *tejëmpet* ‘to push back’ (VocF2-285)

In verbs, all post-tonic vowels are /i̯/ (pronounced as a schwa, to be precise), although there are only a few contexts in which this can occur (§3.7). In synchronic terms, there are no phonological processes involved, nor is there alternation of vowels. However, one can imagine that the post-tonic vowel, which is usually produced as schwa, is the result of a lack of contrast. There are only four post-tonic suffixes with a vowel (which is always a schwa): the inchoative, the inverse, the perfect, and the plural marker. The inchoative had a high central vowel in previous stages of the language (pMZ *-ʔij). The /i̯/ in the inverse seems to have had a different history, which I will not discuss here (see Wichmann 1995a for more details). I do not have a good hypothesis as for the origin of the perfect marker -*në* (see §8.3.3); however, it is interesting that the vowel is also a schwa. The plural marker has possibly changed. In AyMi, plural for verbs is -*të*, with a schwa, but in many other Mixe-Zoque languages, it has an /a/ sound, as shown in (14).

14. a) AyMi: -të
 b) Totontepec Mixe: -ta (Suslak 2005:121)
 c) Sotepan Zoque -taʔm (Elson 1960)
 d) Copainalá Zoque -tam (Wonderly 1951)
 e) SMCh Zoque -tam (Johnson 2000)

Thus, it seems that the plural marker in the verb has undergone a reduction in quality, from /a/ to /i/, something similar to what happened to pretonic /a/ in other Mixe languages. In sum, one can detect a tendency of unstressed vowels towards a reduction in contrast, more particularly towards a high central vowel. It is necessary to point out that Totontepec Mixe also has a reduced vocalic system in unstressed vowels.

That the loss of contrast between vowels in unstressed positions should be distinguished from other types of alternation in the pronunciation of words, as in (15), because the alternation between /a/ and /ʌ/ across speakers is not related to unstressed vowels but rather to another type of dialectal variation.²

15. a) /tatsk/ or /tʌtsk/ ‘ear’
 b) /ku:/ or /ko:/ ‘when’

5.3.2 Post-tonic vowels and the epenthesis of the non-consonantal glottal stop

Related to having a schwa in post-tonic position, for many speakers there is a tendency for producing it glottalized. This happens with the four verbal suffixes mentioned in the previous section, which are listed in (16a-d), but also with one enclitic,

² Certainly the variation in these cases is not random and one can see phonological similarities in those vowels.

which appears in (16e). Additionally, and probably related historically, there is one suffix and one enclitic that have a glottalized vowel, as shown in (17).

16. a) $-/i/$ ‘inchoative’
 b) $-/i/$ ‘inverse’
 c) $-/n\ddot{e}/$ ‘perfect’
 d) $-/t\ddot{e}/$ ‘plural’
 e) $=/ik/$ ‘hearsay’
17. a) $-/i^?n/$ ‘first person plural inclusive’
 b) $=/i^?n/$ ‘adjunct marker’

The verbal prefixes and the enclitic are exemplified in (18).

18. a) $/jak^?ejjip/$ [ja.¹ge.ji[?]p] y-ak-ey-ë-yp ‘She prepared it’
 3A-CAUS-good-INCH-INDEP;TR
- b) $/m^?e\text{ʃ}ip/$ [m[?]e.ʃi[?]p] m-ex-ë-p ‘He sees you’
 2O-see-INV-INDEP
- c) $/mts\text{ʌ}knip/$ [m[?]ɬ^hk.ni[?]p] m-tsok-në-jp ‘You already like it’ (A&E-1246)
 2A-want-PERF-INDEP;TR
- d) $/mtuntijp/$ [m[?]dun.di[?]p] m-tun-të-p ‘You did’ (A&E-55)
 2S-do-PL-INDEP
- e) $/hamjik/$ [ha.mj[?]k] jamy=ëk ‘There (it is said)’ (NLA-337)
 DEIC.D=HERASAY

It is not entirely clear to me as to what motivates the change from a plain to a glottalized nucleus, and more research on this is needed.

5.4 Syllabic structure in a comparative perspective

From this section on, I will discuss phenomena that in one way or another are related to the syllable. In this section, I will discuss the syllabic structure from a comparative perspective. First, I will discuss the occurrence of the glottal stop in initial position, and then the existence of a syllabic nucleus with the form $V:?$ in other Mixe languages.

5.4.1 The initial glottal stop

One question that arises in Mixe-Zoque languages (as well as other Mesoamerican languages) is whether the initial glottal stop is part of the phonemic representation of words or whether it is an epenthetic segment that arises in order to preserve the CV(C) structure. Dieterman (2002) has argued that, for Isthmus Mixe, the $ʔV(C)$ structure appears only in emphatic contexts. So, for example, the phrase *ja uk* ‘the dog’ will have the glottal stop only in emphatic contexts.

19. a) Emphatic: [ha.ʔuk] ‘the dog’
 b) Not emphatic: [ha.ʰuk] ‘the dog’ (Dieterman 2002:55)

In AyMi, the situation is different: all roots have a CV(C) structure, and the initial consonant can be a glottal stop. Let us suppose that the glottal stop in (20a) arises as an epenthetic process for preserving the basic CV(C) structure, and that the phonological representation should be /uk/. In such a case, we would not expect it to appear when the first person possessive /n-/ is prefixed, because in that case the nasal would fulfill the onset requirement, i.e. it would preserve the basic CV(V) syllabic structure. Thus, the expected form would be that given in (20b). However, that form is not what is attested and rather what one finds is the nasal plus the glottal stop forming a complex onset, as presented in (20c).

20. a) [ʔuk] ‘dog’
 b) *[nuk] ‘dog’
 c) [n̥ʔuk] ‘dog’

Based on cases like this, where the glottal stop shows up even if a consonant is added, it is possible to say that in AyMi the initial glottal stop is not epenthetic, but rather part of the phonological representation. There is no question that sometimes it is not produced as

23. a) C+onsent
 /j + ?ats + t/ → [(?)jatst] ‘they danced’
 b) C+no-onset
 /j + a + ?ej + j/ → [ja?ej] ‘it got well’

This is not common for Mixe-Zoque languages in general, as there have been reports of phonological mechanisms to avoid a hiatus, such as the insertion of glottal stop between two heterosyllabic vowels, as in (24a) (Herrera 1995). Again, it is possible to claim insertion here because in (24b) there is no glottal stop.

24. Chapultenango Zoque (Adapted from Herrera 1995:179-80)
 a) /tome/ ‘be.close’ + /Vm/ ‘ASPECT’ → [to.me.ʔem]
 b) /jɪhk/ ‘black’ + /Vm/ ‘ASPECT’ → [jɪh.kɪm]

5.4.2 The eighth syllabic nuclei in Mixe languages

In §3.5, it was said that, taking into account length and laryngeal features, there are seven types of syllabic nuclei in Ayutla Mixe. All seven syllabic nuclei are repeated in (25).

- | | | |
|-----|----------------|-------------------------------|
| 25. | Short vowels | Long vowels |
| | V | V: |
| | V ^h | V: ^h |
| | V ^ʔ | V ^ʔ V |
| | | V ^ʔ V ^h |

In addition, there is another syllabic nucleus (V:^ʔ) that is common in other Mixe languages, as shown in (26), and that has been reconstructed for the proto-language, but it does not appear as such in Ayutla Mixe.

26. a) Totontepec Mixe: ʔu:ʔk ‘death’ (Suslak 2005:112)³
 b) Tlahuitoltepec Mixe: ʂu:ʔkʂ ‘hummingbird’ (Lyon 1980:31)

³ In fact, Totontepec Mixe has the full repertory of syllabic nuclei: V, V:, V^ʔV, V:^ʔ, V^ʔ, V^h, V:^h, V^ʔV^h (see Crawford 1963; Schoenhals & Schoenhals 1965).

In many words, nuclei with this form in previous states of the language were reduced to plain long vowels in AyMi, as shown in (27). In a few other cases, the long vowel plus glottal stop was resolved in a different way, as a rearticulated vowel, as shown in (28). It seems possible that these changes in AyMi happened relatively recently since other Mixe languages still have this type of nucleus.

27.	proto-form *pi:ʔt-i	Totontepec Mixe pi:ʔt	Ayutla Mixe pi:tʰ	‘thread’
28.	proto-form *tu:ʔ	Tlahuitoltepec Mixe tu:ʔ	Ayutla Mixe tuʔu	‘path, road’

Even though verbs will be discussed at length in chapter 8, one class of verbs exhibit interesting behavior that can shed some light on syllable structure. These verbs have a long vowel in some conjugations but have a glottal stop in other conjugations: for example, in the imperative they have a long vowel, in the neutral independent they have a short vowel followed by a glottal stop, and in the completive form they have a rearticulated vowel, as shown in (29). For all these verbs, a nucleus with a long vowel and a glottal stop has been reconstructed at a previous stage (Wichmann 1995a).

29. [ka:p] imperative vs. [kjeʔpj] neutral independent vs. [kjaʔaʰp] completive
(from < pMZ *ke:ʔp) ‘cut with scissors’

One explanation for the presence of the glottal stop in combination with a short vowel in some cases but a long vowel without the glottal stop in other cases, and a rearticulated vowel in still other cases is that there was a restriction in AyMi that did not allow long vowels with a glottal stop, as in (30). Then, due to other morphophonological processes, the V:ʔ type of nucleus was modified in different directions producing the already mentioned results.

30. *V:²

There is an exception to the previous generalization. In a handful of the verbs, there seems to be a long vowel followed by a glottal stop. In these cases the vowel is not as long as other long vowels but rather it seems to have a mid length. Since long aspirated vowels also have a shorter duration than non-aspirated long vowels, it would not be surprising if something similar happens in the cases at hand. There is another acoustic clue for saying that it is not a short vowel, even if it does not sound as long as other long vowels. In the case of V², there is rising intonation, but when the nucleus is V² there is falling intonation. This complex nucleus appears exclusively in the completive conjugation of fewer than five verbs (the completive in AyMi is characterized by a change in the verb stem; see §8.3.11), and it is exemplified in (31).

31. a) [tʰ:²kʂ] ‘it shone’
 b) [pʰ:²kʂ] ‘he rested’

This nucleus is never present in the verb stem without any morphological interaction, i.e. in other conjugations, nor is it found in any noun (or any other word class, for that matter). Thus, given this, I will not consider it as an eighth type of syllabic nucleus.⁴

5.5 Syllabic restrictions

5.5.1 Syllabic nuclei in open syllables

In Ayutla Mixe, there are no words that end in a short vowel, as schematized in (32).⁵

32. *CV]w

⁴ There is another exception. It is possible to find this nucleus in one case as a result of a deletion process, as shown below, where the aspiration disappears: V: + V²V → V + V² → V:².

i) /ta:≠/ha²a/ → [ta:²]

DEIC.M=DEM.D

⁵ Clitics seem to be exceptions to this generalization.

One can find open syllables with long vowels, but not their counterparts with short syllables, as illustrated in (33). This implies, of course, that there are no monosyllabic words with the form CV, CV[?], or CV^h.

33. a) [ʃe:] ‘there’ vs. *[ʃe]
 b) [ka[?]a] ‘type of caterpillar’ vs. *[ka[?]]
 c) [ni:^h] ‘water’ vs. *[ni^h]

From this, one would suppose that all syllables in Mixe should have at least two moras, and that is the reason why words like *[ʃe] are not attested. However, it is possible to find syllables with the form CV as long as there is another syllable following them, i.e. word internally (34).

34. a) [ha.¹βɣm] ‘tomorrow’
 b) [n[?]Λ.kəp] ‘it flattens’

One can reformulate the claim now and say that word final syllables must be heavy (i.e., they should have at least two moras).

It is possible to find monosyllabic words, defined syntactically, with short vowels in open syllables, as in (35a), but they form a single phonological word with the following word, and thus the open syllable is not word final. Notice that if the word is not realized as part of another phonological word, but on its own, then it needs to be produced with a long vowel (35b).

35. a) /ti = jniksj/ [ti.¹ji^hkʃ]_ω tēē nyijkxy ‘He went’ (Efa1-695)
 b) /ti/ [ti:]_ω tēē ‘Already’

When one combines the information of the types of nucleus with the restrictions over open syllables, then one gets the description presented in (36)-(37). In those

schematizations, the consonant could be a simple onset/coda or a complex one. The restrictions for them will be outlined in the following subsections.

36.	Short vowels	Long vowels
	*CV	CV:
	*CV ^h	CV: ^h
	*CV [?]	CV [?] V
		*CV [?] V ^h
37.	Short vowels	Long vowels
	CVC	CV:C
	CV ^h C	CV: ^h C
	CV [?] C	CV [?] VC
		CV [?] V ^h C

5.5.2 Approximants in coda

In this section I will discuss why the approximants /j, w/ appear as codas, and not as part of diphthongs. First of all, it was said above that AyMi does not allow open light syllables in final position with a short vowel, as shown in (38a). But closed syllables can have short vowels, as in (38b). When a word ends in an approximant, it can have a short vowel as in (38c-d), just as is the case with any other consonant.

38. a) [ku:] / *[ku] ‘when’
 b) [nʌn] ‘mom’
 c) [hij] ‘buy!’
 d) [jʌw] ‘feel!’

The sequence of a palatal approximant and another consonant always undergoes metathesis, schematized in (39), causing the palatal glide to be part of a complex coda (or a complex onset, for that matter). We would not expect this for a diphthong because two elements of a complex nucleus cannot be separated by a consonant.

39. jC → Cj

There is a phonotactic restriction worth mentioning: there are only two morphemes in AyMi ending in /w/. One of them is *jäw* ‘to feel’, which is a component in several verbs whose meanings are related to ‘to know’. So, even though /w/ in coda position seems a little less infrequent when one looks at the lexicon, most of those words have the same origin. Notice that diachronically, a historical final /w/ was deleted from several words, as in /pe:/ ‘pick up’ from pMZ *piw (Wichmann 1995a), and this is one reason why this sound is rarely found in codas in AyMi.⁶ Perhaps it is worth pointing out that this seems something peculiar from AyMi, because other Mixe languages have /w/ in the coda (40), even if it is not in absolute final position (compare (41a) and (41b)).⁷

40. a) Alotepec Mixe: [how] ‘fly’ (Reyes *in preparation*)
 b) Totontepec Mixe: [ɬaw]⁸ ‘waterfall’ (adapted from Crawford 1963:43)
 c) Isthmus Mixe: [mi.ˈdow] ‘listen!’ (Dieterman 2002:21)
 d) Ayutla Mixe: [mi.ˈdʷ:] ‘listen!’
41. a) Ayutla Mixe: [kʌˀʌk] ‘mamey’ (*Pouteria sapota*) vs.
 b) Alotepec Mixe: [kʌˀʌwk] ‘mamey’ (Reyes 2008:58)

Perhaps this is a rather recent change, not only because neighboring languages have /w/ in the coda, such as Tlahuitoltepec Mixe, but also because sometimes elder speakers that are not from the main town in Ayutla do have final /w/, as shown in (42). As far as I

⁶ Perhaps a more accurate representation of the process would be: w]_{word} → V]_{word}, where the final approximant is replaced by a vowel having the same quality as the preceding.

⁷ Wichmann (1995a) reports that in Tepantlali and Tepuxtepec Mixe /w/ is deleted before a pause and before /p/. However, it is only allophonic variation, and thus morphemic final /w/ is present in other contexts.

⁸ It is fair to say that in Totontepec Mixe [w] is one of the allophones of /v/. However, /v/ in Totontepec Mixe is cognate with what is /w/ in most Mixe languages.

have been able to observe, this only happens in a few words and with a few elder speakers,

42. a) Elder speaker: [ʔΛw] ‘mouth’
 b) Most common pronunciation: [ʔΛ:] ‘mouth’

5.5.3 Origin of some complex codas

Most monomorphemic consonant clusters have emerged from syllabic reduction. In some cases, the final vowel was dropped, changing a two syllabic word [...VC.CV]₀ into a monosyllabic word with a CC complex coda (43a). In other cases, a post-tonic vowel between consonants [...V.CVC]₀ was dropped, so that the cluster emerged (43b).

However, some of consonant clusters are believed to have occurred in proto-Mixe-Zoque (Wichmann 1995a), particularly *-ps and *-ks, as in (43c).

43. a) pMZ *ʔaksa > AyMi /ʔΛ^hkʂ/ ‘fish’
 b) pM *wɑ:ʂuk > AyMi /wΛʂk/ ‘sugar cane’
 c) pMZ *ʔiks > AyMi /ʔi^hkʂ/ ‘to take the corn off the cob’

5.5.4 A possible explanation to a three-way length contrast

As a last point in this section, there have been reports of a three-way contrastive system in length in other Mixe languages, particularly for Coatlán Mixe (Hoogshagen 1959). This contrast seems suspicious since it might seem that an alleged mid-length could be better explained as an underlying aspiration (Wichmann 1995a). Indeed, many of the words presented by Hoogshagen as having a mid length are long vowels with an aspiration in AyMi.

44. Ayutla Mixe	Coatlán Mixe	
po: ^h ʃ	poʂ	‘spider’
tsu: ^h k	tsuʔk	‘mouse, rat’

An apparently similar phenomenon has been reported in a neighboring community, in Tamazulapam (Arellanes, p.c.). However, this has not been further examined and it is not possible to know whether there is a three way phonological contrast in length or it is the result of other processes.⁹

5.6 Laryngeally complex vowels

It has been pointed out before that syllabic nuclei can be laryngeally complex, i.e. they can be aspirated or glottalized. The number of those nuclei varies among Mixe-Zoque languages, but all have them. However, their phonetic and phonological status is rather obscure in most accounts.

In some studies, their presence is accounted for in the description of the type of syllables, mainly in a way similar to the way I described syllabic nuclei in (37) above, but no more information is provided (Johnson 2000, Reyes 2009, Engel & Engel 1987, Schoenhals & Schoenhals 1965, *inter alia*). In some cases, this view assumes that the glottal element or the aspiration towards the end of the vowel is part of the nucleus, but in a few cases even this is not entirely clear. The most dissimilar views of this matter are expressed by Dieterman (2002) for Isthmus Mixe and by Herrera (1995) for Chapultenango Zoque. On the one hand, Dieterman treats rearticulated vowels and aspirated vowels as different phonation types, i.e. as creaky voice and breathy voice, respectively, forming a three-way system along with modal voice (a similar position is expressed by Jany 2006). On the other hand, Herrera (1995) treats post-nuclear /ʔ/ and /h/

⁹ It is worth pointing out that some words with a long aspirated vowel seem to have a vowel that might seem longer than a short vowel but shorter than a long vowel. In other words, they might seem to have a vowel with a medium length. This is the case for words like /ni:^h/ [ni:^h] ‘water’. However, as pointed out, this happens only with words with a long aspirated vowel, and there are no minimal pairs.

as any other consonant in coda position, and thus sequences like Vʔ and Vh will have the form VC.¹⁰

Certainly the status of post-vocalic glottal stop and aspiration may vary considerably among Mixe-Zoque languages, but it is also likely that there is a lack of a proper treatment of them. A thorough study of this matter goes way beyond the scope of a grammar, but I find it imperative to express some considerations on this.

5.6.1 Phonetic realization and a possible contrast in phonation type

I will present now the phonetic realization of laryngeally complex nuclei. As is known, laryngeal and supralaryngeal gestures are articulatorily independent; they can coincide or not. The question that I will try to answer is whether one should consider the vowel and the glottal sound as overlapping gestures (in which case there would be a contrast on phonation in the vowel system) or as sequential gestures that may sometimes overlap.

The best way to describe Vʔ is as a short vowel followed by a glottal constriction and VʔV as long vowels with a glottal constriction in the middle of it. In most cases, this glottal constriction is considerably different from the syllable-initial glottal stop, which has a total constriction of the glottis (although it can also be deleted).

¹⁰ Crawford (1963) has a position that might seem a solution between the position by Dieterman (2002) and Herrera (1995). For him, /ʔ/ and /h/ are indeed phonemes but they belong to a sub-emic class that is different from vowels and consonants. Thus, for him there are three main emic classes, vowels, consonants and length, and in addition there is the sub-emic class of glottals (/ʔ/ and /h/). Although this characterization of phonemes is rather unusual now, the important part is that the function of this sub-emic class is to expand syllabic nuclei.

I will explain first the cases of short vowels checked by a glottal stop (which will be called just glottalized vowels). There are mostly two different types of realizations, as a full glottal stop (45a-b) or as creaky voice (45c-d).^{11 12}

- | | | | |
|--------|-------------------------------------|---|---|
| 45. a) | /pu ^ʔ ts/ | [pu ^ʔ ts] | ‘yellow’ |
| b) | /tiki ^ʔ pʂj/ | [ti. ^ʔ yi ^ʔ pʂ] | ‘sixty’ |
| c) | /ka ^ʔ t/ | [k ^ʔ at] | ‘no’ |
| d) | /jmitu ^ʔ nt/ | [mj ⁱ ð ^ʔ unt] | ‘(he) works for him’ (irrealis dependent) |
| e) | /jh ^ʔ Λ ^ʔ tn/ | [x ^ʔ j ^ʔ Λ ^ʔ t ^ʔ n] | ‘(he) arrived’ (irrealis dependent) |

When there is a complete glottal closure, the vowel may or may not have creaky voice. I do not have a quantitative analysis, but after looking at a considerable number of spectrograms I think that in most cases there is creakiness in the vowel. When there is no complete glottal closure, the glottal stop is reflected as creaky voice. In this case the creakiness usually affects the whole vowel, not only part of it, as in [k^ʔat] in (45c). What is interesting in many cases, particularly with nasals, is that the creaky voice is not limited to the vowel, but it also affects the consonant, as in [mjⁱð^ʔunt] in (45d). Furthermore, sometimes the creaky voice can even affect the nasal release of a consonant, as in [x^ʔj^ʔΛ^ʔt^ʔn] in (45e). This is important for one reason: the state of the glottis in which the arytenoid cartilages are tight together is relevant not only for vowels, but for all sonorants next to them.

In the case of rearticulated vowels one could say that there is a continuum in the degree of the glottal constriction. However, it is possible to distinguish four different

¹¹ In addition, there are a few cases in which the glottal stop seems to be deleted and the consonant becomes a sort of geminate, although the first part is voiced.

i) /j^ʔani^ʔkʂinj/ [ja.^ʔniq.kʂi^ʔŋj] ‘(she) was tired’

¹² See Spectrograms 1-3, Appendix A, for examples (45a,b,e).

cases: *i*) there is total constriction of the glottis with rearticulation of the vowel, exemplified in (46a); *ii*) there is total constriction but there is no actual rearticulation of the vowel (with the same vocalic quality), there is only a release of the glottal stop, as in (46b); *iii*) there is no occlusion of the glottis, but there is an intermediate creaky voice, with the initial and final segment of the vowel with modal voice, as in (46c); *iv*) the creaky voice occurs in about two thirds of the vowel, as exemplified in (46d). As one might expect, there is a lot of variation within and across speakers. Nonetheless, the first case corresponds to careful speech and the last one to casual speech at a fast rate.

46. a) /ʔʌnmihʔʌn/ [ʔʌn.mi.'hʌ_ʔʌŋ]¹³ ‘thought’¹⁴
 b) /puʔuts/ [puʔʊts] ‘acne, sore’
 c) /ukanʔʌn/ [ʔu.ʉʷa.'nʌʔʌŋ] ‘say!’
 d) /hatuʔuk/ [ha.'ðʊ_ʔk] ‘another’

As stated, in (46a) [ʔʌn.mi.'hʌ_ʔʌŋ] there is a total closure of the glottis. Then, the outer part of the vowel has modal voice and the parts closer to the glottal closure are partially creaked. Nonetheless, the glottal pulses are twice as long as in modal voice (10.7 ms vs. 5.2 msec, respectively). The second case, [puʔʊts] in (46b), is rather interesting. As in the first case, there is a glottal closure, but there is no actual rearticulation: after the glottal stop there is only a space that seems to correspond to the release of the glottal stop. I use the symbol [ʊ] because I lack a better way of representing this. In cases like this, it is very common to see modal voice through all of the first part of the vowel, with a barely noticeable creakiness. One may wonder whether in this case there really is rearticulation or just a glottalized vowel, but compare (46b) with the examples in (45). The third case,

¹³ When the diacritic is not directly under the vowel it represents partial creakiness.

¹⁴ See Spectrograms 4-7, Appendix A, for examples (46a-d).

[ʔu.ɯɑ.ˈnʌʌʌŋ] in (46c), represents a very common realization of the rearticulated vowels. One can see three different states, and the middle one has creaky voice (creaky voice cycle of 8.6 msec vs. modal voice of 3.5 msec). In the last case, [ha.ˈðũy.k̤] in (46d), one could divide the vowel in three parts and only the first third has modal voice while the other two thirds have creaky voice.

An important point here is that usually the first part of the vowel has modal voice. In other words, there are usually at least two states of the glottis, one that produces modal voice and another one with glottal constriction. In many cases, there is a third state with modal voice again.

It is worth pointing out that phonetically the consonantal and the non-consonantal glottal stop behave similarly with respect of the creakiness of the nucleus. When a word begins with glottal stop and a consonant is prefixed, then the glottal stop may cause creaky voice in following vowel (in which case it almost always disappears).

47. /ʂʔatsɣʔɣt/ [ʂɑ.ˈdʒɣʔɣt] ‘You answer to me’ (irrealis)¹⁵

In addition, sometimes the glottal stop assimilates its point of articulation to the previous consonant, but keeping creaky voice.

48. /tʌ:k.ˈʔʌtp/ [tʌ:ggʌ^ht^hp^h] ‘I/(s)he feels envy’

The third case of laryngealization involves aspirated vowels. As mentioned previously, Dieterman (2002) and Jany (2006) consider this phenomenon as breathy voice. Below I present two examples.

¹⁵ See Spectrograms 8, Appendix A, for example (47).

49. a) /putp/ [pǔʔtp] ‘(he) runs’
 b) /tsukp/ [tsǔʔ^hkp] ‘(he) chops’

As one can see, in these cases the first part of the vowel has modal voice, followed by an optional transition, and finally the last part has breathy voice. Usually, the last part looks like an aspiration but with the same quality as the vowel and one can see the formants there. In some cases, as in [pǔʔtp], it is very clear that the last part is a vowel with breathy voice, and one observes harmonic waves throughout the vowel. In other cases, as in [tsǔʔ^hkp], there is clearly an aperiodic noise towards the right end of the nucleus.

In addition to aspirated nucleus, a relatively similar sound, the glottal fricative /h/ is part of onsets and codas. This sound was included in the inventory of consonants in the previous chapter. Even though phonetically /^h/ and /h/ are somewhat similar, the main difference between an aspirated nucleus, i.e. a V^h, and glottal fricative in coda position, i.e. the sequence Vh, is that in the latter is longer as there is a more intense airflow. Additionally, as discussed in §5.7, when there is an aspirated vowel, the portion with modal voice is shorter and there is a clear transition into the breathy portion of the vowel. On the contrary, when /h/ is a consonant in a coda position, there is a more or less abrupt change from the vowel into the consonant, at least in careful speech.¹⁶

There is another syllabic nucleus that combines both the glottal constriction and the aspiration, which is the one that has the form V^ʔV^h. The phonetic realization of this nucleus is somewhat like the combination of what was described for rearticulated and for aspirated nuclei, as shown in (50).

¹⁶ A similar situation has been described by Jany (2006) for Chuxnaban Mixe (Midland Mixe).

50. a) /ntsi^ʔi^hkɪp/ [ntsɿ^hki^ʔp^h] *ntsë'ëjkëp* 'I am afraid of it' (A&E-1035)
 b) /jɬ^ʔɬ^htj/ [ç^ʔɬ^htʃ] *jyä'äyty* 'he arrived' (Aur2-948)

In the previous examples we can divide the vowel again into three portions. The first portion of the vowel is produced with modal voice while the second and part of the third portion have usually a clear creakiness. Usually the middle portion has more creakiness with longer pulses, than the last portion. Additionally, there is a clear, though short, aspiration towards the end of the nucleus.

As summary, it was shown that usually the laryngeal gesture does not overlap completely throughout the whole nucleus. In fact, in some cases there is little or no overlapping, as in emphatic pronunciations of a rearticulated vowel. Furthermore, both the construction of the glottis and an aspiration can coexist in the same nucleus.

5.6.2 Phonological considerations

In the previous section I discussed the phonetic realization of glottalized and aspirated vowels or nucleus, namely nuclei that are represented with /V^ʔ/ and /V^h/. I assumed that they are indeed part of the syllabic nucleus, and not consonants, but did not present phonological evidence. Here, I will discuss their phonological status.

First or all, AyMi does not allow words to end in short vowels in an open syllable, schematized as *CV]_w. However, it is possible to find short vowels in final position in closed syllables (51). If the postvocalic glottal stop were a consonant, it would be possible to find the sequence CVʔ, but, as said, this is not found in the language (52). In other words, since the glottal stop is not a consonant, it cannot close a short vowel.

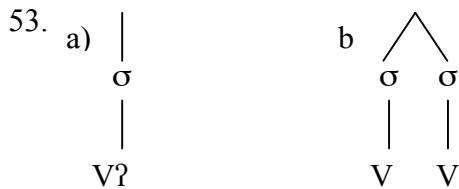
51. a) [ʔa.nɪn] 'jowl'
 b) [ʔa'.bɬk^h] 'loner'

c) [tʌkʰ] ‘bald’

52. a) [pʁʲʁ] ‘moon’ vs. *[pʁʲ]

b) [kaʲa] ‘type of caterpillar’ vs. *[kaʲ]

Regarding rearticulated vowels, the glottal stop does not divide the sequence into two different syllables, but rather they are tautosyllabic, forming a complex nucleus, as depicted in (53).



In addition to the native speaker’s intuition,¹⁷ there is more evidence for saying that they are a single syllable. First, there is the obvious fact that the complete sequence always has the same vocalic quality, which should not necessarily be the case if it contained two syllables. In addition, often times the vowel in a verb undergoes vocalic metaphony when there is a palatal approximant in the coda (see §4.6). This change affects only one syllable, and in rearticulated syllables the entire vowel changes, before and after the glottal constraint. This can be seen in (54).

54. a) /jkʰitʌʲʌkj/ [kʰi.ʰdaʲakʰ] *kyëta’aky* ‘he climbed down’

b) *[kʰi.ʰdʌʲakʰ]

If the nucleus VʲV had two different segments with the same quality, interrupted by another segment, then one would expect that the regressive assimilation that produces the vocalic metaphony would end at the glottal stop. This, however, is not the case, as (54b) is never attested.

¹⁷ Even though it is difficult to test syllables, if one asks speakers to clap or to hum when there is a syllable, they would clap or hum only once for rearticulated vowels.

In addition, long vowels cause weakening of the following vowel. If a V²V sequence contained two syllables, each with a short vowel, one would not expect weakening of the consonant, but a fortis coda, marked for convenience in (55) as [k[•]], as happens in (56). However, the consonant following a rearticulated vowel also undergoes lenition, and it should be considered as single syllable with a long vowel.

55. a)	/pʌ ² ʌk/	[pʌ ² ʌk [•]]	<i>pä'äk</i>	'sweet'
b)		*[pʌ ² ʌk [•]]		
56.	/tʌk/	[tʌk [•]]	<i>täk</i>	'bald'

In sum, the fact that the non-consonantal glottal stop does not interrupt the syllable, that the metaphony affects the whole sequence, and finally that a rearticulated vowel triggers a lenis consonant in the coda show that the whole V²V nucleus should be considered as a single segment.

The case of the aspirated vowels is slightly more complicated. As previously stated, it is possible to argue that in Mixe there are two similar sounds: one, represented as /h/ is a consonant, and another one, represented as /^h/, is part of the nucleus. Unlike the glottal stop, though, both sounds can appear after a vowel, although only the former type belongs to the coda while the latter forms a complex nucleus. Even though there are no minimal pairs, they have different phonetic and phonological patterns. In phonetic terms the consonantal /h/ has a longer duration, while /V^h/ usually shortens the vowel. In addition, the consonantal /h/ can be resyllabified, while the other cannot. This is all discussed in more detail in the §5.7.

5.6.3 Discussion

There are two main alternatives for the phenomenon observed in this section: that they are laryngeal features, but not separate phonemes, or that /^ʔ/ and /^h/ are segmental. So far, I have provided enough evidence that they are not independent segments but rather form a complex nucleus with a vowel. On the other hand, if they are not segmental, it is possible to think two further alternatives, that the laryngeal features are associated to the segment or rather that it is part of a syllabic template (or more precisely, a template in the nucleus).

When talking about laryngeal features, a three-way contrast in phonation types (modal, creaky and breathy voice) comes to mind. In this case, the laryngeal features are linked to the segment. Ladefoged and Maddieson (1996) have observed that often glottal stops do not have a complete closure and have suggested that in some languages, such as in Huautla Mazatec, the glottal stop functions as a variation in the phonation type. Going a little bit further, some people consider that creaky voice is sometimes realized as a complete glottal closure and that both creaky and breathy voice should not necessarily affect the entire vowel (Dieterman 2002 for Mixe; Avelino 2004 for Zapotec). Indeed, the spectrograms shown in Avelino 2004 present data very similar to the situation in AyMi, i.e. from cases in which there is a clear glottal obstruction to cases in which there is only creakiness in the last part of the vowel. In addition, Dieterman (2002) admits that phonetically what she calls breathy voice can be considered as a vowel followed by an aspiration. However, her main reason for calling it breathy voice is to avoid considering /^h/ a consonant.

In principle, I would agree that in most cases /ʔ/ and /h/ function as different phonation types (along with plain vowels). In fact, one could argue that the fact that sometimes the glottal stop has a complete closure does not preclude it from being a phonation type, and that creaky and breathy voice are just cover terms for a wide variety of phenomena. However, a problem arises when one considers all seven syllabic nuclei in AyM, and in particular the one with the form VʔV^h. If there were a three-way contrast in phonation, where one type excludes the other two, one would not expect a single nucleus with both creaky and breathy voice. On the contrary, it would seem rather impossible (*cf.* Kehrein & Golston 2004). In other words, whatever the status of /ʔ/ and /h/ in AyMi is, they cannot be mutually exclusive. For this reason, I do not think that aspirated nucleus should be considered as having breathy voice. Thus, although having modal voice excludes laryngealization, having a laryngeal feature does not exclude having the other one.

One possible alternative analysis can be advanced here.¹⁸ First, one has to consider all seven syllabic nuclei, i.e. laryngeal feature and length, as part of the same phenomenon. As previously mentioned, one possibility is to think of laryngeal features as phonation types and as such they are linked to the segment itself (usually they are considered part of the laryngeal node). However, length is usually not part of the root tier (see Clements and Hume 1995) and the reference therein). But it turns out that in AyMi laryngeal features cannot be part of the root tier (and specifically of the laryngeal node) because aspiration and glottal constriction can coexist in the same syllable. What if both length and laryngeal features are part of the same phenomenon in AyMi? One solution is to say that

¹⁸ I would like to thank Elena Aguilar for suggesting this possibility and sharing her insights in this matter.

they are part of what I will call here, lacking a better term, a syllabic template, more specifically a template for the nucleus. Then, a given vowel, let us say /a/, can appear in all seven templates as /a/, /a^h/, /a^ʔ/, /a:/, /a^ʔa/, /a:/ and /a^ʔa^h/. In other words, they are suprasegmental features linked directly to the nucleus.

One of the consequences of this analysis is the following. If one thinks that laryngeal features and length are associated to the segment, then in AyMi there are 49 vowels, a rather unusually large inventory of vowels. On the other hand, if one considers that length and laryngeal features are linked to the syllabic nucleus, there are only seven vowels in AyMi, plus seven templates for the syllabic nucleus.

Of course, such an analysis would still need to be formulated in detail, paying more attention to its theoretical consequences, which I cannot offer here. However, I find it suggestive as a plausible solution to laryngeally complex nuclei in AyMi.

5.7 Two similar, but different, cases

As previously stated, there are two somewhat phonetically similar cases in Ayutla Mixe: an aspirated vowel, where the aspiration is part of the vowel, and a plain vowel followed by the fricative glottal stop. In the previous section, I discussed complex nuclei. In this section I will discuss the difference between the aspiration [h] and the glottal fricative [h̥]; in particular, I want to summarize and emphasize the differences in their phonetic realization and their phonological behavior. In addition, I will discuss why there seem to be much regularity with respect to aspirated vowels but still, synchronically, there is no phonological process involved.

There are legitimate reasons for making a distinction between the aspirated part of a vowel and the glottal fricative. First of all, they are phonetically different. The glottal fricative is significantly longer than the non-consonantal. This difference is particularly salient after short syllables. The modal part of a vowel becomes rather short when the vowel is aspirated but this does not happen in the case of the glottal fricative. In fact, when the vowel is aspirated there is no abrupt transition between the vowel and the aspiration, and in some cases it is really hard to tell the difference between the aspiration and the vowel itself. With the glottal fricative, on the other hand, there is a clearer difference.

In addition to the phonetic realization, the glottal fricative blocks the vocalic metaphony described in §4.6, as shown in (57), at least when the previous vowel is not a front vowel.¹⁹ On the other hand, the aspiration in a vowel does not block this process, as shown in (58).

57. a)	/tkuhj/	[tʰkuhj]	tkuɟy	‘(S/he) shoots’ (EAsp-F)
b)	/jkʌhj/	[kjʌhj]	kyäɟy	‘(it) got stuck’ (EAsp-F)
58. a)	/nniʰkʂj/	[niʰkʂ]	nnijxɟy	‘(I) go’
b)	/nmʌtsjp/	[n̥maʰtʃpj]	nmajtsypɟy	‘(I) am grasping (it)’ (EAsp-F)

Regarding the glottal fricative, it behaves as any other consonant in a coda followed by a vowel: it becomes the onset of the following syllable. Certainly, one would not expect an aspiration that is part of the nucleus to be resyllabified, because it would not be possible to separate it from the vowel.

¹⁹ The glottal fricative does not block the metaphony when it is preceded by a front vowel. In this case, the fricative undergoes assimilation from both the previous front vowel and the palatal approximant that follows it. If the previous vowel is /e, a/, then the aspiration becomes a prevelar fricative; if the previous vowel is /i/, then it becomes a palatal fricative.

59. a) /kʌh+a/ [ˈkʌ.xa] ‘jaguar?’
 b) /kʌk+a/ [ˈkʌ.ka] ‘basket?’

The glottal fricative also behaves like other consonants in combination with long vowels. In the previous chapter it was said that consonants undergo lenition after a long vowel (60a), and they remain fortis before a short vowel (60b).

60. a) /tsu:h/ [tsu:h̥] ‘afternoon/evening’
 b) /tsuh/ [tsuh] ‘beautiful’

Finally, as described in §3.2.3.4, the glottal fricative becomes a velar fricative between two open vowels. This is exemplified below but it is also illustrated in the example in (61).

61. /hʌha/ [ˈhʌ.xa] *jäja?* ‘itching?’

Taking into account the combination of the aspiration [ʰ] and the glottal fricative [h] and length, it is possible to find all four possibilities, as shown in (62).²⁰

62. a) /pu^htp/ [pʰt^hp^h] *pujtp* ‘s/he runs’
 b) /ni:^h/ [ni:^h] *nëäj* ‘water’
 c) /tuh/ [tuh] *tuj* ‘type of basket’
 d) /tu:h/ [tu:h̥] *tuuj* ‘rain’

Since there are no CV]ₐ words in AyMi, a short aspirated vowel cannot occur in final open syllables, but always in closed syllables, as in (62a). On the other hand, in this examples one can see clearly what was mentioned before: the realization of the (modal part of the) vowel is shorter when there is an aspiration [ʰ] than when there is a glottal fricative /h/. Finally, in an spectrogram, the aspiration [ʰ] is clearly shorter than the glottal fricative /h/.

²⁰ See Spectrograms 11-13, Appendix A, for examples (62a-d).

5.7.1 Non-productive aspiration rules

As for the aspirated nucleus, it is lexical in some cases and in some cases it is the result of a morphological interaction. In most of the cases in which it is lexical, it is the result of no longer productive (morpho-)phonological rules, and for this reason one can find many regularities; nonetheless, there are also many exceptions. I will explain in which cases the aspiration of the vowel is the result of productive rules and in which cases, despite the patterns, it is part of the lexical representation.

As just pointed out above, a short aspirated nucleus never occurs in an open syllable, but there must be a consonant that closes the syllable. Partially because of this, but also from evidence in other Mixe languages (Suslak 2005), one might suspect that historically all the cases of aspiration of vowels is the result of phonological rules. Let us now see some cases.

First of all, many nouns have an aspirated nucleus, as in (63). One can suppose that there is a historical rule according to which all obstruents were preaspirated in final position. Apparently, in Totontepec Mixe the rule is still active (Suslak 2005:106).

63. a) /ti:^hk/ [ti:^hk] *tëjk* ‘house’
 b) /ku:^hp/ [ku:^hp] *kujp* ‘thorn’

In some cases, this rule seems to be still active, since the aspiration disappears when the consonant is not in final position, for example when the noun forms a compound, as shown in (64).

64. a) /ti:^hk + hintum/ [ti.gin.^ldum] *tëjkëntum* ‘in front of the house’
 b) /ti:^hk + xtpj/ [ti.ge^ht^jpj] *tëkejtypy* ‘inside the house’

Despite these examples, I think that the aspirated vowel is part of the lexical representation because some nouns ending in an obstruent do not have aspiration, as

those in (65). As for the change from an aspirated vowel to a modal vowel in cases like (64), I am under the impression that it happens only with nouns with a high frequency, but not with all of them: as shown in (66), the noun *käjp* ‘town’ preserves the aspiration. More research is needed in this matter.

65. a)	/wi:k/	[wi:k]	wëk	‘wasp’
b)	/ʔap/	[ʔap]	ap	‘shadow’
66.	/kΛ ^h p + ʔtpj /	[kΛ ^h pʔ ^h tp]	käjpɔjtp	‘in town’

There is probably a related phonological rule, according to which the nucleus is aspirated when there is an obstruent before a consonant cluster. This can be schematized as in (67). As one can see in (68), since the rule applied only to obstruents, there is no aspiration before nasals. This general rule is reflected in verbs with CVC-ending stems.

Again, it seems that in Totontepec Mixe the rule still operates (Suslak 2005:106).

67. $V \rightarrow V^h / _ C_{[+OBSTR]}C$

68. a)	/put+p/	[pu ^h t ^h p ^h]	pujtp	‘(S/he) runs’
b)	/tΛm+p/	[tΛmp]	tämp	‘(S/he) stays’

Such a historical rule would explain why all CV^hC_ɕ words are aspirated, as the one in (69).

69.	/kΛ ^h pɕ/	[kΛ ^h pɕ]	käjpx	‘speak!’ (imperative)
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Synchronically, however, this conditioning only occurs morphologically, because when the consonant cluster is due to a different morpheme, there is no aspiration of the nucleus. In the examples below, the final *-t* represents the irrealis AM suffix and it does not trigger an aspirated nucleus.

70. a) /j-hak-t/ [çjakt] *hakt* ‘time goes by’ (irrealis)
 b) /t-nap-t/ [θnapt] *tnapt* ‘(S/he) kicks him/her’ (irrealis)

By comparison with other Mixe languages (Schoenhals 1962, Suslak 2005, Reyes 2009), one can assume that historically there was a vowel before the final /t/. This issue is discussed at length in §8.3.8, but the important issue here is that if the phonological rule were still active, one would expect it to be activated once the vowel was dropped.

This rule also seems to have operated in nouns too, and that is why some nouns have an aspirated vowel, but only in those cases in which historically there was a consonant cluster, as in (71). In cases where the consonant cluster emerged because a vowel between two consonants was dropped (CVCVC > CVCC), there is no aspiration, as in (72). Again, there are observable patterns but synchronically it is not possible to predict in which there is an aspirated nucleus and in which cases there is not.

71. /to^hkʂ/ < pOM *tohkʂ ‘prepared food’
 72. a) /tutk/ < pMZ *tu:tuk ‘chicken’
 b) /putsk/ < pMZ *pu:tsik ‘navel’

This historical perspective would also explain why in some words there is an aspiration where otherwise one would not expect it. For example, in (73), one can imagine that after the unstressed vowel was lost, there was a triconsonantal cluster that triggered the aspiration. Then, the /t/ could have also been dropped while the aspirated vowel remained.

73. /tse^hʂk/ < pOM *tsiʂtik ‘(traditional) sauna’

Of course, this is just a broad generalization, because some words are aspirated, as in (74), and according to this hypothesis they should not be.

74. /kʰkp/ < pM *kopak ‘mountain’

This is perhaps the problem with relying on reconstructions and not on actual historical documents. Again, more research is needed in this respect, perhaps a more detailed reconstruction and a suggestion that when the vowels dropped, one could hypothesize that the presence or absence of an aspirated nucleus correlates with different historical stages of the deletion of unstressed vowels. For example, in many cases when historically the noun had the form CVC.CV, and the final vowel was dropped, the noun now has an aspirated nucleus, as in (75). This would suggest that when the final vowel was lost, the rule was still active. All this is, certainly, pure speculation.

75. /ʔakʰ/ < pMZ *ʔaksa ‘fish’

5.8 Lenis/Fortis in consonants and syllabic weight

As the last section of the phonology, the correlation between lenition and length in the preceding syllable is considered. Again, even though I consider that lenis realization of consonants have an allophonic status, there could be a plausible, but ultimately incorrect, alternative that is worth exploring.

5.8.1 Correlation in length and lenition

From the examples that have been provided throughout the dissertation, plus the explicit statement about allophones in consonants in §3.2.3, it is possible to see that there is a correlation between length in the vowels and tenseness in consonants in the coda, so that short vowels occur with fortis consonants and long vowels with lenis consonants, as shown in (76).

76. a) [pɾt] ‘burst (imp)’ vs. [pɾ:t] ‘cut (imp)’
 b) [kλn] ‘to salt’ vs. [kλ:n] ‘salt’

The question here is: which is the cause and which is the effect? In most grammatical descriptions of other Mixe-Zoque languages, the mere existence of lenis consonants (independently of their phonemic status) has been ignored, although there have been some reports of a phonemic contrast (Bickford 1985, Aguilar & Arellanes in press). This is not new, as the fortis/lenis distinction has been argued for neighboring languages, in particular for Zapotec languages (Jaeger 1983; Arellanes 2004, 2005; *inter alia*). Even though I acknowledge the existence of fortis and lenis allophones of consonants, I will reject that they are a contrastive series of sounds in AyMi.

Some sources, particularly in grammatical appendices to dictionaries, have proposed a voice/voiceless distinction in other Mixe languages. This should not be straightforwardly taken as a fortis/lenis opposition, since it is not always clear that an allophonic variation has been accounted for. In addition, the voice/voiceless distinction has been usually proposed for plosives only (Engel & Longacre 1963, Harrison & Harrison 1984, Wonderly 1951, Elson 1960, Elson 1967, Clark 1959, *inter alia*); however, the fortis/lenis distinction affects all consonants, as Aguilar & Arellanes (in press) have pointed out.

To the best of my knowledge, Norman Nordell was the first who noticed that tenseness could be relevant for consonants in some Mixe-Zoque languages, but he never published the results (see Wichmann 1995a).²¹ The first to publish this was Bickford (1985) for Guichicovi Mixe, and, specifically, he was the first one who applied

²¹ For Nordel, Wichmann (1995a), and even Hoogshagen (1959), this issue is related to an alleged three-way distinction in vocalic quantity for some Mixe-Zoque languages.

instrumental analysis. Bickford concluded that there is a fortis/lenis distinction, although Dieterman (2002) has disputed his results for the same language. In the following section I will test the hypothesis that there is a contrast between fortis and lenis consonants, along the lines of Aguilar & Arellanes (in press), who have best made the case for such a distinction.

5.8.2 Testing a prosodic hypothesis

Most of the time, the closure itself and the VOT for a lenis plosive are shorter than for a fortis plosive. When the closure is short, the lenis consonant is more prone to undergo voicing. In some cases, the closure is as long as in the case of a fortis plosive, even if the VOT is very short.

Contrary what some scholars have proposed (e.g., Aguilar & Arellanes in press), when there is a long vowel, the plosives are not always fricatives, and consonants, in general, are not always voiced. In fact, lenis plosives with a fricative realization are relatively hard to find. And even when they are, the degree of frication is very little (compared to regular fricatives, or even to fricative allophones of plosives). In the spectrograms, a lenis realization of the /t/ after a long vowel has a very soft release that is barely noticeable. Additionally, the voicing from the vowel spreads to the beginning of the consonant. Due to these two characteristics, lenis consonants are perceived as smooth. However, there is no fricative noise, which can be clearly appreciated in a spectrogram in the fricative realization of the /t/ as [θ].

One can assume that short vowels count as one mora and long vowels count as two moras, in the following way:

77.	Mono-moraic	Bimoraic
	V	V:
	V ^h	V: ^h
	V [?]	V [?] V
		V [?] V ^h

On the other hand, it is known that in some languages consonants in the coda can also count as a mora. For some languages, however, only a class of consonants has a moraic value. Based on this, it is possible to have the following typology (Zec 1988, Arellanes 2004, Aguilar & Arellanes in press, *inter alia*):

78. Type 1: Language in which all consonants have a moraic value.

(CVV = CVC) ≠ CV, e.g. Latin, English, Arabic.

Type 2: Languages in which no consonant has a moraic value.

CVV ≠ (CV = CVC), e.g. Huastec, Lardil.

Type 3: Languages in which some consonants have a moraic value but others do not.

(CVV = CVC₁) ≠ (CV=CVC₂), e.g. Lithuanian, Valley Zapotec.

Where C₁ and C₂ are two different consonantal classes.

For AyMi, Type 3 is the key for the hypothesis that only fortis consonants contain a mora, but not lenis consonants. In addition, it is necessary to suppose that the minimal word in AyMi equals a monosyllabic moraic foot (with two moras).

Based on this, one would suppose that a *CVC_{lenis} word is not allowed because it would contain only one mora, and thus it would not form the minimum moraic foot. It is necessary to have a phonological rule that lengthens the vowel so that it has at least two moras. On the other hand, in order to explain why a *CVVC_{fortis} word is not allowed, it is necessary to suppose that a syllable should have two moras at most. As one can see, this

explanation rules out length as a contrastive in AyMi; it is rather a consequence of the fortis/lenis opposition. In fact, the lengthening is not even a direct cause of the consonant, but rather of the fact that the rhyme does not have two moras in the phonological representation. Thus, the lengthening of vowels is a prosodic mechanism.

So far, everything seems consistent with this hypothesis. However, it covers only a portion of all possible words in AyMi. Part of the problem is that so far this hypothesis only covers CVC and CVV monosyllabic words. As already shown, the language has seven syllabic nuclei and codas with up to four consonants. As for the other syllabic nuclei, one can assign moras as shown in (77) above. As soon as one tries to extend the fortis/lenis hypothesis to words with complex codas or disyllabic words, one runs into trouble.

If the syllabic weight in the coda, or the lack thereof, is the cause for vowel lengthening, then one would not expect coda consonant clusters to coincide with long vowels, even if the consonants are lenis. However, one can see in the examples in (79) that there are words with long vowels and complex codas.²²

79. a) /tu²umtsj/ ‘one’
 b) /u²unk/ ‘child’
 c) /m̩.ke²eʃk/ ‘half and half’

Also, as soon as verbal inflectional morphology is taken into account, one ends up with syllables that might have up to five moras.

Additionally, there should not be disyllabic words with a long vowel and a lenis final consonant, because the long vowel already provides the two necessary moras. In this respect, the word in (80) should be highly anomalous.

²² Aguilar & Arellanes (*in press*) allow long vowels with a fortis consonant only in a process that they call fortification, i.e. when two identical consonants are merged into a single one.

80. /a.zɪ:k/ ‘dirty’

Notice that the first syllable does not form a moraic foot by itself, and thus it is not possible to say that the word has two feet. Of course, a solution for this is to say that the word has an extrametrical syllable to the right, but it still does not explain why it is necessary to lengthen the vowel.

Related to this, Aguilar & Arellanes (in press) point out that while there are minimal pairs with short and long vowels with closed syllables, such as those in (76), there are no minimal pairs like (81) with monosyllabic words having open syllables. For them, this is part of the evidence that length is not contrastive in AyMi.

81. a) [ʃe:] ‘there’ vs. *[ʃe]
 b) [tɪ:] ‘there’ vs. *[tɪ]

This, one might suppose, is due to the fact that CV words would not satisfy the minimum moraic weight. Even though it is true that CV words do not exist, again, their hypothesis does not explain why the words in (82) have a long vowel. In their account, in a bisyllabic word with no final coda, each syllable would contribute one mora, and thus the final syllable should not require lengthening.

82. a) [ʔa.'na:] ‘thunder’ vs. *[ʔana]
 b) [ʔa.'ɖɻ:] ‘answer’ vs. *[ʔaɖɻ]

Then, the lack of minimal pairs for monosyllabic words with open syllables has nothing to do with the lack of contrastive length in the language. At this point, one can propose the following generalization:

83. CV# vowels are lengthened.

There is another totally different problem to consider here. If the distinction is between fortis and lenis, then one would not expect the same verbal root to have a lenis

coda with long vowels but a fortis coda with short vowels (because the vocalic lengthening is due to prosodic factors). On the other hand, if the contrast is in the vowels, one would expect exactly that. In the verbal conjugation, one can independently establish that long vowels get shortened for some aspect-mood conjugations (more information on this in §8.3.8). In the example in (84), the /t/ is lenis after a long vowel, but when the nucleus becomes shortened, it becomes fortis. One can see that the consonants in the coda are indeed fortis by the fact that they are aspirated.

84. /hi:t/ [hi:t̚] ‘saw!’ [hiʔtʰpʰ] ‘(he) saws’

There is another issue to consider. Regardless of whether one considers there to be a fortis/lenis phonemic contrast or not, it is possible to say that fortis consonants are more resistant to the phonetic environment. In particular, fortis consonants seem to be more resistant to voicing. As one could see from the allophones of obstruents, very often they become voiced between vowels. To be more precise, fortis obstruents always remain voiceless between vowels while lenis obstruents frequently undergo voicing. As a matter of fact, voicing of the consonant is the best evidence for establishing the contrast. In (85) one observes this when the polar question clitic is placed after the consonants.²³

85. a) /tʌk = a/ ‘hairless?’ [tʌ.ka] vs. /tʌ:k = a/ ‘mother?’ [tʌ:.ga]
 b) /kʌʂ = a/ ‘glutton?’ [kʌ.ʂa] vs. /kʌ:ʂ = a/ ‘chest?’ [kʌ:.zʂa]

The previous pattern is consistent whether there is a clitic starting with a vowel or another type of morphology. However, the lack of voicing only appears at the end of the root, nowhere else. Word internally, at positions other than the end of the root, all obstruents become voiced given the appropriate circumstances. Even though there are defective phonemes, such as the /s/ in AyMi, it is somehow suspicious that the alleged

²³ It is necessary to point out that voicing of lenis obstruents, particularly plosives, does not always happen.

opposition, not of two phonemes but of two whole series of phonemes, appears only at the end of the root.

5.8.3 Types of roots and syllabic weight

Even though a historical reconstruction is beyond the scope of a grammar, I will digress for a moment in order to venture a hypothesis regarding syllabic weight as a factor in MZ languages. There is an interesting generalization regarding length and complex codas: most roots with long vowels (either V: or V²V) are followed by a simple coda, not a consonant cluster. The only systematic exceptions are consonant clusters of the form /Cj/. So, it seems that for a root to have a consonant cluster, it is necessary to have a short vowel.

Let us forget for a moment about the fortis/lenis contrast and focus only on the metrical aspects. Again, it is possible to assign moras to the elements of the rhyme:

86. Short vowels: one mora

Long vowels: two moras

Any consonant: One mora.

So, one can assume that historically, syllables with two moras were allowed, but extra heavy syllables with three moras were not preferred. Consonant clusters that are now of the form /Cj/ were historically */Ci/, as shown in (87). This means that they formed two syllables, and thus they did not form extra heavy syllables.

87. a) e:sj < pMZ *ʔe:si ‘crab’

b) ʂx:kj < pM *ʂo:ki ‘crab’

Historically, the only exception to this are some roots reconstructed by Wichmann (1995a:72) with the form *CV:ʔCC, and *CV:ʔC/*CV:Cʔ, if glottal stops in that position were really consonants, as he suggests.

So, even though the strong tendency for avoiding coda consonant clusters with long vowels might make one wonder whether there is something true about the fortis/lenis opposition, there are other historical hypotheses that involve syllabic weight but not tenseness opposition in consonants, such as the one just sketched here. In addition, this explanation helps us understand why the apparent opposition only shows up at the end of roots. As previously mentioned, this syllabic constraint does not exist anymore. The reason is perhaps that new consonant clusters were formed after posttonic vowels were dropped. Again, more research is needed, but the clue to many phenomena in AyMi phonology is in the historical changes of the language.

Section Three
Morphosyntax

Chapter six

Lexical Classes

6.1 Word classes

It is widely accepted in linguistics that lexical classes cannot be defined notionally (Payne 1997, Schachter & Shopen 2007). Even though nouns usually refer to persons, animals and objects in the world, verbs to eventualities, and adjectives to properties, there are many instances in which such a characterization does not hold. Thus, usually the notional criteria are only used for assigning a label, i.e. to decide which class one should call a noun or a verb, but the class itself has to be defined using other criteria: morphological and syntactical criteria (Bosque 1990, Payne 1997, Schachter & Shopen 2007). I use these two criteria here for defining word classes in Ayutla Mixe.

Although only verbs have a rather rich morphology, inflectional affixation can be used as a criterion for characterizing verbs, nouns, and adjectives. Additionally, verbs are singled out because they are the only word class that has Aspect-Mood (AM) inflection. Derivational morphology can also be used as a secondary criterion to distinguish the three

major classes, nouns, verbs and adjectives, from one another. The criteria that I rely on are predominantly syntactic. Nouns are characterized for being the head of a noun phrase, verbs by their ability of taking noun phrases as arguments, and so on. All the characteristics are presented in the appropriate sections below.

In general, it is customary to make a distinction between open and closed lexical classes. Open lexical classes are those for which it is possible to create new members, whereas closed lexical classes are those that have a fixed number of elements and usually can be listed (in the way, for example, that prepositions are taught in school for English or Spanish).

In AyMi, there are three open word classes: nouns, verbs, and adjectives. Even though the number of monomorphemic nouns, verbs or adjectives is restricted, it is always possible to create new lexical items using derivational morphology or composition. Closed word classes are pronouns, demonstratives, quantifiers, evidential clitics, and part morphemes. In this case, the number of members is limited and it is not possible to add new members into each class.

Most roots in AyMi produce stems of only a single category without the need of derivational morphology. For open word classes this means that a given root produces either a noun stem, a verb stem or an adjective stem. To produce a stem of a different lexical class, it requires extra morphological material to indicate such a change. For example, the verb root *tun* ‘to do/work’ cannot be used as a noun without the derivational morpheme *-k*, in which case the abstract noun *tunk* ‘(the) work’ is produced. Conversely, the noun *xëë* ‘name, day’ cannot be used as verb as such; it is necessary to use the verbalizer *-ät* to produce the derived stem *xë’ät* ‘to be called’.

The claim in the previous paragraph does not preclude the fact that there are some homophonous roots of two different word classes, such as those in (1).

- | | | |
|-------|---------------------|--------------------------------|
| 1. a) | tsun ‘drop’ (n) | tsun ‘to drip’ (v) |
| b) | xe’ek ‘laughter’(n) | xe’ek ‘laugh’ (imperative) (v) |
| c) | xëts ‘soap’ (n) | xëts ‘to wash one’s head’ (v) |
| d) | kon ‘short’ (adj) | kon ‘to be short’ (v) |

Additionally, as we might expect in any language, there are some homophonous words that do not seem to be related in meaning and so do not count as non-specified roots:

- | | | |
|-------|-----------------|---------------------------------------|
| 2. a) | jëën ‘fire’ (n) | jëën ‘to swallow something solid’ (v) |
| b) | juun ‘when’ | juun ‘hard’ (adj) |
| c) | pat- ‘under’ | pat ‘to ascend’ |

Such cases are the result of some historical processes. For example, *juun* ‘hard’ is perhaps a conversion from the verb *juun* ‘to become hard’, which in turn might have had the form **huu’n* in proto-Mixe-Zoque (pMZ) (Wichmann 1995a). On the other hand, *juun* ‘when’ has perhaps its etymon in a historical interrogative prefix **hu-* plus a non-identifiable ending. The pair in (2c) is rather interesting because their meanings are opposites of one another: the part morpheme *pat* comes probably from pMZ **pa’t* ‘under’ while *pat* ‘to ascend’ from pMZ **pet* ‘to ascend’. Assuming the vowel shift discussed in §5.7 has occurred in the letter and the loss of the glottal stop in former, both of them came to have the same form in modern AyMi.

6.2 Nouns

Traditionally, nouns are said to refer to people, animals and things, although, as stated above, this is not what defines them. Nouns can be defined as possible heads of phrases that are used as referring expressions, i.e. expressions that are used for identifying entities

in the world, and, more properly, as possible heads of phrases than can be used as arguments. Nouns and noun phrases are discussed in more detail in Chapter 7; here I present only general characteristics.

Morphologically, nouns can be possessed and can take a diminutive. Gender and case, which are cross-linguistically the type of inflectional categories that are found with nouns, are not grammaticalized in Mixe. As for number, another common inflectional category, only a few nouns inflect for number. As discussed in §7.1.1, plural marking is restricted to nouns with human referents, as in (3).

3. anā'äk-**tëjk** 'young people' (Efa1-1696)
 young.person-PL

Morphologically, there are two characteristics of nouns: possessive prefixes and the diminutive suffix, both of them shown in (4). Both of them are discussed in more detail in the following chapter (§7.1).

4. Jajp mëët **y-uk-u'nk.**
 DEIC.D ASSOC 3POSS-dog-DIM
 'He is with his little dog.' (FrogG-57)

In addition to simple nouns, having only one noun root, in AyMi there are some compound nouns, as in (5).

5. tsäj-pety
 stone-wall
 'fence'

Syntactically, a noun phrase can have, in addition to the noun, a demonstrative (6a), a numeral (6b) or an adjective (6c), and it can be possessed (6d). All of these characteristics are also discussed in the following chapter (§7.3).

6. a) yā'āt tu'uts
 DEM.P pot
 'the pot'

- b) e'pxy-mäj k jëmëjt,
 twenty-ten years
 'thirty years'
- c) yë' mäj uk
 DEM.M big dog
 'the big dog'
- d) mejts mtsë'ë
 mejts m-tsë'ë
 2SG 2POSS-older.sister
 'your older sister'

Some Mesoamerican languages have a subclass of nouns that are treated differently in how they are marked for possession: they are obligatorily possessed or require special morphological marking when unpossessed (Campbell, Kaufman & Smith 1986:549). However, in AyMi, as in other Mixe-Zoque languages (Zavala 2000, Johnson 2000), there is no such special class, i.e. there are no inalienably possessed nouns. Conversely, as Johnson (2000) points out, there are no nouns for which possession is ungrammatical, although in some cases it might be semantically odd. Despite the previous characterization, there are some nouns that are for cultural reasons almost always possessed. These are mostly kinship terms. I return to this in chapter seven.

There are several types of nominalizations in AyMi (§7.2.1), the most important involving the neutral independent AM marker (7a-b). There are also two types of nominalization that produce abstract nouns (7c-d). Finally, there is a nominalization that derives locative nouns, i.e. nouns whose meaning is 'where X takes place' (7e).

7. a) tump ‘worker’
 b) xuxp ‘musician’
 c) tunk ‘work’
 d) pētējkkē’ēny ‘help’
 e) tuntājk ‘workshop’

6.3 Verbs

There are three types of verbal stems: simple verbs, derived verbs and multi-root verbs. Simple verbs are composed of only one verb root, and derived verbs are deadjectival, denominal, and even derived from other verbs. Verb stems composed of more than one verb root are also known as core serial verbs (Foley and Olson 1985, Foley 1991, Zavala 2000). In this section, I do not distinguish between simple and compound verb stems. AyMi also allows the incorporation of other lexical classes, mostly nouns. In the description of other Mixe-Zoque languages, both core serial verbs and incorporation are sometimes treated as compounding (Hoogshagen 1984, Herrera 1995). The differences between serialization and incorporation are discussed in §§8.10-11.

6.3.1 Basic Verbal template

The basic verbal template in Ayutla Mixe has the person marker at the leftmost edge and the AM (Aspect-Mood) marker at the rightmost edge. The stem may consist of the verbal root alone, but may also include derivational morphemes, an incorporated nominal, and more than one verbal root. This is discussed in detail in chapter 8. The basic verbal template is represented in (8).

8. a) Person.Marker + Base + Aspect-Mood.Marker
 b) Ja’ tyintyuk yextaapy.
 Ja’a y-tintyuk y-extā’āy-yp
 DEM.D 3POSS-toad 3S-look.for-INDEP;TR
 ‘He is looking for his toad.’ (FgG-267)

In AyMi, all finite verb forms must have a person marker and an AM marker in order to appear in a well formed sentence, except for the cases discussed in §§8.2-8.3. Non-finite forms, which are used only in subordinate clauses, have a non-finite suffix but do not have a person marker. In AyMi, as in other Mixe-Zoque languages, it is not possible to mark more than one argument in the verb. In intransitive verbs, this does not represent a problem, because the person marker refers to the only participant, as in (9a). The problem arises in a transitive sentence. As discussed in chapter 8, the verb can agree with either the subject or the object, but not with both (§8.2). This is partially because AyMi has an INVERSE SYSTEM. The exact conditions are discussed below (§9.5), but, just to illustrate this, in (9b) the first person is the A while in (9c) the first person is the O.¹

9. a) **mtump**
 m-tun-p
 2S-work-INDEP
 ‘you work’
- b) **ǰTe'n n'exäjtya?**
 jëte'n n-ex-äjty-a
 M.DEM 1A-see-VRBLZ\COMPL-DEP=Q
 ‘Did I meet him?’ (Efa1-821)
- c) **Xtääkäjtp ëjts jä'äy.**
 x-tääkät-p ëjts jä'äy
 1O-envy-INDEP 1SG person
 ‘People envy me’ (NL1-321)

Thus, in (9a), the person marker agrees with the only core participant. In (9b), the A is in the second person and the O in the third person. In AyMi, all core participants are ranked in a person hierarchy (see §9.5) where the first person outranks the second person and the second outranks the third. Thus, as the A is higher than the O in the person hierarchy, (9b) is said to have direct alignment. In direct alignment, the A is marked on the verb. In

¹ Throughout the grammar, “S” is used to represent the subject of intransitive verbs, “A” for the subject of transitive verbs, and “O” for the object of mono-transitive verbs and for either object of ditransitive verbs.

contrast, in (9c), the A is a third person and the O a first person. In this case, since the A is lower than the O in the person hierarchy, it is necessary to use inverse alignment. In inverse alignment, the O is marked on the verb.

6.3.2 Dependent and independent inflection

In Ayutla Mixe, as in all Mixe-Zoque languages, all verbs are treated either as INDEPENDENT or DEPENDENT. Even though this distinction has, in fact, nothing to do with subordination, I use the term DEPENDENT MARKING or DEPENDENT INFLECTION because I lack a better term and because it has been used in this sense in descriptions of other Mixe-Zoque languages (Wichmann 1995a, Zavala 2000, Johnson 2000, Suslak 2005, *inter alia*).

In Ayutla Mixe, dependent inflection is triggered when a non-argument appears before the verb. Therefore, whenever there is a locative adverb, a temporal or aspectual particle, the negative particle, or when there is an adverbial interrogative word before the verb, the verb is marked as being dependent. Conversely, a verb is marked as independent if only argumental constituents appear before the verb.

Inflectional dependency will be revised in §10.7 in the light of complex constructions. Here, the distinction between dependent and independent marking is relevant because it is marked in two different places in the inflectional morphology: on the person markers and on the AM markers. Thus, there is a set of person markers for independent marking and another for dependent marking. Similarly, aspect-mood suffixes have one form for the dependent marking and another one for the independent.

In the following examples, in (10a) the verb is at the beginning of the sentence, and thus there is nothing before it that can trigger the dependent order. For this reason, the

verb has to be marked as independent. Conversely, in (10b) the temporal past *ojts*, which indicates past tense and perfective aspect, is before the verb and triggers dependent marking.

10. a) Independent

Tunäjxpa' mixy.
 tun-näx-**p**=ja'a mixy
 [3s]work-pass-**INDEP**=DEM.D boy
 'The guy works too much.' (NLA1)

b) Dependent

Apenaxy ja' ntsukuj **ojts** yooky.
 apenaxy ja'a n-tsukuj **ojts** y-ook-y
 hardly DEM.D 1POSS-aunt **PAST** 3S-die-**DEP**
 'My aunt died with difficulties.' (NLA1)

Similarly, in content questions, the verb is marked as independent when the interrogative word corresponds to a verb argument, as shown in example (11a). However, when the interrogative word corresponds to a non-argument, the verb is marked as dependent, as shown in example (11b).

11. a) Independent

¿Pëen mäap?
 pëen mäa-p
 who [3S]sleep-**INDEP**
 'Who is sleeping?'

b) Dependent

¿Mää myä'äy?
 mäa y-mä'ä-y
 where 3S-sleep-**DEP**
 'Where is s/he sleeping?'

6.3.3 Verbal classes by their valence

In this subsection monomorphemic verbs are classified according to the number of arguments they take. These classes can be formally identified according to the type of person markers they take, as different sets of person markers are used for intransitive and for transitive verbs (see §8.2). Additionally, in some cases, it is possible to make some

semantic generalizations, but the semantic classification is not the main focus of the section. I have restricted the classification to verb roots because in order to discuss multi-root verbs or verbs containing more morphology, it is necessary to deal with other morphological and syntactic issues.

Many verb roots are intransitive and require causative derivation to produce transitive stems. This contrasts with other languages, for example Spanish, in which there is a general lexical pattern according to which it is necessary to detransitivize verbs. Additionally, although other Mixe-Zoque languages have similar verb classes according to their valence, there is a great deal of variation with respect to the membership of cognate verbs across Mixe-Zoque languages, and also to the way in which verb classes are marked. Just to mention an example, S=A ambitransitive verb roots (Dixon & Aikhenvald 2000) produce transitive and intransitive stems without derivation in AyMi, while many of their cognates in SMCh Zoque require an antipassive marker to form intransitive stems (see Johnson 2000:53).

6.3.3.1 *Intransitive verbs*

Intransitive verb roots are those that take only one argument; i.e. they can be conjugated only intransitively. As example (12) shows, they cannot be conjugated as transitive verbs (12b). In order to do that, it is necessary to use a causative morpheme, as in (12c). Semantically, many of these verbs refer to manner of motion, change of location, and states (or change of state).

12. a) pe'ts
 'to get (a fire) out.'
- b) *pyi'tsypy
 y-pe'ts-yp
 3A-get.out-INDEP;TR
 Intended: He put it out. (J)

- c) yakpi'tsypy
 y-ak-pe'ts-yp
 3A-CAUS-get.out-INDEP;TR
 'He put it out.'

Many intransitive verb roots are ambiguous between stative or inchoative interpretations (13). Some verbs, however, only have the stative meaning, like *mä'ä* 'to sleep'.

13. a) ampök 'to be/become angry'
 b) juun 'to be/become hard'
 c) ke'ex 'to be/become swollen'
 d) ku'ux 'to be/become satisfied'

Most verbs of speaking, such as those in (14), are also intransitive verbs. Even though semantically they entail two participants (the speaker and the content of the communication), they take only one syntactic argument.

14. a) anä'än 'to say'
 b) käjpx 'speak'

As stated, verbs of change of location are also intransitive.

15. a) nējcx 'go'
 b) tsoon 'go.away'
 c) men 'come'
 d) mats 'come'
 e) nāx 'pass'
 f) jā'ät 'arrive'
 g) pat 'ascend to'
 h) pattēk 'ascend to'
 i) kuput 'ascend from'
 j) jēptä'äk 'descend to'
 k) kētä'äk 'descend to'
 k) taanāk 'descend from'
 l) jēnāk 'descend from'
 m) kēnāx 'fall'
 n) kētää 'fall down'
 o) tēk 'enter'
 p) pētsēm 'exit'

One could group intransitive verbs into further semantic subclasses, but I refrain from doing so here.

Many languages have a split in intransitive verbs (Perlmutter 1978, Burzio 1981, Van Valin 1990). Even though in semantic terms one could always try to find unergative-like or unaccusative-like intransitive verbs (cf. Johnson 2000), in Ayutla Mixe there is no formal split in intransitive verbs. The closest thing to a split in verbs is the existence of ambitransitive verbs, to be discussed in the two following sections. Although the phenomenon somewhat resembles split intransitivity, it is formally distinct from unaccusativity.

6.3.3.2 *S=O ambitransitive verbs*

In AyMi, as in other Mixe languages, there are some verb roots that produce both intransitive and transitive stems without derivation. In studies of other languages, such verbs have been called ambitransitive or, sometimes, labile verbs (Dixon 1994, Dixon & Aikhenvald 2000). In the case of S=O ambitransitive verbs, they can be used intransitively, in which case the only participant is the subject (S), or transitively, in which case the S of the intransitive stem becomes the object (O). Notice that this is done without further morphology.

16. Intransitive	S
Transitive	O

A few examples are presented in (17). Some of these verbs are verbs of breaking, as in (17a-b), and other verbs encode a state or a caused state (17c-d). As one can see, the S or O is typically an inanimate.

17. a) pu'u 'to be broken/to break'
 b) kēēts 'to be torn/to tear'
 c) jo'kx 'to be warm/to heat'
 d) kāj 'to be stuck/to block'

One can see the alternation in the following example:

18. a) Tē yē' kipy kyājy.
 tēē yē'ē kipy y-kāj-y
 BEFORE.NOW DEM.M stick 3S-be.stuck-DEP
 'The stick got stuck.'
- b) Tē Carlos tkājy yē' kipy.
 tēē Carlos t-kāj-y yē'ē kipy
 BEFORE.NOW Carlos 3A-stick-DEP DEM.M stick
 'Carlos put the stick in.'

From a broader perspective, one could also include deadjectival verbs as ambitransitives, since they follow the same pattern. However, they are not verb roots, and I discuss them in §6.5.

6.3.3.3 *S=A ambitransitive verbs*

The second type of ambitransitive verbs follows the opposite pattern. The S in the intransitive conjugation is the A in the transitive conjugation. Again, the basic agentive ambitransitive verb roots do this without further morphology.

19. Intransitive S
 Transitive A

Most verbs that refer to what one could think of as a transitive event can be conjugated either as transitive or intransitive.

20. a) tsa'amp 'he hugs (someone)' tsye'empy 'He hugs her'
 b) juxejtp 'he shakes (something)' jyuxijtypy 'He shakes it'
 c) kēēxp 'he shreds (something)' kyiiixpy 'He shreds it'
 d) kaapy 'he eats (something)' kyeeypy 'He eats it'

One could argue that many of the S=A ambitransitive verbs encode induced and self-agentive change of posture. Thus, in some sense the S is semantically both an agent and a

theme, as the one that originates the movement is the same one that moves.² In (21a), for example, the intransitive form does not really encode the resting position, but rather that someone put herself at rest in a horizontal position, and thus it is self-agentive. The transitive form in (21b) splits the agentive theme (now the subject of a transitive verb) from the theme (now the object of the transitive verb)

21. a) ko'kp 'he lies down'
 b) kye'kypy 'he put it'

Strictly speaking, only this kind of verb can be considered S=A ambitransitive roots. However, some verbs of non-transitional motion, i.e. verbs that express movement without change of location, or verbs of change in body posture (Kemmer 1993) can be included here. These verbs, however, require a reflexive conjugation in the intransitive form, and thus, one could argue that the reflexive is responsible for detransitivizing them.

22. Yu'uts 'to hide' nayu'tsöp 'he hides (himself)'

Verbs with a reflexive conjugation are discussed in §9.6.5, but depending on the perspective one adopts, it would be possible to include many other verbs that follow a reflexive conjugation here.

6.3.3.4 Ditransitive verbs

As far as I can tell, there are only two clear examples of lexically ditransitive verbs in Ayutla Mixe *mo'oy* 'to give', exemplified in (23), and *kax* 'to send'.

23. Meets limosn xmo'oyä'än.
 meets limosn x-mo'oy-ä'än
 2PL alms 2A-give-DES[DEP]
 'You (pl.) gave him alms.' (Isr-1410)

² Of course, it is not possible to assign multiple thematic roles to a single argument unless one wants to assume a multi-tiered approach such as the one proposed by Jackendoff (1990). Here, I am not assuming such a view, but merely pointing out a mismatch between the event structure and the participant structure (see Bohnemeyer 2004).

Other verbs of change of possession are only transitive, and usually the recipient is inferred. Additionally, there are other mechanisms for increasing the valence of the verb; these are discussed in other chapters (§8.8 and §9.6).

6.3.4 Conjugation classes

There are eight conjugational classes in Ayutla Mixe. These conjugational classes are defined formally according to the type of nucleus in the last syllable of the stem and the type of apophony they undergo in the conjugation. These classes are dealt with in §8.3.11, since their discussion involves other topics that are treated there.

6.3.5 Classificatory-like verbs

Ayutla Mixe has several roots that exhibit interesting semantic and syntactic properties and loosely resemble classificatory verbs in Athabaskan and other Na-Dene languages (Dixon 1982a, Krauss 1968). The selection of the verb depends on the size of the object (whether it is small or not), the material of the object (whether it is made of wood), and the manipulation of the object (whether it can be carried with hands or scooped). While I do not believe that all of them are part of a formal class, all of them have in common as part of their meaning a caused change in location.³

Some of these verbs belong formally to the non-agentive ambitransitive class. The intransitive form has a locative/existential interpretation. However, when used transitively these verbs are interpreted as describing manipulations of the object. In the

³ A similar phenomenon in which some verb roots classify nouns has been described for North American languages such as Navajo (as discussed by Dixon 1982: 164) or Eyak (Krauss, 1968). Even though the phenomenon described in this section has classificatory effects, the selection of verbs does not depend exclusively on the shape or the configuration of the object, but also the manner and the instrument involved in the event.

examples below, (24a-c) have locative interpretations, which contrast with the agentive meaning of the transitive form in (24d).

24. a) Taa kē'ēk ja' majtsk kyonn.
 taa kē'ēk ja'a majtsk y-kon-n
 DEIC.M shoe DEM.D two 3S-carry.small-PERF;DEP
 'There are two shoes.' (FrogGil-163)
- b) Tam majtsk tu'uts wyejtsn nājxkēxp
 tam majtsk tu'uts y-wets-n nājx-kēx-p
 DEIC.M two pot 3S-carry.general-PERF;DEP ground-SURFACE-LOC
 'There are two pots on the ground.' (VPA-potsa)
- c) tam tu'uk kipy kyājpn mää' katsyē'n
 taa tu'uk kipy y-kāp-n mää=ja'a katsy-ē'n
 DEIC.M one stick 3S-carry.sticks-PERF;DEP where=DEM.Dbasket-ADJ
 'There is a stick on the basket.' (VPA-Stick)
- d) Ējts nkapy yē puxa'ap.
 Ējts n-kāp-y yē'ē pux+ja'ap.
 1SG 1A-carry.stick-DEP DEM.M shovel
 'I carried the shovel.'

However, the locative interpretation, which is reinforced using a stative derivation (to be discussed in the following subsection), is not available for all verbs.

Notice that at first glance the verbs might look like dispositional verbs in Mayan languages (England 2001).⁴ However, as noted, they are also used for caused change of location.

The rest of the verbs have a meaning that involves manipulation and change of location. I list some of them below.

⁴ In Mayan languages, (dis)positionals are a type of roots that lexicalize complex spatial configurations and thus are used to describe the position and shape of an object. The number of positional roots varies from language to language, but some of them have been reported to have about 700 of these roots (Mateo-Toledo 2004). Thus, one can imagine that in those cases some positional roots have very specific meanings. More importantly, (dis)positional verbs are a formal class in Mayan languages, which is not the case in AyMi.

25. a) nuk 'to carry stuff in hands'
 b) jaap 'to scoop'
 c) kē'ëy 'to carry extended objects'
 d) tsaan 'to hug/to carry as hugging'
 e) mäts 'to grab/carry objects in hands'
 f) tsēm 'to carry on the back with *mecapal*'

In many cases, these verbs are used to express caused change of location in combination with other verb roots forming core serial verb constructions (Foley and Olson 1985; Foley 1991; Zavala 2000). In these cases, the complex verb stem has a very specific meaning. The use of these classificatory-like verb roots has to be specific with respect to the type of object. This is shown in the following examples, where the verb stem contains two roots. In all cases, there is a classificatory-like verb root plus another root, *ë'ëk*, that means 'to go up'.

26. a) Të yë' tu'uts nwejtši'iky meskëxp.
 tëë yë'ë tu'uts n-wets-ë'ëk-y mes-këx-p
 BEFORE.NOW DEM.M pot 1A-carry.general-go.up-DEP table-SURFACE-LOC
 'I picked the pot up from the table.'
- b) Të yë' clavo nkojni'iky meskëxp.
 tëë yë'ë clavo n-kon-ë'ëk-y mes-këx-p
 BEFORE.NOW DEM.M nail 1A-carry.small-go.up-DEP table-SURFACE-LOC
 'I picked the nail up from the table.'
- c) Të yë' kipy nkäjpi'iky meskëxp.
 tëë yë'ë kipy n-käp-ë'ëk-y mes-këx-p
 BEFORE.NOW DEM.M stick 1A-carry.stick-go.up-DEP table- SURFACE-LOC
 'I picked the stick up from the table.'

In (26a), the object to be picked up is a pot, and then the first root of the verb stem has to be *wets* 'to carry', which is used for bulky objects (although it is also used as a general verb when the object is not known or when the speaker does not want to be more specific). In (26b), the object is a nail, and then the verb root to be used is *kon* 'to carry' for small objects. In (26c), the object is a stick, and then the verb *käp* 'to carry', which is

specific for sticks and thin long objects, has to be used. Core serialization is discussed in §8.10.

6.3.6 Positional-like verbs

In Ayutla Mixe the suffix *-nay* produces verbs with a meaning very similar to dispositional verbs (see footnote 3). This suffix is glossed as ‘perdurative’ (or PERD in the interlinear gloss) following Zavala, and it indicates that the position “is stable for a long period of time” (2002b:263). Usually, the underived stem has an inchoative meaning, as in the examples in (27a-b), or it is ambiguous between a stative and a caused position meaning, as in (27c-f).

27.	Underived verb	Derived verb
a)	tsëen ‘to sit down’	tsëenay ‘to be seated’
b)	tan ‘to stand up’	tānay ‘to stand’
c)	wets ‘to carry objects’	wejtsnay ‘to be on something’
d)	ko’o ‘to scatter’	ko’onay ‘to be scattered’
e)	kon ‘to be/carry small objects’	konnay ‘to be (a small object) on something’
f)	käap ‘to be/carry stick-like objects’	käpnay ‘to be (a stick) on something’

The following examples show two of the stems presented in the previous subsection (§6.3.5), now with the suffix *-nay*.

28. a) Tam tu’uk tu’uts kyonay tsäjkëxp.
 tam tu’uk tu’uts y-kon-nay-y tsäj-këx-p
 DEIC.P one pot 3S-carry.small-PERD-DEP stone-SURFACE-LOC
 ‘There is a bottle on the rock.’ (VPA-Bottle 26)
- b) Tam tu’uk ku’uty wyejtsnay tsäjkëxp.
 tam tu’uk ku’uty y-wets-nay-y tsäj-këx-p
 DEIC.P one ribbon 3S-carry.general-PERD-DEP stone-SURFACE-LOC
 ‘There is a ribbon on the rock.’ (VPA-Cloth32)

At a first glance, it would seem that these derived verbs are indeed dispositional.

Perhaps in a very general sense they are, since they indicate the general shape, configuration and position of a theme. However, the overall function of these predicates

differs considerably from those in Mayan languages (including the syntactic and semantic properties (England 2001)), where the best-studied examples of dispositionals occur (Brown 1994, 2006). Crucially, the suffix is not a diagnostic for defining any morphosyntactic verb class (although certainly one can argue that a few semantically definable subclasses take it), but rather it is in virtue of the suffix that one can talk about positional verbs.

In other Mixe-Zoque languages, the cognate of the morpheme at issue has been treated as a mechanism for creating dispositional predicates, and in fact it has been compared with dispositional predicates in Mayan languages (Johnson (2000:54) for SMCh Zoque).

When the ‘perdurative’ suffix *-nay* is combined with other locative or derivational morphemes, the resulting verb can have an active meaning. This can be seen in the following examples, all of them derived by *-nay* from *tan* ‘to stand up’, but carrying different prefixes: in (29a), *a-* ‘inside’, in (29b) the benefactive *mě-*, and in (29c) *jěñ-* ‘on, in front’.

29. a) atěñay ‘to trap’ (tr)
 b) mětěñay ‘to tolerate’ (tr.)
 c) jěntěñay ‘to stand in front of/up’ (tr)

6.3.7 Derived verbs

6.3.7.1 *General verbalizer*

Although there are a few ways for deriving new verbs from other lexical classes, a frequent derivation of verbs from nouns or adjectives employs the suffix *-ät*. This can be seen in the examples in (30) for nouns and (31) for adjectives.

30. Denominal verbs

- a) xëë ‘day, name’ xë’ät ‘to be named’
 b) oj ‘flu, cough’ oj’ät ‘to cough’

31. Deadjectival verbs

- a) mëjk ‘strong’ mëj’ät ‘to be strong’
 b) jotkuujk ‘happy’ jotkujk’ät ‘to be happy’
 c) ey ‘good’ ey’ät ‘to be good’

In the sentence in (32a) the verb is derived from a noun (a proper noun, in fact), and in the sentences in (32b-c) the verbs are derived from the adjectives *měj* ‘big’ and *axëëk* ‘bad’, respectively.

32. a) Te'ep Peedräjtp

jëte'ep Pedro-ät-p
 REL Pedro-VRBLZ-INDEP
 ‘the one called Pedro.’ (NLA-469)

b) Mějäjtp yë' mixy.

měj-ät-p yë'ë mixy
 big-VRBLZ-DEP DEM.M boy
 ‘The guy is pretentious.’ (from Romero, Aguilar & Aguilar 2003)

c) Pës kë'm yë'ë nyo'k yaxëkaty.

pës kë'm yë'ë n-yo'k y-axëëk-ät-y
 DISC same DEM.D IPOSS-comadre 3S-bad-VRBLZ-DEP
 ‘My *comadre* herself was bad.’ (NLA-572)

It is interesting, however, that not all adjectives produce derived verb stems with this suffix. In particular, adjectives referring to color do not take this suffix (33) (Romero, Aguilar & Aguilar 2003).

33. a) pu'ts ‘yellow’ *pujtsät

b) yëjk ‘black’ *yëjkät

c) tsäjpts ‘red’ *tsäjptsät

Additionally, the verbalizer suffix *-ät* is used productively in order to create predicates with numerals. These predicates translate into English as non-verbal predicates, but they are verbal predicates in AyMi. This can be seen in the following

examples. In (34a), the verb is based on a cardinal numeral and in (34b) on an ordinal numeral.

34. a) Ka't yë anä'äk nyëmëkoxkätt.
 ka't yë'ë anä'äk y-në-mëkoxk-ät-t
 NEG DEM.M youngster 3S-ANIM-five-VRBLZ-PL;DEP
 'The boys are not five.'
- b) Ęjts nmëtu'ukäjtp.
 ëjts n-më-tu'uk-ät-p
 1SG 1S-ORD-one-VRBLZ-INDEP
 'I am the first one.'

It is possible to derive verbs from other verbs. In (35), the verb *exät* 'to meet/to know someone' is derived from the verb to *ex* 'to see'. The only adposition *mëët* is also used as a base for deriving the verb *mëtät* 'to have' in (36).

35. ĘM'ex'ajtypy ëjts n'itsya?
 m-ex-ät-yp ëjts n-itsy=a
 2A-see-VRBLZ-INDEP;TR 1SG 1POSS-younger.brother=Q
 'Do you know my brother?' (TAMAA-038)
36. jëtsa' meeny te'ep ëjts nmëtajtypy
 jëts=ja'a meeny te'ep ëjts n-mëët-ät-yp
 and=DEM.D money REL 1SG 1A-ASSOC-VRBLZ-INDEP;TR
 'the money that I had.' (NLA-528)

Additionally, *-ät* derives verbs from nominalizations, as in (37), and even from complete noun phrases, as in (38), although in this case the resulting verb seems to have a rather idiosyncratic meaning.

37. From nominalizations
- a) Ajtspäjtp yë'.
 ats-p-ät-p yë'ë
 dance-NMLZ-VRBLZ-INDEP DEM.M
 'He is a dancer.' (i.e. he likes to dance)
- b) Tyunkajtypy yë'.
 y-tun-k-ät-yp yë'ë
 3A-work-NMLZ-VRBLZ-INDEP DEM.M
 'He works (on it).'

38. From NPs:

ntukjä'äyäjtyë'n
 n-tu'uk-jä'äy-ät-yë'n
 1S-one-people-VRBLZ-INCL
 'we are related' (Efa1-1809)

In (37a), the verb root *ats* 'to dance' takes the nominalizer *-p* in order to create a nominalization, and then the verbalizer *-ät* is suffixed to the base. As with any other verb, the stem has to take AM makers, in this case the neuter independent AM suffix.

Similarly, in (37b), the verb *tun* 'to do, to make' takes the suffix *-k* to create an action nominalization (see §7.2.1.3), and from there the verb *tunkät* 'to work' is derived. On the other hand, in (38) the base of the derivation contains the numeral *tu'uk* 'one' and the noun *jä'äy* 'person, people'. These words usually appear forming a noun phrase and that is why the verb is derived from a complete noun phrase. Cases like this appear to be rather rare; this is the only instance of a verb derived from a NP that I have found.

In addition, this morpheme is used for incorporating Spanish words into the Mixe lexicon. In principle, it is possible to suffix *-ät* to any possible Spanish word, regardless of whether it is a verb, adjective or noun in Spanish.

39. a) Tëkëëk mëke'pxyë te'n myultaty.

tëkëëk mëke'pxy=jë'ë te'n y-multa-ät-y
 three hundred=DEM.M M.DEM 3O-fine-VRBLZ-DEP
 'He got fined for three hundred pesos.' (NLA4-234)

b) Yää nmotsyaraty.

yää n-mochar-ät-y
 DEIC.P 1A-cut.off-VRBLZ-DEP
 'I'll cut it off here.' (Mingo)

6.3.7.2 *Deadjectival verbs*

There are three ways of using adjectives as verbs. The first is to use the verbalizer *-ät* as presented in the previous subsection. In general, the resulting verb has a stative meaning, although as shown above, this need not be the case.

The second way in which an adjective can be used as a verb is in combination with the inchoative suffix *-ë*. As argued in §8.4.2, the inchoative itself is not responsible for the derivation; rather, I assume zero derivation and that the resulting verb takes the inchoative conjugation. This assumption follows from the analysis of the inchoative as part of the inflectional morphology. This is discussed in §8.5.1. The derivation is exemplified in isolation in (40); (41) shows two sentences containing the deadjectival verb.

40. a) *nä'k* 'flat' > *nä'këp* 'it is flattened'
 b) *xun* 'sour' > *xunëp* 'it becomes sour'

41. a) *Pero nyiyä'äy jantsy mëjëpëka...*
pero y-niyä'äy jantsy mëj-ë-p=ëk=ja'a
but 3POSS-husband truly [3S]big-INCH-INDEP=HEARSAY=DEM.D
 'But her husband is full of himself...' (NL1-603)
- b) *Yakjo'kxëp yë' nëj.*
y-ak-jo'kx-ë-yp yë'ë nëj
3A-CAUS-warm-INCH-INDEP;TR DEM.M water
 'He warms up the water.'

In (41a), the main verb, which means 'to be full of oneself' or 'to think too much of oneself', is derived from the adjective *mëj* 'big'. In (41b), when the adjective is derived into a verb, it can take other derivational morphology such as the causative prefix *ak-*.

Finally, it is possible to create new verbs from adjectives combining them with the verb *këtä'äk*. The verb on its own means something like 'to come to X from uphill'. However, in combination with an incorporated adjective, the whole base means something like 'to be/become very/completely [ADJECTIVE]'. In these constructions, *këtä'äk* works more like a derivational device and not like a verb with lexical content. Not all adjectives can be combined with *këtä'äk* in this construction. To the best of my knowledge, only non-derived adjectives (i.e. excluding deverbal adjectives) are allowed

in this construction. There is no complete correspondence, however, since some deverbal adjectives are allowed and some non-derived are not. Some examples follow.

42. a) *poop-kētā'āk* ‘to be/become very white’
 c) *yěj-kētā'āk* ‘to be/become very black’
 d) *jay-kētā'āk* ‘to be/become very spicy’

6.4 Co-lexicalized words

In Ayutla Mixe, there are cases of co-lexicalized nouns or verbs that very often appear together to express a more complex meaning.⁵ These are not instances of compounds as each word projects its own phrase. In some cases, two lexical items have to be used because there exists no more general word that covers them, as in (43) with two nouns.

43. a) *tyeety tyääk*
y-teety y-tääk
 3POSS-father 3POSS-mother
 ‘parents’
- b) *yë jyëen tyëjk*
yë'ë y-jëen y-tëjk
 DEM.M 3POSS-fire 3POSS-house
 ‘his home’ (Efa1-1090)
- c) *¿Xë'n yë kaaky to'kx nyaxy?*
xë'n yë'ë kaaky to'kx y-näx-y
 how DEM.M **tortilla meal** 3S-pass-DEP
 ‘How did they pass the food around?’ (EfaH-2093)

In some cases, particularly with verbs, the choice of two lexical items to cover a general meaning does not seem so transparent, as in (44a), where the verbs *tsëen* ‘to sit’ and *tan* ‘to stand up’ are used to express a meaning similar to ‘to dwell’, or in (44c), where the verbs *ex* ‘to see’ and *najäw* ‘to know’ together mean ‘to be aware of something’. In other cases, the use of two lexical items seems even redundant, as they

⁵ I use the term co-lexicalization to refer to cases when two words (that do not form a compound) are used to express a single lexical meaning. This notion is loosely similar to other uses of the term by Givón (2001).

express very similar notions. For example, in (44c) the verbs *jät* ‘to happen’ and *kupät* ‘to suffer (the consequences)’ are use with the meaning ‘to occur’.

44. a) Xë'n te'n ojtsa tsyëën tyan, ja'a Don Daniel Martínez.
 xë'n te'n ojts=ja'a y-tsëën-n y-tan-n ja'a Don Daniel Martínez
 how M.DEM PAST=DEM.D 3S-sit-PERF 3S-stand-PERF DEM.D Don Daniel Martínez
 ‘(The guys ask) how he lived, Don Daniel Martínez.’ (IsmH-280)
- b) Ëëts n'ixy nnajäw te'nte'na.
 ëëts n-ex-y n-na+jäw te'nte'n=ja'a
 1PL;EX 1A-see-DEP 1A-know[INCH.DEP] M.DEM=DEM.D
 ‘We are aware of that.’ (Efa1-1758)
- c) Ojts jyaty kyupety...
 ojts y-jät-y y-kupat-y
 PAST 3S-happen-DEP 3S-suffer-DEP
 ‘That happened....’ (IsrH-675)

Normally, the words forming the co-lexicalized words can be used independently of each other. However, there are a few cases where the one of the lexical items is used in the co-lexical phrase and not by itself. This is the case of *jok* ‘to scream(?)’ in (45), that cannot appear alone, without *yä'äx* ‘to cry’, although the latter is found on its own.

45. yä'äx-p **jok-p**
 cry-INDEP scream-INDEP
 ‘he screams’ (Vocab)

Additionally, co-lexical words can even be formed with Spanish loans, as the example in (46), which combines Mixe *xëë* ‘day’ with Spanish *tiempo* ‘time’.

46. xëë tiemp
 day time
 ‘time’ (Aur2-147)

Finally, it was said that co-lexical words are not precisely compounds because each word takes its own inflectional morphology. For example, in (47) each noun has its own possessive prefix.

47. m-ween m-ää
 2POSS-eye 2POSS-mouth
 ‘your face’ (NL2-1173)

6.5 Adjectives

Adjectives are the word classes used for expressing properties. They can modify nouns when they are used attributively, but they are commonly used in non-verbal predication, as *nāk* ‘short’ in (48a). Finally, adjectives are commonly used in SECONDARY PREDICATION or as DEPICTIVE PREDICATES (Schultze-Berndt & Himmelmann 2004), such as *jojkxy* in (48b). Some of these functions are explored in this section and expanded in other chapters.

48. a) *Nāk yë’ mixy*
 short DEM.M boy
 ‘The boy is short.’

b) *Pero mas jojkxy jyäw mëët limon te'n.*
 pero mas jojkxy y-jäw mëët limon te'n
 but more tasty 3S-feel[INCH.DEP] ASSOC lime M.DEM
 ‘But it (the food) tastes better with lime (Lit. It feels tasty like that with lime).’
 (AE-274)

Not all the languages of the world have adjectives as an independent word class. In those languages lacking adjectives, properties are usually expressed by nouns, particularly abstract nouns as in Quechua, or by stative verbs, as in Turkana (Eastern Nilotic, Kenya) (Wetzer 1996). Furthermore, even if the language has adjectives, they sometimes form a closed class with a small number of members (Dixon 1982b[1977]). For example, for Yimas (Papuan, New Guinea), Foley (1991) says that there are only three unambiguous adjectives, corresponding to ‘big’, ‘good’ and ‘other’. This is perhaps an extreme case, but other languages also have a small inventory of adjectives.

I have found that there are around a hundred adjectives which appear to be underived. These cover all of the seven categories proposed by Dixon (1982[1977]). According to Dixon, if a language has adjectives as an independent word class, they should express at

least age, dimension, value and color (Dixon 1982[1977], Wetzer 1996). This is shown in (49).

49. Adjectives in Dixon's typology⁶

- a) Dimension: *pejy* 'thin', *kon* 'short',
- b) Physical property: *huun* 'hard', *tep* 'cold', *pejk* 'rounded'
- c) Color: *pu'ts* 'yellow', *poop* 'white', *yějks* 'black', *käjts* 'black and white', *tsuxk* 'grue'.
- d) Human propensity: *en* 'be spoiled'.
- e) Age: *měj* 'old', *mutsk* 'young'.
- f) Value: *ey* 'good', *wenk* 'different', *tsuj* 'pretty', *tsoo* 'expensive'

6.5.1 Basic syntax of adjectives

As stated, one of the main functions of adjectives is to modify a noun (50). When an adjective has this function, it is called an attributive adjective.

50. a) *yě'* *měj* *uk*
 DEM.M big dog
 'the big dog'
- b) *yě'* *tsuxk* *ěxmuk*
 DEM.M grue skirt
 'the green skirt'
- c) *yě'* *wenk* *tu'uts*
 DEM.M different pot
 'the odd pot'

In contrast to adjectives, neither nouns nor verbs can directly modify a noun, even if the verb expresses a state.

51. a) **yě'* *něj* *wet*
 DEM.M water cloth
 Intended: 'the wet cloth'
- b) **yě'* *aně'kx* *mixy*
 DEM.M be.tired boy
 Intended: 'the tired boy'

⁶ Part of the analysis presented here and many of the examples are based on Romero, Aguilar & Aguilar 2003.

Adjectives cannot appear in a noun phrase that does not contain a noun, as is shown by the ungrammaticality of the examples in (52). More precisely, in (52a) it is not possible to have a NP consisting of a demonstrative and an adjective without a noun, and in (52b) an NP consisting of a numeral and an adjective.

52. a) *yë' tsuj
 DEM.M beautiful
 Intended: 'the beautiful'

b) *majtsk tsäjpts
 two red
 Intended: 'two red ones'

Inside the noun phrase, adjectives usually appear before the noun, as in the examples in (50) but they can also appear after it (53). There is no detectable change in meaning associated to the position of the adjective in the NP.⁷

53. Të ějts n'ixy [tu'uk uk měj]_{NP}.
 tĕĕ ějts n-ex-y tu'uk uk měj
 BEFORE.NOW 1SG 1A-see-DEP one dog big
 'I saw a big dog.'

⁷ In a comparative perspective, the change in position does not require further marking. In this respect, there is a difference between AyMi and other Mixe-Zoque languages, where postnominal attributive adjectives have to be marked as relative classes. Compare the AyMi example (50) with Olutec, where the adjective has to be marked with a nominalizer (ia), or with San Miguel Chimalapa Zoque, where the adjective is marked with a relativizer (ib).

i. a) Olutec (Veracruz Mixe)
 ?itu [ma:nku chikxpakaj]_{NP}
 ø=?it-u ma:nku chikxpak-?aj
 B3(ABS)=exist-COMI mango pretty-NMZR
 'There was a pretty mango.' (Zavala 2000:56)

b) SMCh Zoque (Oaxaca Zoque)
 jote peka?
 jote? peka+V?k
 clothes worn.out+REL
 'used clothes' (Johnson 2000:70)

Adjectives in Coatlán Mixe have a similar behavior, though in that language the use of the relativizer or nominalizer is optional (Hoogshagen & Bartholomew 1993). One can imagine that in Ayutla Mixe the use of a relativizer after the noun was optional at some point in the history as well, and then it was just not used anymore.

Adjectives commonly appear in non-verbal predication (54a) or as secondary predicates (54b). I will not go into further detail because non-verbal predication will be treated in detail in §9.1 and secondary predication in §10.3. Suffice it to say at this moment that in (54a) there is no overt copula.

54. a) Jay yë' tojkk.

jay yë'ë tojkk
 spicy DEM.M food
 'The food is spicy/hot.'

b) Kom kata tyixytyëjk mëj tjää.

komo ka't=ja'a y-tixytyëjk **mëj** t-jäw
 as NEG=DEM.D 3POSS-wife big 3A-feel\CMP
 'Since he didn't value her wife.' (IreL-1535)

6.5.2 Intensifiers and derived adjectives

In AyMi, adjectives can be modified by one of the three intensifier suffixes presented in (55). All of them could be translated roughly as 'very', and I am not sure about the differences in meaning that they can have.

55. Intensifier suffixes.

-naxy
 -te'kn
 -ajtsn

The intensifier suffixes are exemplified in (56).

56. a) Jejkxytekn te'n jyäw.

jejkxy-te'kn te'n y-jäw
 tasty-INTENS M.DEM 3S-feel[INCH;DEP]
 '(Rabbit's meat) tastes very good.' (AE-1306)

b) Ējts ata'amëk yë' nä'äny pä'äk'atsn.

ējts a-tam-ëk yë'ë nä'äny pä'äk-atsn
 1SG INTO-pour-1O;IMP DEM.M atole sweet-INTENS
 'Give me sweet *atole* (a thick hot drink).'

c) Mëjnaxya' tsëpkaaky...

mëj-naxy=ja'a tsäjp-kaaky
 big-INTENS=DEM.D heaven-tortilla
 'It was huge the bread (which...)' (AE-1421)

The construction with *-naxy* is not really specific of adjectives, as it can also be used with verbs. It is discussed in §8.10. The other two intensifiers are restricted to adjectives. Furthermore, not all the adjectives take *-ajtsn*; it seems that it is only taken by non-derived adjectives.

In the vocabulary, there exist around 100 adjectives that appear underived. It is possible to derive adjectives from verbs using the neutral dependent suffix *-y*. This is similar to the way in which participial forms in European languages are lexicalized as adjectives. There are some examples in (57).

- | | | |
|--------|-------------------------|--------------------|
| 57. a) | xux ‘to be cold’ | xixy ‘cold’ |
| | b) yon ‘to grow’ | yeny ‘long’ |
| | c) wej ‘to react’ | wijy ‘intelligent’ |
| | d) atuk ‘to get closed’ | atiky ‘closed’ |

In addition to deriving adjectives from verbs, it is possible to form adjectives from other adjectives using part morphemes (see §6.16), as in (58). In (58a), the adjective *ëxwä’äts* ‘naked’ is formed by the part morpheme *ëx* ‘behind’ and the adjective *wä’äts* ‘clear’; similarly, in (58b) the adjective *jënmutsk* ‘narrow’ contains the part morpheme *jën* ‘front’ and the adjective *mutsk* ‘little’.

- | | | |
|--------|-------------------|-------------------|
| 58. a) | wä’äts ‘clear’ | ëxwä’äts ‘naked’ |
| | b) mutsk ‘little’ | jënmutsk ‘narrow’ |

As one can see, the meaning of the resulting adjective seems to be rather idiosyncratic and it is not entirely clear to me how productive this is.

6.6 Personal Pronouns

Ayutla Mixe has personal pronouns only for first and second person, but not for third person, as shown in Table 1. Demonstratives are used for third person. The syntax and semantics of demonstratives is discussed in §6.8.

Person \ Number	Singular	Plural
1st person exclusive	ējts	ëëts(t)
1st person inclusive		atām
2nd person	mējts	meets(t)
3rd person	demonstratives	

Table 1. Personal pronouns in Ayutla Mixe.

As shown in the table, personal pronouns have a distinction between singular and plural. Number is optionally marked in AyMi except in pronouns. Pronouns have to obligatorily correspond to singular or plural, according to the referent. The first person plural exclusive and second person plural pronouns optionally take the plural marker *-t*, but in addition the singular has a short aspirated vowel and the plural a long vowel.⁸ Perhaps for this reason, the plural marker is optional. In fact, in actual discourse, one almost never finds plural pronouns with the plural suffix.

As in many Mesoamerican languages (Campbell, Kaufman & Smith-Stark 1986), there is a distinction between first person plural inclusive (speaker, addressee, and possibly other person(s)) and first person plural exclusive (speaker and other person(s), but not the addressee). The contrast between inclusive and exclusive first persons is reflected only in the pronouns, but not in the person prefixes in the verb.

The set of personal pronouns presented above can be used for any grammatical relation without any additional marking. In other words, personal pronouns are not marked for case. This is shown in the following examples.

59. Subject of intransitive

a) Pēs mejts te'n mtā'mp.

pēs mejts te'n m-tān-p
 DISC 2SG M.DEM 2S-stay-IRR;INDEP
 'You will have to stay.' (NLAH-689)

⁸ The aspirated nucleus is part of the fossilized aspiration process described in §5.7.1.

- b) nēj̣kx̣än̄ēp̄ ēj̣ts
 nēj̣kx̣-ä'än-nē-p ēj̣ts
 [1S]go-DES-PERF-INDEP 1SG
 'I am going' (IreL-474)

60. Subject of Transitive

- ¿Mää mej̣ts jä'äy xkap̄äät̄y?
 mää mej̣ts jä'äy x-ka-päät-y
 where 2SG person 2A-NEG-find-DEP
 'Why don't you see the person anywhere?' (Ire-121)

61. Object

- a) Oj̣ts ēj̣ts yē' x'ixy.
 oj̣ts ēj̣ts yē'ē x-ex-y
 PAST 1SG DEM.M 1O-see-DEP
 'He saw me.'
- b) ¿Pēn ēj̣ts xaka'apy?
 pēn ēj̣ts x-ak-kay-p
 who 1SG 1O-CAUS-eat.corn-IRR;INDEP
 'Who is going to feed me?' (NLA-684)

The grammatical function of the pronoun (or the participant, to be more precise) is derived from other grammatical mechanisms, such as person markers, AM markers and the presence of the inverse suffix, all of which are discussed in chapter 9. They are also used in possession (in addition to the possessive marker, to be discussed in §7.3.5). This is shown in (62).

62. Possessor

- ēj̣ts n'itsy
 ēj̣ts n-itsy
 1SG 1POSS-younger.sibling
 'my younger brother'

6.7 Numerals

The main topic of this section is cardinal numerals, although ordinal numerals are treated as well in the second subsection. The discussion then turns to bound morphology

of numerals and, in the final subsection, to the external function of numerals outside the noun phrase and their combination with a distributive clitic.⁹

6.7.1 Cardinal numerals

It is well known that Mesoamerican languages have a vigesimal numeral system. In fact, according to Campbell, Kaufman & Smith-Stark (1986), that is one of the traits that identify Mesoamerica as a linguistic area. Numbers from one to ten in AyMi are presented in (63).

63. tu'uk	'one'
tu'umtsy	'one'
majtsk	'two'
tëkëëk	'three'
maktäxk	'four'
mëkäxk	'five'
tutujk	'six'
jëxtujk	'seven'
tuktujk	'eight'
taxtujk	'nine'
mäjkk	'ten'

First of all, it is worth pointing out that all these numerals end in *-k*. Based on this, one could speculate that at some point in history the final *-k* was a kind of numeral marker or numeral classifier (Wichmann 1995a). A trace of this might be the fact that in AyMi there are two numerals that mean 'one', although the second one, *tu'umtsy* 'one', has a more restricted distribution, in addition to being used as an adverbial. Despite that, I consider the numerals from one to ten as monomorphemic in Ayutla Mixe from a synchronic perspective. Also, the numerals from 'six' to 'nine' end in *-tujk*. It has been

⁹ Note that in Ayutla Mixe, in the same way as other Mixe-Zoque languages but unlike some other Mesoamerican languages, there are no numeral classifiers.

analyzed as ‘one in addition to (five)’ in historical terms, so that six would be ‘one more than (five)’, seven ‘two more than (five)’, and so on (Wichmann 1995a).¹⁰

Independently of the reconstruction for ‘six’ to ‘nine’, ‘ten’ is another basic numeral, in the sense of not being composed by other numerals. Numerals from ‘eleven’ to ‘nineteen’ are presented in (64).

64. mājktu’uk	‘eleven’	10+1
mājkmajtsk	‘twelve’	10+2
mājktëkëëk	‘thirteen’	10+3
mājkmājks	‘fourteen’	10+4
mājkmojkx	‘fifteen’	10+5
mājktujt	‘sixteen’	10+6
mājkjëxtujk	‘seventeen’	10+7
mājktuktujk	‘eighteen’	10+8
mājktaxtujk	‘nineteen’	10+9

Most of these numerals are transparently composed of ‘ten’ and the other number, except for ‘fourteen’, ‘fifteen’ and ‘sixteen’. In the case of *mājkmājks* ‘fourteen’ and *mājkmojkx* ‘fifteen’, they visibly contain *māj* ‘ten’ but the second part of those numerals does not clearly correspond to *maktäxk* ‘four’ and *mëkäxk* ‘five’, respectively. On the other hand, *mājktujt* ‘sixteen’ seems to be a reduction of “*mājktutujk*”, which would be the compound of ‘ten’ and ‘six’.

At least historically, the numerals from ‘20’ to ‘100’, shown in (65), are vigesimal too. The basic numbers are multiples of twenty, and so ‘60’ and ‘80’ are reduced forms of ‘3×20’ and ‘4×20’. ‘Forty’, however, is not clearly composed of ‘two times twenty’, at least not synchronically. Historically, the first part *jëx-* could be another allomorph for ‘two’, also present in ‘seven’, and in the word for ‘two’ in the two Veracruz Zoque languages (see Clark (1982) for Texistepec Zoque and Elson (1967) for Soteapan Zoque).

¹⁰ Additionally, Zoque numerals have the ending *-a’y/-ang* where Mixe numerals have *-k* (Yasugi (1995) for Copainalá Zoque and Johnson (2000) for SMCh Zoque). As Yasugi (1995) and Wichmann (1995a) have noted, from ‘one’ to ‘twenty’ there is in fact a quinary system.

Finally, ‘100’ can be seen as a reduced form of ‘five times twenty’. Again, although one could trace the origin of these words, I suspect that synchronically it is better to treat them as non-divisible.

65. e’pxy	‘twenty’	20
e’pxmäjk	‘thirty’	20+10
(jë)xtijkxy	‘forty’	2×20
(jë)xtijkxymyäjk	‘fifty’	(3×20)+10
tiki’pxy	‘sixty’	3×20
tiki’pxymyäjk	‘seventy’	(3×20)+10
makta’pxy	‘eighty’	4×20
makta’pxymyäjk	‘ninety’	(4×20)+10
mëkepxy	‘hundred’	5×20

After ‘99’, ‘100’ becomes the new base, although the intermediate numbers are still vigesimal. In this respect, ‘160’ would be something like ‘a hundred plus three times twenty’. According to Yasugi (1995), this is a fairly recent innovation, but Colonial Mixe retained the vigesimal system.

Numerals after ‘1000’ use the Spanish word *mil* ‘thousand’ (66). I have heard elder speakers say that their grandfathers did not use the Spanish word, but rather the true Mixe word. However, I have not found a speaker who can recall such a numeral and I suspect that it never existed, since in a vigesimal system ‘400’ would be the next basic number and ‘800’, ‘1200’ and so on, but not ‘1000’, would be multiples of ‘400’.¹¹

66. a) majtsk mil ‘two thousand’
 b) tēkēēk mil ‘three thousand’

Finally, in order to express a paucal meaning, the combination of *majts* ‘two’ and *tēkēēk* ‘three’ is used.

¹¹ Clark (1982) reports the number ‘1000’ for Texistepec Zoque (based on a word list compiled by Eustorjio Calderon in 1892), which is [baknabof], clearly composed as ‘10×100’.

67. Yë'ts ojts nmatsy majtsk tēkēek yē' mutskety.

yē'ë=ējts ojts n-mäts-y majts tēkēek yē mutsk=ety
 DEM.M=1SG PAST 1A-grab-DEP two three DEM.D small=DISTR
 'I grabbed a few of those (rabbits) that are small.'

6.7.2 Ordinal numerals

Ordinal numerals are formed adding the prefix *më-*, as exemplified in (68) and (69).

68. tu'uk	'one'	mëtu'uk	'first'
majtsk	'two'	mëmajtsk	'second'
tēkēek	'three'	mëtēkēek	'third'
maktäxk	'four'	mëmaktäxk	'fourth'
mëkäxk	'five'	mëmëkäxk	'fifth'

69. Te'n yä'ät mëtu'uk... yak'ixy.

te'n yä'ät më-tu'uk y-ak-ex-y
 M.DEM DEM.P ORD-one 3S-CAUS-see-DEP
 'And that is how the first one is seen.' (FrogG-76)

6.7.3 Animacy prefix

Numerals are usually marked for animacy by adding the prefix *në-*. It is primarily used for referring to people, as in (70a-b), but it is also commonly used for animals (70c).

70. a) Nëtēkēek y'ejty.

në-tēkēek y-et-y
 ANIM-three 3S-exist-DEP
 'There were three.' (Aur2L-2005)

b) Ta nëmajtsk tmëmëta'aky.

taa në-majtsk t-më-mëtä'äk-y
 DEIC.M ANIM-two 3A-BEN-hurry-DEP
 'Then, he beat the two of them.' (Aur2L-1040)

c) Ojts n'ixy nëtēkēek juyujk.

ojts n-ex-y në-tēkēek juyujk
 PAST 1A-see-DEP ANIM-three animal
 'I saw three animals.' (J)

This prefix can be extended to other referents that one might consider inanimate entities as long as they have self-propulsion, as in (71a). However, with more typical inanimate objects, it cannot be used, as shown by the ungrammaticality of (71b).¹²

71. a) Ojts n'ixy nētēkēēk carro/avión
 ojts n-ex-y nē-tēkēēk carro/avión
 PAST 1A-see-DEP ANIM-three car/airplane
 'I saw three cars/airplanes.' (J)

b) *Ojts n'ixy nētēkēēk tsāj.
 ojts n-ex-y nē-tēkēēk tsāj
 PAST 1A-see-DEP ANIM-three stone
 Intended: 'I saw three rocks.'

6.7.4 Adverbial suffix

The suffix *-ojk* forms adverbs that indicate the number of times that something happens. Some of these forms are listed in (72).

72. tu'uk	'one'	tu'kojk	'once'
majtsk	'two'	majtskojk	'twice'
tēkēēk	'three'	tēkēēkojk	'three times'
maktäxk	'four'	maktäxkojk	'four times'
mökäxk	'five'	mökäxkojk	'five times'

It seems plausible that this suffix is historically related to the "core serial verb" *-koj*, used to indicate that something was done again (see §9.10), plus the ending *-k* also found in numerals, although this is only speculation.

The use of these adverbials is shown in context in the examples in (72).

73. a) tu'ukojk majtskojk jēte'na jatsyu'u t'ēstujt.
 tu'uk-kojk majtsk-kojk jēte'n=ja'a jatsyu'u t-ēs-tuj-t
 one-time two-times M.DEM=DEM.D deer 3A-MCP-shoot-PL;DEP
 'Once, twice, they went to hunt deer.' (Aur2-614)

¹² It has been reported in the literature that a cognate form has partitive uses in other Mixe languages, specifically in Totontepec Mixe.

i) majk 'ten' nūmajk 'ten of them' (Suslak 2005:133)

- b) Ka'pxy, ttakä'pxnēt tēkēkoojk.
 ka'pxy t-ta-kä'px-n-t tēkēk-kojk
 complete 3A-APPL-be.complete-PERF-PL;DEP three-times
 'Complete, they had complete it for the third time.' (NLA-702)

Finally, it is also possible to add the reduced form of the demonstrative *ja'a* to the numeral plus the derivative adverbial morpheme to create a word with the meaning 'another X times', as shown in (74).

74. jatukojk 'once again, later'
 jamatskojk 'another two times'
 jatēkēkojk 'another three times'
 jamēkoxkojk 'another four times'
 jamājkojk 'another ten times'

The use of these adverbials is exemplified in (75), where the meaning of *jatukojk* is something like 'once again'.

75. a) Ojts taa' mutsk mixy jatēkojk tmastu'uty.
 ojts ta=ja'a mutsk mixy jatukojk t-mastu'ut-y
 PAST DEIC.M=DEM.D little boy again 3A-drop-DEP
 'And the boy dropped it again.' (FrogG-352)

- b) Jaa nēn jatēkojk tyēkēt atsp.
 jaa nē'n jatēkojk y-tēk-ē-t atsp
 DEIC.D much again 3s-enter-INCH-PL;DEP dance-INF
 'And they start dancing again.' (Isr-467)

6.7.5 External numerals and Distributive

Usually, numerals modify a noun (76a) or occur as the head of noun phrase (76b).

76. a) Ēs ja' tu'uk apējkkē'ēny tsyēēn jajp.
 jēts ja'a tu'uk a+pēk-kē'ēny y-tsyēēn jajp
 and DEM.D one put.in-NMLZ 3S-sit\INCH.DEP DEIC.D
 'And one recipient is sitting there.' (FrogG-61)

- b) Te'n yā'āt mētu'uk... yak'ixy.
 te'n ya'āt mē-tu'uk y-ak-ex-y
 M.DEM DEM.P ORD-one 3s-CAUS-see-DEP
 'That is how one sees the first one.' (FrogG-83)

In addition, numerals can also appear outside the noun phrase. In this case, the numeral modifies the verb, not a noun, as in (77).¹³ Semantically, however, the cardinality expressed by the numeral can be assigned to the denotation of any argument noun phrase, depending on the context.

77. a) *Majtsk ojts [ja'a tsäjpkaaky]_{NP} nkayy.*
majtsk ojts ja'a tsäjp-kay+k n-kay-y
 two PAST DEM.D heaven-tortilla 1A-eat-DEP
 'Two is the number of breads that I ate.'

b) (The protagonist of the narration killed the three women's husbands)
Tëkëëk n'anä'an ja tixytyëjk takpëtsëmä'äny.
Tëkëëk n-anä'an ja'a tixytyëjk t-ak-pëtsëm-ä'an-y
 three 1S-say DEM3 woman 3A-CAUS-exit-DES-DEP
 'Three, let's say, are the women he will take with him.' (Aur2-1173)

In (77a), the most suitable interpretation is that the cardinality 'two' is assigned to the number of breads, not the eaters, because in that case a first person plural pronoun would appear. In (77b), the protagonist, who is the agent, is a single person, and thus, the cardinality 'three' is assigned to the patient. Additionally, when the external numeral is in a sentence initial position, it triggers a group-forming reading (Romero 2005).

Also, when the numeral is outside the noun phrase, i.e. when it modifies the verb, it can host the distributive clitic =*ety*, and in this case the construction has both a group forming interpretation and a distributive interpretation. So, for example, in (78) it is understood that there was an event in which there was a group or several groups formed by three elements. The most natural interpretation in that case is that two boys (i.e. the cardinality assigned by the numeral *majts* 'two' inside the first noun phrase) carried (a)

¹³ There are some languages in which numerals only modify the verb, not a noun phrase. Such is the case of Karó (Tupian) and Wari' (Chapacura-Wanhan), both of them spoken in Brazil (see WALS chapter 89, Dryer 2005b). Ayutla Mixe is rather like Kutenai (isolate, North America) because numerals modify nouns or verbs.

group(s) of three bags each (the group forming interpretation induced by the external numeral *tëkëëk* ‘three’, and the distributive interpretation due to the distributive =*ety*).

78. Tëkëkety [majtsk mixyanä’äk]_{NP} [ja’a ulxuummy]_{NP} ojts ttsëmt.
 tëkëëk=*ety* majtsk mixy-anä’äk ja’a ul-xuummy ojts t-tsëmt
 three=DISTR two boy-PL DEM.D plastic-net PAST 3A-carry-PL;DEP
 ‘Two boys carried a group of three bags each.’

6.8 Demonstratives

In this section I discuss the demonstrative system in Ayutla Mixe, focusing on morphosyntactic aspects and the meanings of the demonstratives. The section is divided into two main subsections, one devoted to adnominal/pronominal demonstratives and the other one to adverbial demonstratives. Both systems are certainly related, and I believe that at some point in the history of the language it was possible to extract a single set of roots for both systems. However, the two systems do not coincide in all the elements and the meaning of the common elements is not exactly the same in deictic terms. Additionally, at the end of the section, I discuss another adverb which could qualify as a manner demonstrative in Dixon’s (2003) terms, even though it is not related to the other two systems.

6.8.1 Nominal demonstratives¹⁴

As the title of the section suggests, these demonstratives are part of nominal expressions, although they have two functions: as a nominal marker in a noun phrase in (79a),¹⁵ and as pronouns, i.e. assuming the function of the whole noun phrase (79b). I refer to these demonstratives as NOMINAL DEMONSTRATIVES.

¹⁴ This section is based largely on Romero & Aguilar (2003). The deictic information presented in that paper was drawn from the elicitation of the “*This*” and “*That*” in comparative perspective questionnaire, elaborated by David Wilkins for the MPI for psycholinguistics.

¹⁵ In a more traditional perspective, one could say that in this function they are adnominal modifiers.

79. a) *Tsu'utsp yë' uk.*
 tsu'uts-p yë'ë uk
 [3S]bite-INDEP DEM.M dog
 'This dog bites.'
- b) *Taa te'n ëëts yë'ë jam nmëtätt.*
 Taa te'n ëëts yë'ë jam n-mëët-ät-t
 DEIC.M M.DEM 1PL.EX DEM.M DEIC.D 1A-ASSOC-VRBLZ-PL;DEP
 'And then we had it there.' (NLA-679)

Thus, in (79a) the medial demonstrative *yë'ë* and the noun *uk* 'dog' form a noun phrase. Despite what the gloss might suggest, the demonstrative is not used to mark definiteness, as a noun phrase with a demonstrative might also have an indefinite interpretation, but rather just as a nominal marker. This is discussed in the following chapter (§7.3.2). In (79b), on the other hand, the medial demonstrative *yë'ë* is used to fulfill one of the arguments of the verb *mëtät* 'to have'.

There are four nominal demonstratives in AyMi, presented in (80). As indicated, demonstratives also inflect optionally for number, although this does not happen frequently. In both *yä'ät* and *xe'et*, the singular contrasts with the plural in that the latter has a fortis *-t* (see §4.5).

80.	Singular	Plural	
a)	<i>yä'ät</i>	<i>yä'ät-t</i>	'proximal'
b)	<i>yë'ë</i>	<i>yë'ë-t</i>	'medial'
c)	<i>ja'a</i>	<i>ja'a-t</i>	'distal'
d)	<i>xe'et</i>	<i>xe'et-t</i>	'contrastive'

Usually the distal demonstrative and, to a lesser extent the medial, appear as enclitics to the previous word (81a). In contrast, the proximal and contrastive never appear as clitics (81b).

81. a) *Natyu'uka myä'äy.*
 natyu'uk=ja'a y-mä'ä-y
 alone=DEM.D 3S-sleep-DEP
 'She slept alone.' (IreL-80)

- b) Ta yä'ät tē tyēkeyy.
 taa yä'ät tēē y-tēkey-y
 DEIC.M DEM.P BEFORE.NOW 3S-lose-DEP
 'Then this (land) was lost.' (IsrH-281)

As in many languages of the world, demonstratives in AyMi can have both exophoric, i.e. making deictic reference to an entity of the world, and endophoric uses, i.e. making reference to an entity in the discourse.

In the exophoric uses of the demonstratives, all are anchored on the speaker (and never on the hearer). In (80) the first three demonstratives are presented as 'proximal', 'medial', and 'distal' (I return to the fourth demonstrative in a moment). These terms, however, are usually rather vague. Thus, the communicative situations in which the demonstratives are used are summarized in Table 2.

Demonstrative	yä'ät 'proximal'	yē'ē 'medial'	ja'a 'distal'
Distance distinction	Body part, contact with body, or reachable at arm's length	Conversational space (but not reachable at arm's length), but extended to the space around a house	Space beyond a house surroundings and geographical spaces; non-visible objects.

Table 2. Exophoric uses of demonstratives.

In general, the proximal is used when the referent is a body part, on the speaker's body or at arm's length. In contrast, the medial is used when the referent is inside the "conversational space". One could define the conversational space as the distance close to both the speaker and the hearer in a normal conversational situation, when both are close to each other, not when they are apart (for example, not if one person is shouting from the roof of a house to another person who is walking on the sidewalk).

The medial demonstrative overlaps with the other two in different ways. Both the proximal and the medial could be used in reference to something that is close to the speaker; however the use of one or the other makes its conceptualization as closer to the speaker or not. In this context, pointing usually goes with the proximal, but not pointing with the medial. However, outside the conversational space, pointing makes no difference and the medial has to be used. Thus, pointing helps choosing one demonstrative or another in an ambiguous deictic space.

The medial is also used in broader spaces, say if the referent is in the same room, if both the speaker and hearer are outside, or if the referent is in the yard. The farther the referent is from the speaker, the more likely the extensions of the medial and distal overlap. However, beyond a certain point only the distal is acceptable. Additionally, the distal is also used when the object is not visible but far away. If the object is close to the speaker, let us say behind her, the proximal demonstrative has to be used, which suggests that distance is more important than visibility in AyMi.

It is necessary to keep in mind that the deictic center is rather dependent on the context. Thus, in English one could say *this shirt* (pointing the shirt one is wearing), *this building*, *this town*, *this country*, *this planet*, *this galaxy*, and so on, where the speaker is the anchor but the real space covered by the deictic center changes. Furthermore, the demonstratives in general can also be used to contrast affective proximity.

In addition to those three demonstratives, there is another one in AyMi that does not really contrast in distance. The fourth demonstrative, *xe'et*, is specialized in contrastive uses. Its meaning can be paraphrased as 'this/that one among similar things'. Therefore, in order to use *xe'et*, many things perceived as of the same kind must exist. This

demonstrative can appear in any deictic space, and thus distance does not seem important. To the best of my knowledge, a demonstrative specialized in contrastive uses is not common among the languages of the world (David Wilkins, p.c.; cf. Diessel 1999). Of course, the other nominal demonstratives can also have contrastive uses, similar to when people say in English *THIS one, not that one*.

The distal demonstrative is most commonly used endophorically. In other words, it is used with respect to entities already introduced in the discourse and not to point to entities in the world. I have found only anaphoric uses of the demonstratives, but I would not exclude the possibility of cataphoric uses. With less frequency, it is possible to find the medial demonstrative with endophoric uses, although I am not exactly sure under which conditions and more research is needed on this. The proximal demonstrative does not have endophoric uses.¹⁶

As a last point, demonstratives can take other affixes. It is possible to add the reflexive prefix (*nay-*, often *niy-* in this context) to a demonstrative with a meaning similar to ‘he/she/they themselves’. It is not possible, however, to add the reflexive to the contrastive demonstrative:

¹⁶ It would seem that in other Mixe languages, some demonstratives have developed into a definite article. So, for example Suslak (2005) says that in Totontepec Mixe, the demonstratives have a reduced form (only with a CV shape) that functions as a definite article. Along the same lines, Zavala (2000) says that for Olutec there is a definite article (and third person anaphoric pronoun for animate participants), which is cognate with the distal demonstrative in AyMi. A longer form containing (historically) the same root is used as demonstrative.

Dieterman (1995) also says that demonstratives are used as determiners in Isthmus Mixe, but she does not indicate that they have split as articles. Even though one could not exclude this possibility given that her work is not providing a grammatical account of lexical classes, I would think that the situation is very similar to AyMi. In fact, I would even venture to say that in most Mixe language there are no articles; even if demonstratives have a full and a reduced form, and the reduced form only appears in an adnominal function, it does not mean that it is better described as an article and not as a demonstrative.

82. *nayä'ät*
nayë'ë
naya'a
**naxye'et*

Additionally, it is also possible to add the prefix *ak-* with the meaning of ‘the (very) same’ (83). This prefix looks identical to the causative *ak-*, which attaches to verbs, although I cannot tell at this point whether they are historically related. Additionally, in some cases it seems to have the meaning ‘all of DEMONSTRATIVE’, as in (84).

83. *akyä'ät.*
akyë'ë
akxja'a
akxe'et

84. *Aka', aka' xyëë.*
ak-ja'a ak-ja'a y-xëë
 PREF-DEM.D PREF-DEM.D 3POSS-name
 ‘All of them (different places), all of them had a name.’ (IsrH-2269)

Finally, it is possible to add the suffix *-e'mp* to demonstratives, although I am not sure what nuance it introduces. The suffix is exemplified in (85) for all four adverbial demonstratives and in (86) *yëte'mp* is contextualized in a sentence.

85. *yäte'mp* ‘proximal’
yëte'mp ‘medial’
jate'mp ‘distal’
xete'mp ‘contrastive’

86. *Mets mmëtä'mp yëte'mpë nemëk.*
Mets m-mëët-äm-p yë+te'mp=jë'ë nem=ëk
 2SG 2S-ASSOC-DES-INDEP DEM.D=DEM.D say=EV
 ‘You stay with that, s/he said.’ (NL1H-1964)

6.8.2 Locative adverbial demonstratives

There are four roots for LOCATIVE ADVERBIAL DEMONSTRATIVES, i.e. adverbs that encode locative deictic information. Three of these roots are cognate with roots for

nominal demonstratives (*yä, ja, xe*). There is another root that does not appear as a nominal demonstrative (*ta*). The four adverbial demonstratives are presented in (87).

87. Adverbial demonstrative roots

yä: Closer to speaker

ta: Relatively close to speaker.

xe: Relatively away from speaker.

ja: further away from speaker/ not visible.

Even though three roots share part of the meaning with pronominal/adnominal demonstratives, I do not assume that synchronically there is a single root for both pronominal and adverbial demonstratives because the deictic relations change in one case, as presented in Table 3.¹⁷

Root	as nominal demonstrative	as adverbial demonstrative
<i>yä</i>	proximal	closer
<i>xe</i>	contrastive	medial
<i>ja</i>	distal	distal

Table 3. Roots as nominal and adverbial demonstratives.

These roots never appear alone, but with one of three locative suffixes, presented in (88). In (88a) the suffix is a bilabial stop, which in turn causes the vowel to become aspirated; in (88b) there is actually lengthening of the previous vowel; and in (88c) the suffix consists of a bilabial nasal stop.¹⁸

88. -jp: Figure inside a container.

-V: Figure on an extended surface.

-m: Ground not specified.

For example, if someone asks the question in (89a), the appropriate answer depends on the type of ground. If the one were to take a jar and point at it, then the answer should

¹⁷ It worth mentioning that in other Mixe languages, the root *xe* is used as medial deictic (always anchored to the speaker), both as an adverbial and adnominal demonstrative.

¹⁸ Strictly speaking, this is a mixture of changes in the type of syllabic nucleus and suffixation. Also, for simplicity's sake, these locative endings are analyzed in the present section, but in the examples in the rest of the dissertation the root and the ending are treated as a unit.

be (89b); if one takes a plate, then the appropriate answer becomes (89c); but if the ground is neither a container nor an extended surface, the answer is (89d).

89. a) Q: ¿Mäs mpëkta'aky?
 mää=ëjts n-pëktä'äk-y
 where=1SG 1A-put-DEP
 'Where do I put (it)?'
- b) Ground=jar
 A: Yäjp.
- c) Ground=plate
 A: Yää.
- d) Non specific ground
 A: Yäm.

The actual deictic configuration may change according to the combination of the root and locative marker. While *yä-* is always proximal and *ta-* is always medial, but closer to speaker, the relationship between *xe-* and *ja-* is not always well defined for all of the people I talked to, although *ja-* is usually used for farther distances. All of the combinations are summarized in Table 4.

+ Proximal				
yää	>	taa	>	xee > jaa
yäm	>	tam	>	xem : jam
yäjp	>	tajp	>	xejp : jäjp
+ Distal				

Table 4. Adverbial demonstratives.

There is a fifth root, *tsyä-* which seems to be historically made from *yä-* plus an unidentifiable prefix. This fifth root is used in the same deictic contexts as *yä-*, except that it encodes visibility. More specifically, its use typically conveys shared attention, but not all speakers agree as to whether the object has to be visible for both speaker and hearer or just for the speaker. This distinction is not available for the other three roots. This fifth root can also take all three locative suffixes.

90. tsyää, tsyäm, tsyäjp

One could think of adverbial demonstratives as equivalent to a locative phrase, let us say a locative prepositional phrase in English. However, I think that in Ayutla Mixe locative demonstratives are not substitutes of locative phrases, because they in fact co-exist very often. Thus, in the example in (90), which contains a basic locative construction, the answer includes both an adverbial demonstrative and a locative phrase (the syntax of the locative phrase is not relevant here, but it is the underlined constituent). Additionally, in discourse, one finds in AyMi more adverbial demonstratives than one would normally find in English.

91. Tama maya' xëjk kyo'ojn näjkëxp.

ta-m=ja'a may=ja'a xëjk y-ko'o-n näjk-këx-p
 DEIC.M-LOC=DEM.D many=DEM.D beans 3A-scatter-PREF ground-SURFACE-LOC
 'The beans are (scattered) on the floor.' (Beans11-A)

The adverbial demonstrative can combine with some affixes and with roots (in this case forming compounds), which is presented in sections §§6.8.2.1-8.

6.8.2.1 *Adverbial demonstrative and reflexive*

As with adnominal demonstratives, it is also possible to add the reflexive prefix to adverbial demonstratives to indicate the location of the figure in a given place, not in any other. Of course, what counts as “a given place” depends on the context, just as in any other use of demonstratives.

92. nayaa

nay-ja-V
 REFL-DEIC.D-LOC
 'there'

93. nayäjp, nayää, nayäm.

naxyejp, naxyee, naxyem
 nayajp, nayaa, nayam.

It seems that it is not possible to add the reflexive to the demonstrative *ta-*.

6.8.2.2 *Locative -y*

It is possible to add *-y* after the locative suffix, although the meaning of the resulting form is not clearly different from the demonstrative adverbs without the suffix. Further research is needed about this. Additionally, this suffix is not accepted with the root *tsyä*, except in one case.

94. jajpy, jamy, jaay.
 xejpy, xemy, xeey.
 tajpy, tamy, taay.
 yäjpy, yämy, yääy.
 ---, ---, tsyääy

6.8.2.3 *Suffix -yë'm 'always'*

In addition, the suffix *-yë'm* indicates that the action always happens in the place indicated by the demonstrative. All possible combinations are presented in (95).

95. jajpyë'm, jamyë'm, jaayë'm.
 xejpyë'm, xemyë'm, xeeyë'm.
 tajpyë'm, tamyë'm, taayë'm.
 yäjpyë'm, yämyë'm, yääyë'm.
 tsyäjpyë'm, ---, tsyääyë'm.

In (96), by using the suffix *-yë'm*, the adverbial demonstrative indicates that the crying usually happens in that place.

96. **Jajpyëma'** yyä'äxy.
 ja-p-**yë'm**=ja'a y-yä'äx-y
 DEIC.D-LOC-always=DEM.D 3S-cry-DEP
 'He was crying there (where he always cries).' (NL1-758)

6.8.2.4 *Directional -'ampy*

The suffix *-'ampy* adds a directional meaning to the locative adverbial demonstrative. Notice that the trajectory does not have to be in combination with a verb of motion but it can also appear in combination with a stative predicate. Thus, the example in (97) does

not mean that the ball was exactly ‘here’, but rather that it was somewhere in the direction of the speaker.

97. Yä’ampy ti ity pelota.
 yää-ampy ti ity pelota
 DEIC.P-DIR IMPF ball
 ‘The ball was in this direction.’ (PathMJ-6)

It is not possible to add the directional to all possible combinations of roots and locatives. The directional *-ampy* can appear in combination with the suffix *-y* (§10.8.2.3), although in this case does not appear with all possible combinations, as indicated in (98).

98. jajpy’ampy, jamy’ampy, ---
 xejpy’ampy, xemy’ampy, ---
 tajpy’ampy, ---, ---
 ---, yäm’ampy, yää’ampy
 tsyäjpy’ampy, tsyäm’ampy, ---

Additionally, it is possible to add the directional to the locative interrogative word *mää* ‘where’, as in (99a), to some part morphemes (see §6.16), as *ëxki’py* ‘behind’ in (99b), and to the manner demonstrative *te’n*, as in (99c). This last case is exemplified in (100).

99. a) mä’amy ‘where (where to)’
 b) ëxki’ampy ‘backwards’
 c) te’n’amy ‘to this/that (pointing) side’

100. Jatu’uk te’n’amy nyäxp.
 ja+u’uk te’n’amy y-näx-p
 another M.DEM-DIR 3S-pass-INDEP
 ‘Other (people) pass in this direction.’

6.8.2.5 Directional *tsoo*

There is another directional suffix, *-tsoo*, that combines with locative adverbial demonstratives with the meaning that means ‘on DEICTIC side’. It is used in order to indicate boundary crossing. Also, it is frequently used to indicate a direction where the place cannot be seen. This directional is exemplified in (101).

101. a) Muum jamtsoo tēa jyētity.
 muum ja-m-tsoo tēē=ja'a y-jētet-y
 everywhere DEIC.D-LOC-DIR BEFORE.NOW=DEM.D 3S-walk-DEP
 ‘He traveled everywhere over there.’ (Efa1-391)

b) Jama', jamtsoo tyējk.
 ja-m=ja'a ja-m-tsoo y-tējk
 DEIC.D-LOC=DEM.D DEIC.D-LOC-DIR 3POSS-house
 ‘There, his house is in that direction.’ (Efa- 314)

Boundary crossing may not be apparent from the translations of the examples in (101), but in both cases, the narrator is referring to a place beyond the hills. In (102), all the possible combinations are presented.

102. Jajptsoo, jamtsoo, jatsoo.
 Xejptsoo, xemtsoo, xetsoo.
 ---, tamtsoo, ---.
 Yājptsoo, yāmtsoo, yātsoo.
 Tsyājptsoo, ---, ---.

The origin of this suffix is unclear, but it is likely cognate with the verb *tsow* ‘to be joined’ in Sayultec (Wichmann 1995a), although in Ayutla Mixe it does not occur as a verb.¹⁹ This directional can also appear with the adjective *wenk* ‘different’ to mean ‘somewhere else’, as in (103).

103. a) ...ta ojts **wenk**tsoo nyēkxn tsēnaapy ojts.
 ta-V ojts wenk-tsoo y-nējkx-n tsēēn-ay-p ojts
 DEIC.M-LOCPAST different-DIR 3S-go-PERF;DEP [3S]sit-PERD-INDEP PAST
 ‘...they (people) went to live to a different place.’ (IrL-294)

b) Jēts tēkatsy jam **wenk**tsoo.
 jēts tēkāts-y ja-m wenk-tsoo
 and [3S]change-DEP DEIC.D-LOC different-DIR
 ‘And there in other places, (things) are different.’ (AE-1203)

¹⁹ A directional similar to this is found in Totontepec Mixe (Suslak 2005:126) with a labiodental sound at the end: /tsov/. Given the sound correspondences between Sayultec, Totontepec Mixe and Ayutla Mixe, this confirms the hypothesis that it comes from a verb whose meaning was something like ‘to join’.

It is quite common to combine both directionals *-tsoo* and *-’amy*. It is not entirely clear to me how the combination of both directional suffixes differs in meaning from only one of them. All possible combinations are given in (104).

104. *yäjptsa’amy yämtso’amy, yätso’amy/yatso’amy* ‘over here’.
jajptso’amy, jatso’amy, jamtso’amy ‘over there’
xejptso’amy, xemtso’amy, xeetso’amy ‘over there’

Notice that *-tso’amy* is not used with *ta* and *tsyä*. However, it is also possible to say *wenktsso’amy*. As the following example shows, in actual discourse there is not much difference between DEIC-*tsoo* and DEIC-*tsoo’amy*. In this example, the first *yäjpp* refer to different points at the same distance from the speaker.

105. *Jës yäjptso’amy yäjptsoo mu’kxetyppy tsyäjpp mäa nēj jatu’uk kyëta’aky.*
jëts yä-p-tsoo-’amy yä-p-tsoo mu’kx-ot+py tsyä-p
 and DEIC.P-LOC-DIR-DIR DEIC.P-LOC-DIR gully-INSIDE DEIC.P-LOC
mää=ja’a nēj ja+tu’uk y-këtä’äk-y
 where=DEM.D water another 3S-discend-DEP
 ‘And on this side, on this other side, here inside the gully where the other water rises.’ (IsrH-2082)

6.8.2.6 Locative *ëx-*

It is also possible to add the prefix (*ë*)*x-* to a locative deictic demonstrative. I have not been able to determine the exact meaning of this prefix, but it is very likely a variant of the part morpheme *ëx-*. An example is given in (106).

106. *Ëxajpa’ tas kyiiny meskixypy.*
ëx-ja-p=ja’a tas y-kë’ëy-n mes-këx+py
 LOC-DEIC.D-LOC-DEM.D cup 3S-carry.extended.objects-PERF table-SURFACE
 ‘The cup is there on the table.’

Apparently it is not possible to add *ëx-* to the deictics *yä* ‘proximal’ or *tsyä* ‘proximal’. All the other combinations are given in (107).

107. *ëxjajp*, *ëxtam*, *ëxjaa*.
xtajp, *xtam*, *xtaa*.
 --, *ëxem*, *ëxee*.

6.8.2.7 *Usual location*

There is yet another suffix whose meaning is something like ‘X, where it usually is’. The origin of this suffix is unclear; it may be a grammaticalized form of a verbal derivation of the form DEIC-INCHOATIVE-INDEPENDENT. Its meaning seems to be exactly the same as the suffix *-yë'm* (see §6.8.2.3).

108. *yäjpëp*, *yämëp*, *yääëp*.
tajpëp, *tamëp*, *taaëp*.
xejpëp, ---, *xeëp*.
jajpëp, *jamëp*, *jaaëp*.

6.8.2.8 *Other affixes*

The prefix *ak-*, similar to the one that is added to adnominal demonstratives, appears also with adverbial demonstratives. In this case, it also has similar meanings, on the one hand, sometimes it seems to mean ‘DEIC, where there is a lot of something’ and in other cases ‘DEIC, in that very place’.

The prefix *niy-* is also found in combination with adverbial demonstratives, with the meaning ‘close to DEIC’.

6.8.3 Locative adverbial demonstratives as temporal markers

Some adverbial demonstratives are commonly used as temporal markers. There are two that are very common, whose function as temporal markers seems now more primary over a locative deictic function. One of these is *tsyäm* ‘now, at this moment’, as exemplified in (109). Usually, it means ‘at the present time’, but depending on the context, particularly if there are temporal adverbs like *axëëy* ‘yesterday’, it could also be

interpreted with respect to other time in the narration (just like *now* in English).

Additionally, it also means ‘today’. The use of *tsyäm* as ‘now’ is illustrated in (109).

109. a) *Tsyäm* ja' mtat jyä'äty.
 tsyäm ja'a m-tat y-jä'ät-y
 now DEM.D 2POSS-dad 3S-arrive-DEP
 ‘Your dad is coming now.’ (VirL-105)

b) Pero *tsyäms* ntakaapy tsë'ëpy.
 pero tsyäm=ëjts n-ta-kay-yp tsë'ëpy
 but now=1SG 1A-APPL-eat-INDEP;TR quelite
 ‘But now I eat *quelite* (a type of leaf vegetable).’

The other adverbial demonstrative used as a temporal marker is *taa*. In its locative meaning, it is a medial deictic, but as a temporal marker it is commonly used to move the topic time forward, particularly in narratives. In this respect, it is very similar to the English adverb *then*, as shown in (110).

110. a) (The narrator is saying that someone took three women into a cave, but he did not come out)
 Ta jajp tyääny.
 taa jajp y-tään-y
 DEIC.M DEIC.D 3S-stay\CMPL-DEP
 ‘Then, he stayed there.’ (Aur2L)

b) Taa te'na' tsyäm jajp mäa' nēj...
 taa te'n=ja'a tsyäm ja-jp mäa=ja'a nēj
 DEIC.M M.DEM=DEM.D DEIC.P DEIC.D where=DEM.D water
 ‘And now it is there, where there is water... (IreL-247)’

Notice that in (110a) there are two adverbial demonstratives; the first one *taa* has a temporal function while the second one, *jajp*, a locative function. In the example in (110b), one can observe three adverbial demonstratives, two with the temporal functions described so far and only one with a demonstrative function.

Additionally, some of the adverbial demonstratives described in this section have specialized temporal functions, like the following cases:

111. a) *nayaa*
 nay-ja-V
 REFL-DEIC.D-LOC
 Literal meaning: ‘In that very place’. Temporal meaning: ‘At that moment’

b) *xemëp*
 xe-m-ëp
 DEIC.M-LOC-SUFF
 Literal meaning: ‘there, where usual’. Temporal meaning: ‘for a long time’

112. Q: ¿Do you know my brother?
 Jëë, *xemëpsa*’ n’*exäjtn*.
 jëë xe-m-ëp=ëjts=ja’a n-ex-ät-n
 AFF DEIC.M-LOC-SUFF=1SG=DEM.D 1A-see-VRBLZ-PERF;DEP
 ‘I have known him for a long time.’ (TAMAA-039)

In the example in (112), the deictic *xemëp* does not indicate any particular location, as it is not used as a locative deictic. Rather, since it has a temporal meaning here, it indicates the period of time for which the eventuality indicated in the verb applies.

6.8.4 Manner adverbial demonstrative

There is another adverbial, *(jë)te’n*, whose meaning is ‘like this/in this way’. Often, though not always, the use of *(jë)te’n* is accompanied by a gesture iconically representing the manner of an action, the direction of a motion event, or the size or amount of a referent. I call this adverbial the MANNER ADVERBIAL DEMONSTRATIVE following Dixon (2003). The adverbial demonstrative is exemplified in (113), is glossed as ‘M.DEM’.

113. *Este, mëët kääñ mëët nii mëët limoon, te’n* ëëts akxon ntakumi’kxy.
 este mëët kääñ mëët nii mëët limon **jëte’n** akxon n-ta-ku-më’kx-y
 DISC ASSOC salt ASSOC chili ASSOC lime M.DEM INTENS 1A-APPL-LOC-squeeze-DEP
 ‘With salt, chili, lemon, we squeezed well (like this).’ (AE-260)

It was mentioned in the previous section that the manner demonstrative can also take a directional to form *te’n’amy* ‘to this/that side’, in which case the speaker has to point towards the intended direction. Notice that this adverbial is a demonstrative not because it contains deictic information, as in nominal or adverbial demonstratives, but rather taking

another sense of the word “demonstrative” in the sense that very often it is accompanied with a mimicking action. In this respect, they are not really related in meaning with the other demonstratives and, as one might expect, they are not formally related to nominal or adverbial demonstratives either. Additionally, except in emphatic uses, the demonstrative only consists of the syllable *te'n*, pronounced with an initial voiced consonant. In addition to its basic meaning as a manner adverbial demonstrative, it is also used as an intensifier or even as filler, i.e. a word used to fill up a gap in an utterance.

6.9 Interrogative and indefinite words

Strictly speaking, interrogative words are not an independent lexical class. Rather, they belong to other lexical classes. Thus, for example, a word that means ‘what’ has a nominal meaning and fulfills a core argument; a word that means ‘where’ has an adverbial meaning and usually is an adjunct; furthermore, a word that means ‘how many’ would most probably be part of a noun phrase. However, all of them share the function of being used for asking content questions, and may have other syntactic properties that makes it useful to treat them together. The complete list appears in (114).

114. Interrogative words in Ayutla Mixe

pëen ‘who’²⁰
tii ‘what’
juun ‘when’
mää ‘where’
xë'n ‘how’ (in the sense of ‘in what manner’)
(jë)nääk ‘how many’
(jë)në'n ‘how much’
jatii(ku) ‘why’
(më)te'ep ‘which’

²⁰ Only to provide some historical information, *pëen* ‘who’ seems to be derived from a word whose meaning was ‘man’ (Wichmann 1995a), although it has still preserved that meaning only in Zoque languages (cf. for example Wonderly 1949, Johnson 2000, *inter alia*).

Two of them, *pëen* ‘who’ and *tii* ‘what’, appear typically as interrogative pronouns, acting as a core arguments.

115. a) ¿Pëen memp?

pëen men-p
who come-INDEP
‘Who is coming?’

b) ¿Tii ity mtakyäjtëp ko mmutsk'ätt?

tii ity m-ta-këyät-ë-p kuu m-mutsk-ät-t
what IMPF 2A-APPL-play-INCH-INDEP when 2A-kid-VRBLZ-IRR;DEP
‘What did you play with when you were a kid?’ (EfaH2-320)

The other interrogative words could be treated as interrogative adverbs, since they are used mainly to ask about elements that in the response (or in a declarative sentence) would act as adverbs or adverbial constituents. So, there are content question for time (*juun* ‘when’) in (116a), one for manner (*xë'n* ‘how’) in (116b), and for quantity (*jë'në'n* ‘how much’) in (116c). In a traditional view, the question word for location, *mää* ‘where’ in (116d), could also be considered an interrogative adverb.

116. a) ¿Juun kyootsä'äny?

juun y-koots-ä'än-y
when 3S-get.dark-DES-DEP
‘When is it going to get dark?’

b) ¿Xë'n yë' ontsä'äyy y'ey?

xë'n yë' on-tsä'äy-y y-ey
how DEM.M grease-roast-D.ADJ 3S-good[INCH.DEF]
‘How did you prepare it fried?’ (AE1-268)

c) ...në'na' kanapyojkëjxë'n.

në'n=ja'a n-ka-nay-wop-këx-ë'n
HOW.MUCH=DEM.D 1A-NEG-REFL-whip-finish-INCL
How much would have hit each other?

d) ¿Mää myä'äy?

mää y-mä'ä-y
where 3S-sleep-DEP
‘Where is he sleeping?’

The question words (*jě*)*ně'n* ‘how many’ and (*jě*)*nääk* ‘how much’ are noun modifiers, as shown in the following examples.

117. a) *ǀNěně'n jā'äy yamä'ät yěsmä'ät?*
 ně-ně'n jā'äy y-a-mä'a-t y-ēs-mä'a-t
 ANIM-how.many people 3S-INSIDE-sleep-PL;DEP 3S-MCP-sleep-DEP
 ‘How many people slept?’ (Efa1-383)
- b) *ǀJěts jěnääk, jěnääk moojk twěj-t?*
 jěts jěnääk jěnääk moojk t-wěj-t
 and how,much how.much corn 3A-throw-PL;DEP
 ‘And how much, how much corn did you throw?’ (A&E-672)

Additionally, in the list I included a word, used to question reason (*jati(ku)* ‘why’), as shown in (118).

118. *ǀJěts jatiku te'n xtiny?*
 jěts jatiku te'n x-tun-y
 and why M.DEM 2A-do-DEP
 ‘And, why did you do it in that way?’ (NLA-397)

The relative pronoun (*mě*)*te'ep* also has an interrogative function, similar to *which* in English. As in English, (*mě*)*te'ep* can stand for a whole noun phrase, as in (119a), or it can be a noun modifier, as in (119b).

119. a) *Ah, ǀte'ep mejts jawään mtsejkypy?*
 ah te'ep mejts ja+wään m-tsok-yp
 INTERJ which 2SG a.little.more 2a-want-INDEP;TR
 ‘Ah, which do you like more?’ (A&E-1193)
- b) *ǀTe'ep xějĵk yě' mēēt yě' moojk mneptě'p?*
 mēte'ep xějĵk yě'ē mēēt yě'ē moojk m-ne'ep-tě-yp
 which beans DEM.D ASSOC DEM.D corn 2A-sow-PL-INDEP;TR
 ‘Which beans do you plant the corn with?’ (A&E-425)

In Ayutla Mixe, polar questions are marked by the interrogative clitic =*a*, as shown in the examples in (120).

120. a) *Jěts, ǀpětsěmp jam may muxa?*
 jěts pětsěm-p jam may mux=a
 and [3S]exit-INDEP DEIC.D many mushroom=Q
 ‘And, do many mushrooms grow there?’ (AE1-234)

- b) ¿Ka't tutk tmatsya?
 ka't tu'tk t-mäts-y=a
 NEG chicken 3A-grab-DEP=Q
 Didn't he catch the chicken? (AE-186)

Interrogative words have functions other than question elements, but this usually involves other morphemes. They can take a negative prefix in order to form negative words, as shown in (121).

121. a) nipëën 'no one'
 b) nitii 'nothing'
 c) nijuun 'never'
 d) nimää 'nowhere'
 e) nixë'n 'no way'

This prefix looks suspiciously similar to negative Spanish word *ni* 'and not'. However, as discussed in §9.4.1, when treating negation, their morphosyntactic properties seem to be completely different. Hence, I do not believe it is a borrowing.²¹

The distributive clitic =*ety* also attaches to interrogative words. This combination has two functions. The first one is just as a pronoun with a distributive. This is exemplified in (122), where the sentence questions whether each of the expected people are arriving.

122. ¿Pëneyt jä'ätëp?
 pën=ety jä'ät-të-p
 who=DIS (3S)arrive-PL-INDEP
 'Who(DISTRIBUTIVE) are arriving?'

Their second function is as indefinite words (pronouns or adverbs). The list of possible indefinite pronouns is provided in (123), and two of them are exemplified in (124).

²¹ Additionally, the Spanish *ni* 'and not' is also used in Mixe in the same conditions in which it would be used in Spanish. That homophonous *ni* is indeed a borrowing.

123. Interrogative words as indefinite pronouns

- a) pēnety ‘whoever’/‘everybody’
- b) tiety ‘whatever’/‘everything’
- c) junety ‘whenever’/‘some times’
- d) mäety ‘wherever’

124. a) Wäxk tiety tak'ett.

wäxk ti-ety t-ak-et-t
sugar.cane what-DISTR 3S-CAUS-exist-PL;DEP
‘It had sugar cane and everything.’ (IreL-52)

b) Yë nēj junety än ity pero tsyäm xixy ity.

yë'ë nēj juun-ety än ity pero tsyäm xux-y ity
DEM.D water when-DISTR hot IMPF but today be.cold-D.ADJ IMPF
‘Sometimes the water is hot, but today it is cold’ (TAMA-N-30)

c) Jams ntäkmä'äy eyjunety moojk xtamayaty.

jam=ëjts n-täkmä'äy ey-juun-ety moojk xta+mayät-y
DEIC.D=1SG 1POSS-grandmother good-when-DISTR corn 1O-give-DEP
‘Sometimes my grandma would give me corn.’ (A&E-526)

For reasons that I now ignore, the indefinite pronoun for time often appears as *eyjunety*

‘whenever, some times’, as shown in (124c). The first part, *ey-* could be historically related to the adjective *ey* ‘good’, although evidently here it does not have that function.

There is another indefinite locative word which has no function as an interrogative word, but only as an indefinite adverb, as shown in (125).

125. Nyijkxy muum jakam.

y-nëjx-y muum jakam
3S-go-DEP somewhere far.away
‘He went somewhere, far away.’ (Aur2L-92)

The interrogative word *mää* ‘where’ is also used as an indefinite word even if it does not have the negative prefix, as shown in the example in (126).

126. Yu'unk mäa tukpäjtn.

y-u'unk mäa t-uk+päät-n
3POSS-child where 3A-find-PREF;DEP
‘He hasn’t found her child anywhere.’ (Ire-2234)

Finally, the interrogative words that express quantity can also function as quantifiers (127a) while the one that expresses location introduces a subordinate clause (127b).

127. a) Ĕs jĕnĕ'n nyä'äxy.

jĕts jĕnĕ'n n-yä'äx-y
and how.much 1S-cry-DEP
'And I cried so much.'

b) Ĕs ja'a tyanĕjxäntĕp mäa rey tsyĕĕn.

jĕts ja'a y-ta-nĕjx-än-tĕ-yp mäa=ja'a rey y-tsyĕĕn
and DEM.D 3A-APPL-go-DES-PL-IND;TR where=DEM.D king 3s-live[INCH.DEF]
'And they will take that to where the king lives.' (Aur2L-928).

6.10 Adverbials

In many languages, adverbs are one of the major word classes and it can even be an open class, as in English and Spanish. As it is known, the label “adverb” is often applied to a wide variety of words that do not necessarily form a coherent class, like nouns, verbs or adjectives.

In treating other word classes, it was mentioned that it is possible to derive an adverbial that means ‘X times’ from numerals. Additionally, adverbial demonstratives, both locative and manner, were discussed earlier in this chapter (§6.8.2 and §6.8.4, respectively). On the other hand, adjectives are used for many of the meanings that are covered by adverbs in English. In this respect it would be more correct to treat them as adverbials, but I do not make this distinction here. This is discussed in §6.10.3. In fact, there are only a few words that can be properly considered adverbs in Ayutla Mixe. In the following sections some classes of adverbs are discussed.

6.10.1 Temporal adverbs

Temporal adverbs are used to indicate or situate the ordering of events with respect to the topic time. Temporal adverbs are shown in (128).

128. a) kumeny ‘a moment later’
 b) tän ‘later’
 c) nēm ‘still, yet’
 d) nijty ‘at the same time’
 e) tuknāx ‘at the same time’
 f) tsojk ‘early’
 g) äämy ‘a moment ago’
 h) nām ‘not so long ago’
 i) jayeen ‘first’
 j) kantem ‘never’

In general, they tend to appear at the beginning of the sentence, as in (129a), or at the end, as in (129b), but some of them also appear after the negative particle *ka't*, as in (129c).

129. a) **Tsojk** junt kyixy.
 tsojk junt y-këx-y
 early meeting 3S-finish-DEP
 ‘The meeting ends early.’ (Efa1-2213)
- b) ...ka't yë'ë tpäätt yë' **tsojk**.
 ka't yë'ë t-päätt-t yë' tsojk
 NEG DEM.M 3A-find-PL;DEP DEM.M early
 ‘They did not find him soon.’ (NLA-903)
- c) Ka't **nēmēka'** tpiky.
 ka't nēm=ëk=ja'a t-pëk-y
 NEG yet=HEARSAY=DEM.D 3A-affect-DEP
 ‘It was not their turn yet.’ (VirL-1355)

It is necessary to include calendrical words in this section. They are listed in (130).

130. a) tsyäm ‘today’ (ambiguous with ‘now’)
 b) japom ‘tomorrow’
 c) xtëjqp ‘the day after tomorrow’
 d) axëëy ‘yesterday’
 e) tsu'uuy ‘yesterday night’
 f) mäxtëjky ‘the day before yesterday’
 g) matëkë'ëy ‘three days ago’

The adverb *tsyäm* ‘today’ in (130a), as discussed in the §6.8.3, is in fact a proximal locative adverbial demonstrative that has been lexicalized as a temporal word.

There are also words that refer to parts of the day, as those in (131). Unlike the previous words, these words can be considered nouns, but they can also have adverbial functions.

131. a) tu'kaop 'morning'
 b) jepy 'early in the morning'
 c) koots 'night'

Calendrical words can be distinguished because they can take the suffix *-ëp*, as in (132). In this case, the resulting meaning is 'X ago'.

132. Ja jëxtujk xëëp jyaty.
 ja'a jëxtujk xëë-ëp y-jat-y
 DEM.D seven day-ago 3S-happen-DEP
 'That happened seven days ago.' (E-FN07)

The words that take the suffix *-ëp* 'X ago' are listed here.

133. a) xëë > xëëp 'days ago'
 b) semään > semäänëp 'weeks ago' (Spanish loan.)
 c) po'ò > xo'op 'months ago'
 d) mes > mesëp 'month ago' (Spanish loan.)
 e) jëmëjt > jëmëjtëp 'years ago'

6.10.2 Locative adverbs

Locative adverbs are mainly of two types: adverbial demonstratives and locative expressions with part morphemes. The former have been discussed in the previous section and the latter are discussed in §6.16. There are, however, a few that do not fall into either of those categories and that indicate proximity or remoteness.

134. a) jaay 'close'
 b) jënkön 'close'
 c) jakam 'far'

6.10.3 Adjectives as adverbials

Usually, adjectives can be used to modify a verb and thus they are used as adverbials. This is particularly the case with adjectives that can express a condition or state, manner

and quantity. For example, *ey* can mean ‘good’ as an adjective, but used as an adverbial, it would mean ‘well’, as is shown in (135).

135. Ka'ts ey nkay.
 ka't=ɛjts ey n-kay-y
 NEG=1GS good 1S-eat.corn-DEP
 ‘I didn’t eat well.’

In (135), however, the adjective is being used as part of a specific construction in AyMi, namely, as part of a secondary predication construction. So, even though one can say that adjectives can be used as adverbials, this phenomenon is better understood as part of secondary predication. Secondary predication is discussed in §10.3.

6.10.3.1 Manner adverbials

In addition to secondary predication, there are other ways in which other lexical classes can be derived as manner adverbs. The suffix *-ɛ'm* appears with adjectives (136a-b) and with verbs (136c-d) in order to indicate manner. The use as adverbs is exemplified in (137).

136. a) axëëkë'm ‘dirtyly’
 b) xixyë'm ‘coldly’
 c) xomtä'kpë'm ‘happily’
 d) niyääxpë'm ‘crying’

137. a) Ku ti ity kyäjpxtä'äkt, tsujë'm, *con respeto*.
 kuu ti ity y-käjp+tä'äk-t tsuj-ɛ'm con respecto
 when IMPF 3S-pray-PL;DEP nice-ADV with respect
 ‘When they prayed, (they did it) nicely, with respect.’ (EfaH2-1112)

- b) Ayoopë'm mtsëënëp mtanëp.
 ayoo-p-ëm m-tsëën-ë-p m-tan-ë-p
 be.poor-INDEP-ADV 2S-sit-INCH-INDEP 2S-stand-INCH-INDEP
 ‘You live in a poor manner.’

The other mechanism to create adverbs, *-ampy*, is attached to nouns, as in (138) and (139). This one looks very similar to the desiderative, and perhaps that is its origin.

138. poj 'air' > poj'ampy 'quickly'

139. Poj'ampy tēēa' kyakyēxnē't.

poj'-ampy tēē=ja'a y-kay-kēx-nē-t
 air-ADV BEFORE.NOW=DEM.D 3S-eat-finish-PERF-PL;DEP
 'Quickly he had finished eating.' (NL1- 990)

6.10.4 Intensifier

In Ayutla Mixe, the intensifier *akxon* is used to indicate that the action performed by the verb was done to its full extent (i.e. that it was done 'well', whatever the meaning of 'well' is in that particular context), as shown in (140).

140. a) Te'n ēēts akxon ntakumi'kxy.

te'n ēēts akxon n-ta-ku+mē'kx-y
 M.DEM 1PL.EX INTENS 1A-APPL-squeeze-DEP
 'We squeezed the lemon very well.'

b) Mientras ja' uk akxona' pyapeeynyaxy ja jemy te'ep tē takpētsimy.

mientras ja'a uk akxona' y-papo'oy-nāx-y
 while DEM.D dog INTENS=DEM.D 3O-chase-pass-DEP

ja'a jemy te'ep tēē t-ak-pētsēm-y
 DEM.D hive REL BEFORE.NOW 3A-CAUS-exit-DEP

'While (the animals) that had come out of the hive were chasing them dog'

c) Pēs ja'a ējts ka't njamyetsy akxon.

pēs ja'a ējts ka't n-jamyats-y akxon
 DISC DEM.D 1SG NEG 1S-remember-DEP INTENS

'I do not remember that very well.'

Notice that in (140a), the negation has scope over the intensifier, not over the verb. The intensifier also modifies non-verbal predicates, as in (141).

141. Poop akxon yē'ē tējk.

poop akxon yē'ē tējk
 white INTENS DEM.D house
 'The house is very white.'

Depending on the eventuality, doing something 'well' might imply quantity. For examples, to eat well could usually mean to eat enough quantity. Notice that *akxon* does not modify the quantity, but rather the quality, as illustrated in the following example.

142. Waans nmä'äy, pero akxon te'ns nmä'äy.
 waan=ëjts n-mä'ä-y pero akxon te'n=ëjts n-mä'ä-y
 few=1SG 1S-sleep-DEP but INTENS M.DEM=1SG 1S-sleep-DEP
 'I didn't sleep much, but I slept well.'

6.11 Quantifiers

As its name indicates, a quantifier refers to the amount of something involved in an eventuality. Unlike quantifiers in English, quantifiers in Ayutla Mixe are not part of a noun phrase. Rather, they have two syntactic properties: *i*) they can modify a verb, as in (143), and they can be the main predicate in non verbal predication, as in (144).

143. a) Ojts kom tyu'uy.
 ojts kom y-tu'u-y
 PAST a.lot 3S-rain-DEP
 'It rained a lot.'
- b) Ojts ne'ek nyo'oyy.
 ojts ne'ek n-yo'oy-y
 PAST a.lot 1S-walk-DEP
 'I walked a lot.'
- c) Tës ne'ek manzana nakminy.
 tëë=ëjts ne'ek manzana n-ak-men-y
 BEFORE.NOW=1SG many apple 1A-CAUS-come-DEP
 'I brought a lot of apples.'
144. a) Kom yë' nēj.
 much DEM.M water
 'This is a lot of water.'
- b) Ka't yä'ät kafe tyimykyaja.
 ka't yä'ät kafe y-timy-kaja
 NEG DEM.P coffee 3s-just-many
 'This is not so much coffee (in grain).'

I do not classify quantifiers as part of adverbs because temporal or locative adverbs cannot be the main predicate in non-verbal predication. Strictly speaking, numerals are quantifiers too and thus one could group the quantifiers discussed in this section with numerals. I have divided them into two different sections partially for the sake of the

exposition, but also because numerals are usually part of a noun phrase while quantifiers as discussed here are not. Ayutla Mixe has the following quantifiers:

145. *kaa* ‘a lot’
 may ‘many’
 ne’ek ‘many’
 kom ‘much’ (specialized for liquid)
 muk ‘many, a lot’
 waan ‘few’

Quantifiers can be modified by the intensifier suffix *-naxy* ‘very’, as shown in the following example.

146. *Kanaxy te’n jä’äy kyaaty.*
 kaa-naxy *te’n* *jä’äy* *y-kay-t*
 much-INTENS M.DEM people 3S-eaty-PL;DEP
 ‘People ate a lot.’

Often times *kaa* ‘a lot’ appears as *kajaa*, as shown in (147a). I have the impression that *kajaa* indicates bigger quantity than *kaa*, but I am not entirely positive. Additionally, it also appears as with the question word *nääk* ‘how many’ in order to form *kanääk*, as in (147b). I do not know what the difference in meaning between *kanääk* and *kaa* is.

147. a) *Kajanaxy te’n jä’äy y’ayoot.*
 kaa+jaa-naxy *te’n* *jä’äy* *y-ayoo-t*
 much-INTENS M.DEM people 3S-suffer-PL;DEP
 ‘People used to suffer a lot.’
- b) *Të kanääk tsäkäj n’ixy.*
 tëë *kaa-nääk* *tsäkäj* *n-ex-y*
 BEFORE.NOW many-how.much bull 1A-see-DEP
 ‘I saw a lot of bulls.’

6.12 Grammatical Particles

So far I have discussed lexical classes that have a lexical content. In this section, other words that do not have lexical content but rather play a grammatical function are discussed. In a rather traditional view, many of them could be classified as adverbs. I do

not follow this practice, not just because of their lack of lexical content, but also because their syntactic properties have little in common with those of the few adverbs found in AyMi.

6.12.1 Temporal-aspectual particles

There are five adverbs that encode aspectual and temporal information: *ojts* ‘PAST’ encodes past tense and perfective meaning (148a), while *tëë* ‘BEFORE.NOW’ conveys anteriority (148b), and *ijty*, *nojty* and *ti ity* encode imperfective aspect (148c).

148. a) Ps taa nän **ojts** t'atsey.

pues taa nän **ojts** t-atsoo-y
 DISC DEIC.M mother PAST 3A-answer-DEP
 ‘Then the lady replied to him.’ (NL1-308)

b) **Tëëts** x'ixy.

tëë=ëjts x-ex-y
 BEFORE.NOW=1SG 1O-see-DEP
 ‘You already looked after me.’ (Sfj1L-101)

c) Jam **nojty** tyan.

jam nojty y-tan
 DEIC.D IMPF 3S-stand[INCH.DEF]
 ‘He was standing there.’ (AE-182)

These adverbs are grammaticalized means for conveying tense and aspect, in the sense that they only have grammatical but not lexical meaning, as the gloss reflects. In this respect, they are, along with the aspect-mood verbal suffixes, part of the grammatical category of aspect or tense (Klein 1994; Comrie 1985; Romero 2008).

The past tense and perfective particle usually appears right before the verb, as shown in (149a-b). However, it is also possible to find it in initial position, as in (149c), at the end of the sentence, as in (149d), or preceding the verb but not immediately before, as in (149e).

149. a) Taxtujka' tsä'äny **ojts** pyëtsimy.
 taxtujk=ja'a tsä'äny ojts y-pëtsëm-y
 nine=DEM.D snake PAST 3S-exit-DEP
 'Nine snakes came out.' (IreL-200)
- b) Puxtaapy **ojts** nyijkxy.
 Puxtaapy ojts y-nëjkx-y
 Zacatepec PAST 3S-go-DEP
 'He went to Zacatepec.' (Sofa1-26)
- c) **Ojtsa** tyëkëntum jyanikxy këte?
 ojts=ja'a y-tëjk-jëntum y-ja+nëjkx-y këte
 PAST=DEM.D 3A-house-FRONT 3S-go-DEP true
 'Then he went home, didn't he?' (IreL-1526)
- d) Ja' salvajes pyäaty **ojts**.
 ja'a salvajes y-päät-y ojts
 DEM.D savages 3S-found-DEP PAST
 'The savages found her.' (Aur2-422)
- e) Ta Puxtaämët ojts jajp yaxäj.
 ta Puxtaäm-ët ojts jajp y-axäj
 DEIC.M Zacatepec-DEMONYM PAST DEIC.D 3O-receive[INCH.DEF]
 'Then the people from Zacatepec received him.' (Sofa1-26)

The other perfective particle, *tëë* 'BEFORE.NOW', usually appears at the beginning of the clause, as can be appreciated in (150a-b). However, it is not uncommon to find it right before the verb, particularly when there is an interrogative word (150c) or a conjunction (150d) in initial position.

150. a) **Të** yë' tsä'äny xpäaty nëmëk.
 tëë yë'ë tsä'äny x-päät-y nëm=ëk
 BEFORE.NOW DEM.D snake 2A-find-DEP say=HEARSAY
 'You found the snake, he said.' (IreL-231)
- b) **Të** yujk x'ixy.
 tëë yujk x-ex-y
 BEFORE.NOW animal 2A-see-DEP
 'You saw the animals.' (Vir-340)
- c) Mää te'na tyintyuk **të** nyijkxy?
 mää te'n=ja'a y-tintyuk tëë y-nëjkx -y
 where M.DEM=DEM.D 3POSS-toad BEFORE.NOW 3S-go-DEP
 'Where did his toad go?'

- d) Ku mejts **të** xpä'am'ixy yë....
 kuu mejts tëë x-pä'am-ex-y yë'ë
 when 2SG BEFORE.NOW 1O-disease-see-DEP DEM.D
 'When you took care of my disease....' (Sofa-150)

When the particle *tëë* 'before.now' appears right after the verb, it has the form *jëtëë* and cliticizes to the verb, as shown in (151).

151. Taa tpuwä'**äkëtë** tu'uk mēj kipy.
 taa t-pu-wä'äk=jëtë tu'uk mēj kipy
 DEC.M 3A-NEXT.TO-step[INCC.DEP]=BEFORE.NOW one big stick
 'He stood next to a big tree.' (FrogMJ-405)

Even though in most cases *jëtëë* seems to be an allomorph of *tëë*, there are a few instances in texts where both of them appear in the same sentence, as in (152). When I pointed that out to the native speaker consultants who helped me transcribing the texts about, they would say that it sounds better without one of them. More research is needed on this.

152. Jajp **tëë** kyëxpety**ëtë**.
 jajp tëë y-këx-pat-y=jëtë.
 DEIC.M BEFORE.NOW 3S-SURFACE-ascend-DEP=BEFORE.NOW
 'He climbed there.' (FrogMJ-140)

The imperfective particles also appear very often right before the verb, as in (153a-b); however, they also appear in other positions in the clause, as shown in (153c-d). They rarely appear in initial or final position, though.

153. a) Japëk **nojtya'** jyëtity.
 jajp=ëk nojty=ja'a y-jëtet-y
 DEIC.D=HEARSAY IMPF=DEM.D 3S-move-DEP
 'They were wandering there' (VirL-383)
- b) ...jakamwemp **ijty** tsyëënët.
 jakam-wen-p ijty y-tsyëën-ë-t
 far-place-LOC IMPF 3S-live-INCH-PL;DEP
 '...they used to live away (near their cornfields).' (Efa1-61)

c) ǂXě'n **ijty** yää txěaty?
 xě'n ijty yää t-xěë-ät-y
 how IMPF DEIC.P 3A-name-VRBLZ-DEP
 'How was this place called?' (Efa1-2036)

d) Ps tjěpixy **nojtya'** jajp.
 pës t-jěpex-y nojty=ja'a jajp
 DISC 3A-get.ready-DEP IMPF=DEM.D DEIC.D
 'They were prepared for him (i.e. for his arrival).' (Aur2-758)

6.12.2 Mood particles

There are two particles whose function is to change the sentence mood (154). They could be considered similar to *těë* 'before.now' and *ojts* 'past' in the sense that they do not have a lexical meaning but a grammatical one, except that they are mood operators, not tense operators.

154. a) wa'n 'dubitative'
 b) (jě)keexy 'hypothetical'

The dubitative particle *wa'n* usually appears in initial position, as shown in (155).

Notice that usually the particle triggers irrealis AM marking on the verb.

155. a) Ukwa'n tkaněkājpxt.
 uk wa'n t-ka-ně+kājpx-t
 or DUB 3A-NEG-say-IRR;DEP
 'Or perhaps he won't tell.' (Efa1-1494)

b) Wa'n ějts xě'ājtp nějkt.
 wa'n ějts xěë-ät-p nnějkt-t
 DUB 1SG party-VRBLZ-INF 1S-go-IRR;DEP
 'Perhaps I go to celebrate' (Eli-E&A)

Additionally, the dubitative is also used to deontic modality, although in this case the verb appears in the neuter AM, as shown in (156).

156. a) Wa'n laps tjěy wa'n cuatern tjěy.
 wa'n laps t-jěy-y wa'n kuatern t-jěy-y
 DUB pencil 3A-buy-DEP DUB notebook 3A-buy-DEP
 'He should buy pencils; he should buy notebooks' (Isr-1002)

- b) Po'kx yää te'n yanä'äny, wa'n yë'ë jëenu'nk tmēj.
 po'kx yää te'n y-anä'an-y wa'n yë'ë jëen-u'nk t-mēj
 rest DEIC.P M.DEM 3S-say-DEP DUB DEM.M fire-DIM 3A-big[INCH.DEP]
 'Rest here, he said, (someone) should to start a fire'. (NL2-873)

On the other hand the hypothetical particle (*jë*)*keexy* is often used in conditional clauses, but clauses introduced by the temporal conjunction *kuu*, never by the conjunction *pën* (see, in this chapter, §6.14). Usually, (*jë*)*keexy* appears both in the protasis and in the apodosis, as shown in (157).

157. Ku keexy ojts mminy, ojts jëkeexy nkä'äyë'n.
 kuu keexy ojts m-men-y ojts jëkeexy n-kay-ë'n
 when HYPO PAST 2S-come-DEP PAST HYPO 1S-eat-INCL
 'If you had come, we could have eaten.'

The particle (*jë*)*keexy* is also used in manner subordinate clauses, as in (158).

158. Te'ntsa' njāw tamts jëkeexy nakëpejpnaxyë'n
 te'n=ëjts n-jāw tam ëjts jëkeexy n-ak-jëpëp-nax-y=ë'n
 M.DEM=1SG 1S-feel[INCH.DEP] as 1SG HYPO 1S-CAUS-push-pass-DEP=ADJ
 'I felt as if I had been pushed.'

But it is also used to express deontic modality, as shown in the following examples:

159. a) Te'n jëkeexy ojts xtiny.
 te'n jëkeexy ojts x-tun-y
 M.DEM HYPO PAST 2A-do-DEP
 'You should have done it in that way.'
- b) Mejts jëkeexy mnikyo'okëp ku kä't nëm nojty m'anu'kx.
 mejts jëkeexy m-nay-ko'ok-ë-p
 2SG HYPO 2S-REFL-lie.down-INV-INDEP
 kuu ka't nëm nojty m-anu'kx
 when NEG yet IMPF 2S-tired[INCH.DEP]
 'You should go to bed before you get tired (lit. when you are not tired yet).'
 (TAMA-N-131)
- c) Ojts jëkeexy tsoony.
 ojts jëkeexy y-tsoon-y
 PAST HYPO 3S-go.away-DEP
 'I wish he had gone (by now).'

6.13 Adposition

In Ayutla Mixe there is only one unquestionable adposition, *mëët* ‘associative’, whose meaning includes the comitative and the instrumental. This adposition covers the meaning of ‘with’ and ‘and’ in English, and for this reason Ayutla Mixe is an AND-language in Stassen’s typology (2000). I refer to it as an adposition because it is found both as a preposition (160a) and as a postposition (160b-c).

160. a) *mëta’ yu’unk*

mëët=ja’a y-u’unk
 ASSOC=DEM.D 3POSS-child
 ‘with his son’ (Aur2-625)

b) *Ja’a mëët nyapiky.*

ja’a mëët y-nay-pëk-y
 DEM.D ASSOC 3S-REFL-take-DEP
 ‘He finds support from him.’ (Lit.: ‘He supports himself with him’) (Efa1-1024)

c) *ës tsuj ää ayuujk mëët*

and beautiful mouth word with
 ‘with good speech’ (Efa-865)

It is not clear to me whether historically it was a postposition that is shifting to preposition, perhaps under the influence of Spanish (which only has prepositions), or vice versa. It seems that elder speakers tend to use it more as a postposition and younger speakers more as a preposition. More importantly, the syntactic environment also conditions the selection: with pronouns it is commonly used as a postposition (160b) but with full noun phrases it is commonly used as a preposition (160a), though not always, for example not in very formal speech, as in (160c).

In comparative terms, in other Mixe languages, as in Olutec (Zavala 2000), it has been reported to be a preposition. Additionally, when the object of the adposition is in the third person, it need not be mentioned, as in (161).

161. Jaa ojts mēēt nyijkxy.

jaa ojts mēēt y-nějkkx-y

DEIC.D PAST ASSOC 3S-go-DEP

‘He went with him.’ (Aur2-907)

There are other locative compounds that are treated as postpositions in other Mixe-Zoque languages (Johnson 2000, Zavala 2000, Suslak 2005). They are treated in this chapter in the section on part morphemes (§6.16).

6.14 Conjunctions

In general, a conjunction is a word that is used to join two constituents. In English, it could be argued that conjunctions join words, phrases or sentences. In AyMi, however, conjunctions usually only join sentences, and in particular they do not join noun phrases. There are two types of conjunctions: a) general conjunctions and b) subordinating conjunctions.

There are two general conjunctions (162).

162. a) *uk* ‘or’

b) *jěts* ‘and, therefore, because’

The first, *uk* ‘or’, is commonly used in disjunctive coordination, usually conjoining two sentences. It is also used in discourse to introduce a new sentence even if there is no obvious coordination. The second one, *jěts* ‘and, therefore, because’, is perhaps the most general conjunction. It is mostly used as a discursive linker, generally translated as ‘and’ (Spanish ‘y’) when it introduces another sentence. However, it introduces subordinate clauses with various kinds of meanings, mainly purpose and reason. There is an example of each in (163).

163. a) Jëtsa' jam tsyëën jësa tta'extiky jësa' yuk este...
 jëts=ja'a jam y-tsëën jëts=ja'a t-ta-ex+tuk-y
 and=DEM.D DEIC.D 3S-sit[INCH.DEP] and=DEM.D 3A-APPL-see-DEP
 jëts=ja'a y-uk este
 and=DEM.D 3POSS-dog DISC
 'And he (the kid) as sitting there, and he was staring at it, and the dog...'
- b) Jam jëte'n tnëtäy uk yakmetsypy te'n ka'ts nnajäw...
 jam jëte'n t-në+täj-y uk y-ak-mats-yp te'n
 DEIC.D M.DEM 3A-bury-DEP or 3A-CAUS-come-INDEP;TR M.DEM
 ka't=ëjts n-najäw
 NEG=1SG 1A-know[INCH.DEP]
 'He was buried there or he was brought here, I don't know...'

The other conjunctions can be regarded as subordinative conjunctions (164). The first one (*jë*)*pety* is used for introducing a purpose clause. The second one, *pën* 'if, whether', has two functions: it introduces an embedded polar question and a conditional. The next one, *kuu*, has several functions, mainly to introduce a complement clause (i.e. it is a complementizer), and to introduce a temporal subordinate clause. However, it is also found introducing purpose and causal subordinate clauses. The fourth one, *tam*, is used to introduce manner subordinate clauses. The last one is originally an adjective, but it is also used in concessive subordination.

164. a) (*jë*)*pety* 'because'
 b) *pën* 'whether, if'
 c) *kuu* 'that, when'
 d) *tam* 'as if'
 e) *ey* 'even though'

Additionally, all conjunctions of contemporary colloquial Mexican Spanish are generally used, although those expressing interclausal relations not lexicalized in AyMi conjunctions are perhaps most common. For example, the Spanish adversative conjunction *pero* 'but' is frequently employed (165).

165. ...pero kata' meeny te tpääty.
 pero ka't=ja'a meeny te t-pää-t-y
 but NEG=DEM.D money NEG 3A-find-DEP
 'But he did not find any money.' (Aur2-154)

6.15 Evidential and modal clitics

As the final section of this chapter, in Ayutla Mixe there are several evidential clitics (Chafe & Nichols 1986, Aikhenvald 2004). In general terms, one can say that evidentials are used for indicating the source of the information for the statement one makes. So, for example, the information could be heard from someone as hearsay, it could be inferred or it could be acquired by indirect evidence. While all languages have different ways for conveying evidential information (for example, one can attribute this function to the adverbs *evidently* or *reportedly* in English), some languages, such as AyMi, there is a grammatical mechanism for expressing evidentiality. Additionally, as part of this set of clitics there are also other members whose primary meaning is modal.

In AyMi, only (166a-c) encode the source of the information, while (166d-e) encode modal information, and, additionally, the last one has a rather vague meaning, or at least I have not been able to completely extract its meaning.

166. a) =ëk 'hearsay'
 b) =tam 'direct evidence'
 c) =tam 'access to information by traces'
 d) =ta 'lack of knowledge'
 e) =yoo 'dubitative'
 f) =tii 'certainty'
 g) =ëp 'counter-expectation'
 h) =ts 'non-modalized'

As illustrated in the following examples, evidentials can be attached to different lexical classes.

167. a) Noun

Mixy**ëk** ojts kyëxë'ëky.
 mixy=**ëk** ojts y-këxë'ëk-y
 boy=HEARSAY PAST 3S-look.like-DEP
 'It was child.' (Aur2-512)

b) Content question word

...ps mää**k** mejts mtëk.
 pues mää=**ëk** mejts m-tëk
 DIS where=HEARSAY 2SG 2S-enter[INCH.DEP]
 'where are you going to come in' (Aur2-)

c) Temporal adverb

Ojts**ëk** Juan myiny, pero ka'ts n'ixy.
 ojts=**ëk** Juan y-men-y pero ka't=**ëjts** n-ex-y
 PAST=HEARSAY Juan 3S-come-DEP but NEG=1SG 1A-see-DEP
 '(They say that) Juan came, but I didn't see him.'

d) Deictic adverbial

Jajp**ëk** ojts jyä'ätt.
 jajp=**ëk** ojts y-jä'ät-t
 DEIC.D=HEARSAY PAST 3S-arrive-PL;DEP
 'They arrived there.' (Aur2-682)

In the examples in (167a-c), the evidential is usually a second position clitic, i.e. the evidential is an enclitic that is attached to the first word in a clause. Interestingly, some discourse markers do not count, as in (167b). In a subordinate clause introduced by a complementizer or by a subordinative conjunction, the clitic is bound to it as the complementizer or the conjunction is the first word in the subordinate clause. Thus, in (168) the hearsay evidential =*ëk* appears cliticized to the complementizer *kuu*.

168. Myëtoopyë [kuka jä'äy tsyapay, yyä'äxy].

y-mëtoo-py=yë kuu=**ëk**=ja'a jä'äy y-tsapää-y y-yyä'äx-y
 3A-listen-INDEP;TR=DEM.M COMP=EV=DEM person 3S-cry-DEP 3S-cry-DEP
 'I heard that that people was, they say, crying.' (Aur2-686)

Additionally, evidential clitics can appear at the end of the sentence, as in (169a). More occasionally, they can appear in other position in the sentence, as in (169b), but this is rather uncommon.

169. a) ...əs yë' mixy atspëka'.
 jëts yë'ë mixy ats-p=ëk=ja'a
 and DEM.M boy [3S]dance=INDEP=HEARSAY=DEM.D
 'And the boy used to dance, they say' (Efa1H-1542)
- b) Ka't kë'mëka ttimyakooky ayo'on...
 ka't kë'm=ëk=ja'a t-timy-ak-ook-y ayo'on
 NEG self=HEARSAY=DEM.D 3A-just-CAUS-die-DEP on.purpose
 'He himself did not kill him on purpose.' (Efa1H-1612)

The sentences in (170) contrast only in having different evidential clitics and their meaning changes accordingly.

170. a) Te'n ojts jyaty.
 te'n ojts y-jät-y
 M.DEM PAST 3S-happen-DEP
 'It happened in that way.'
- b) Te'n=**ëk** ojts jyaty.
 'Reportedly it happened in that way.'
- c) te'n=**ta** ojts jyaty.
 'Perhaps it happened in that way.'
- d) Te'n=**tii** ojts jyaty.
 'Definitively it happened in that way.'

Thus, in (170a), the sentence states that something happen. In contrast, in (170b) the speaker is reporting something that she heard, but not something that she witnessed.

(170c) is used if the speaker does not know whether the event happened in that way or not, and it could also be translated as 'who knows whether it happened in that way'.

Finally, in (170d) the speaker is certain that the event happened in that way.

In most cases, the use of the evidential could be more appropriate according to whether the speaker wants to modalize the dictum, but they are not an obligatory grammatical category. In some other cases, its use is perhaps less optional. Particularly, for answering a content question, one has to answer with an interrogative word plus the dubitative

evidential =*ta*, as shown in (171). Providing an answer of the type “I don’t know X” is perhaps not ungrammatical but it is odd.

171. a) ¿Tii nkā’äyē’n?
 tii n-kay-ē’n
 what 1A-eat-INCL
 ‘What are we going to eat?’

Tita.
 tii=ta
 what=DUB
 ‘I don’t know’

b) ¿Pëën tēē myiny?
 pëën tēē y-men-y
 who BEFORE.NOW 3S-come-DEP
 ‘Who came?’

Pënta.
 pëën=ta
 who=DUB
 ‘I don’t know who came’

6.16 Parts

There is a special closed class of bound morphemes that are used in locative descriptions to identify the place of a figure with respect to a ground. Since they only occur as bound morphemes, strictly speaking they are not a “word class”. However, I will treat them as such since they are the core of locative expressions (see §7.5) and they also appear as part of the verbal morphology, in a way very similar to noun incorporation. Also, in historical terms, these morphemes would correspond to a body part denoting relational nouns in other Mesoamerican languages.²² However, synchronically they cannot be classified as nouns, nor can they refer to body parts. As shown below, the main reason for not considering them nouns is that, unlike noun roots, they are not free morphemes, but require other morphemes to form grammatical words. Calling them

²² Campbell, Kaufman, Smith 1986. For Totonac-Tepehua languages: Levy 1999, Smythe Kung 2007. For Zapotec languages see: MacLaury 1989, Lillehaugen and Munro *to appear*, Pérez-Báez *to appear*.

relational nouns (even if regarded as a subclass of nouns) is misleading, if not false, simply because they cannot be the head of a noun phrase. They are used for expressing a place in locative description, in particular topological relations, such as “on”, “inside”, “under”, among others. Lacking a better term, and following Levy (1992, 1996, 1999), I call them PART MORPHEMES or simply PARTS.²³

AyMi has the following parts:

172. a) ojt ‘inside’
 b) kēx ‘surface’
 c) kēpäjk ‘apex’
 d) ku ‘apex’
 e) a ‘edge, inside’
 f) äx ‘backwards’
 g) pa’ ‘edge’²⁴
 h) pat ‘below’.
 i) jën ‘face’
 j) jēp ‘tip’

Part morphemes are used in two environments, in the verbal morphology (173a) and in ground denoting phrases, i.e. using entities as referential grounds (173b).

173. a) Tu'uk pelot kēxteemp pu'ukyēxp.
 tu'uk pelot **kēx** -teem-p pu'uy-kēx-p
 one ball surface-roll-IND board-surface-LOC
 ‘A ball rolled onto the board.’ (FG1G)

- b) tapa pelot tsēnapyäjt pyatki'py.
 ta-jp=ja'a pelot tsēn+apy+äjt **y-pat**-kē'ë+py
 DEIC.D=DEM.D ball seat 3poss-under-LOC
 ‘The ball is underneath the chair.’ (BPJ-16)

²³ In other Mixe-Zoque languages they have been referred to as relational nouns (Zavala 2000, Suslak 2005) or they have been treated as forming postpositions (Hoogshagen & Hoogshagen 1993, Johnson 2000). As shown below, they have been analyzed as postpositions because of their function (similar to a preposition in European languages). I cannot comment on the analysis of other languages, but it seems to be mistaken.

²⁴ It does not appear as such in Ayutla Mixe, but apparently it does in Coatlán Mixe (Hoogshagen & Hoogshagen 1993). In AyMi it is related to *pä'ä* ‘edge’.

However, not all part morphemes occur in both environments: *a-* ‘edge, inside’, *ëx-* ‘behind’, *jën-* ‘front’, *jëp-* ‘tip’, *këx-* ‘surface’, *pa-* ‘edge’, *pat-* ‘under’ and *pu-* ‘next to’ occur in both locative constructions and verbs; *ojt* ‘inside’, *këpäjk* ‘apex’, and *yuk-* ‘on neck’ only in locative constructions; and *ku-* ‘apex’ only in the verbal morphology. Additionally, *a-* means ‘edge’ in a locative construction but ‘inside’ in the verbal morphology. Thus, even though they are historically related, I believe that synchronically they are better considered as two homophonous morphemes.

The internal structure of part morphemes and their comparison with nouns is dealt with in next chapter (§7.5). Their function in the verbal morphology is discussed in §8.7.3.

There is no question that part morphemes are historically derived from nouns, particularly, from body part referring nouns. Their origin from body part nouns is presented in (174).

174. *a-* ‘edge’ *a-* ‘inside’ < *ää* ‘mouth’
ëx- ‘behind’, ‘on the base’ < pMZ **jëx* ‘back’
jën- ‘in front’ < pOM **win* ‘eye’
jëp- ‘at the tip’ < *jëëjp* ‘tip, nose’
ku- ‘apex’ < pMZ **ko-* ‘relative to head’
këpäjk- ‘on the extreme of’ < pMZ **ko* ‘relative to head’ + *päjk* ‘bone’
këx- ‘surface’ < pMZ **këx* ‘body’
ojt- ‘inside’ < *joojt* ‘stomach, gut’
pa- ‘edge’ < pM **pa’aw* ‘shore, edge’
pat- ‘under’ < pMZ **pa’t* ‘under’
pu- ‘next to’ < *puuy* (?) ‘leg’²⁵
yuk- ‘on neck’ < pMZ **yo’kt* ‘neck’

It is worth mentioning that the status of parts in AyMi is perhaps more similar the analogous phenomenon in Totonac languages (Levy 1992, 1996, 1999) than to what is called relational nouns in other Mesoamerican languages. This is because in both AyMi

²⁵ I wish to thank Leopoldo Valiñas for this suggestion.

and Totonac what could be related to “body part terms” can appear in the verbal morphology and in ground denoting phrases. It is precisely due to these similarities that I adopt the term “parts” used by Levy. Perhaps the main difference is that in Totonac these roots are synchronically related to body part denoting nouns, but in AyMi the link is only historical.

Part morpheme	Body Part Term
Those that have a counterpart	
a- ‘edge’	ää ‘mouth’
ëx- ‘behind’ jë- (not clear meaning)	jëxk ‘back (of an animal)’ jëpäjk ‘back’ ëxk ‘hip’ ëxmä’ätsy ‘buttocks’
jën- ‘in front’	jënpäjk ‘forehead’
jëp- ‘at the tip’	jëëjp ‘tip, nose, sharp’
këpäjk- ‘at the end’	këpääjk ‘head’
ojt- ‘inside’	joojt ‘gut’
pa’- ‘edge’	pä’ä ‘edge’
pu- ‘next to’	puuy ‘leg’
yuk- ‘a the neck’	yo’kt ‘neck’
Those that do not have a counterpart:	
këx ‘surface’	
	kaak ‘wing’,
	kë’ë ‘hand’
	tätsk ‘ear’
	teky ‘foot’

Table 5. Part morphemes and body part terms.

The synchronic relation between part morphemes and body part terms is shown in n Table 5. A common characteristic is that part morphemes have a reduced form and a different vowel in comparison with body part terms, which are nouns. Part morphemes are not really components of body part terms, but rather they are historically related. Thus, *ëx-* ‘backwards’ is not really a morpheme in *jëxk* ‘back (of an animal)’, *jëpäjk* ‘back’, *ëxk* ‘hip’, and *ëxmä’ätsy* ‘buttocks’, but rather all these nouns and the part morpheme have their etymology in pMZ **jëx* ‘back’. In some cases, the body part term

comes etymologically from a compound of the part morpheme and the noun *pääjk* ‘bone’, as in *jëpääjk* ‘back’, *jëmpojck* ‘forehead’, and *këpääjk* ‘head’. There are three cases in which a part morpheme is very similar to a body part term: *jëp* ‘at the tip’/*jëëjp* ‘tip, nose’, *ojt* ‘inside’/*joojt* ‘stomach, gut’ and *këpääjk* ‘at end’/*këpääjk* ‘head’. The use of the last two as part morphemes seems to be more recent, which is manifested by the fact that they only appear in locative constructions with three endings (see §7.5) and not in the verbal morphology (see §8.7.3). For this reason, the formal relation between part morphemes and body part terms is more evident (leaving aside the fact that *këpääjk* ‘head’ is in fact not a basic part morpheme, but it comes from *kë-* ‘apex’).

The main point of the comparison in Table 5 is that there is a clear formal difference between body part referring nouns and part morphemes. In addition to it, only part morphemes can appear in locative phrases, but not body part referring nouns (cf. §7.5), and not all body part terms have a related part morpheme. A final comment is in order here. Making a clear difference between parts and body part referring nouns does not mean that Ayutla Mixe (or Mixe languages in general, as I suspect), differ radically from other Mesoamerican languages in the use of body part nouns for locative purposes (Campbell, Kaufman, Smith 1986). Rather, I want to emphasize that the metonymic relation between a body part and a projected space is of a historical nature, a grammaticalization route, and not an active process that is carried out in the speaker’s head.

Chapter seven

Nouns, noun phrases and locative phrases

In this chapter I deal with the morphological characteristics of nouns, both in terms of inflection and in terms of derivation of deverbal nouns or nominalizations, and the main characteristics of noun phrases. Additionally, at the end of the chapter I discuss locative phrases.

The chapter has the following structure. First, in §6.1 I treat the inflectional morphology, which includes number and possession. In the same section, I also treat diminutives. In §6.2, I deal with the formation of nouns, including all the different types of nominalizations, nouns derived from nouns, and compounds. In §6.3 I discuss the components of a noun phrase and in §6.4 I introduce discontinuous noun phrases. As mentioned, in §6.5 I discuss locative phrases.

In principle, one could include relative clauses in the discussion of noun phrases, since in many languages they are embedded in the noun phrase. In Mixe, however, relative clauses are not really a part of noun phrases and thus I leave their discussion for Chapter Ten, where I discuss complex clauses in general.

7.1 Nominal morphology

As stated in the previous chapter, nouns do not have a very complex morphology.

Nouns have possessive morphology, some nouns take a plural marker and there are no case affixes.

7.1.1 Plural

The plural suffix is *-tëjk*, although marking plurality is optional in Ayutla Mixe; a noun that is not marked as plural can still have a plural referent. In fact, most nouns cannot take a plural marker and only a few of them do. All pluralized nouns have a human referent, as the examples in (1) show.

- | | | |
|-------|--|---|
| 1. a) | mējä'ätyëjk
mēj+jä'äy-tëjk
old.person-PL | ‘old people’ |
| b) | anä'äktëjk
anä'äj-k-tëjk
young.person-PL | ‘young people’ |
| c) | muku'uktëjk
muku'uk-tëjk
fellow-PL | ‘fellows’ |
| d) | jëntsëntëjk
jëntstën-tëjk
chief-PL | ‘chiefs’ |
| e) | täjktëjk
täjk-tëjk
topil-PL | ‘ <i>topiles</i> (a kind of policeman)’ |
| f) | teetyëjk
teety-tëjk
father-PL | ‘priests’ |

The plural marker appears not only with basic nouns but also with some nominalizations, as the examples in (2) show.

2. a) to'pktëjk 'sellers' (Efa1-1737)
took-p-tëjk
sell-NMLZ-PL
- b) o'kptëjk 'dead people' (Efa2H-1345)
ook-p-tëjk
die-NMLZ-PL
- c) ëxpiktyëjk 'students' (Efa1-671, 841)
ëxpëk-y-tëjk
sell-NMLZ-PL
- d) ayoojptëjk 'poor people' (IrsH-1567)
ayoo-p-tëjk
be.poor-NMLZ-PL
- e) kutuntëjk 'authorities' (TAMA-N-153)
ku+tun-k-tëjk
work-NMLZ-PL

Additionally, it is also possible to pluralize some Spanish loans as those shown in (3).

Nonetheless, it is difficult to evaluate how productive this is in general, because most of the plural forms of nominalizations and Spanish loans are from a single speaker.¹

3. a) ajent-tëjk 'officers' (Efa1-2154)
officer-PL (< agente)
- b) mus-tëjk 'musicians' (Efa2-844)
music-pl (< música)
- c) amik-tëjk 'friends' (Efa2H-1270)
friend-PL (< amigo)
- d) maes-tëjk 'teachers' (IsrH-849)
teacher-PL (< maestro)
- f) Galvank-tëjk 'the Galvans' (Efa2-494)
Galván-PL

It is necessary to emphasize that the plural marker is in fact extremely rare. It is possible to have two hours of recorded conversation without a single plural marker.

Additionally not all nouns with a human referent can take the plural suffix, as shown in

¹ All the forms were obtained from a conversation and the speaker is monolingual in Mixe.

(4). I do not have a hypothesis as to why some nouns accept the plural while other nouns cannot.

4. a) *mixtyëjk Intended: ‘boys’
 b) *kiixtyëjk Intended: ‘girls’
 c) *maxu’unktëjk Intended: ‘babies’

In such cases, it is possible to add another ending in order to indicate plurality, namely *-anä’äk*, as shown in (5).

5. a) mixy-anä’äk ‘boys’
 b) kiixy-anä’äk ‘girls’
 c) maxu’unk-anä’äk ‘babies’
 d) to’oxy-anä’äk ‘women’
 a) u’unk-anä’äk ‘children’
 b) itsy-anä’äk ‘younger siblings’
 c) poj-anä’äk ‘goblins’

This ending is clearly linked to the noun *anä’äk* ‘young person/people’. One can speculate that the use of *anä’äk* as a plural marker comes from the use of co-lexical nouns (§6.4). Perhaps at some point in the history of the language, it was common to use co-lexical nouns, such as *mixy anä’äk* ‘boy(s), young person(s)’ or *kiixy anä’äk* ‘girl(s), young person(s)’, as two words, in the same way as *kaaky tojcx* ‘food’ (lit. ‘tortilla, stew’) is used. Then, *anä’äk* became a single word with the previous noun and was generalized to other nouns. However, this is only a conjecture.

What it is interesting is that some speakers (though not all of the people that I asked) are generalizing this marker not only to nouns with a human referent but also to other animate nouns, as shown in (6a-b), and even to Spanish borrowings that make reference to inanimate objects, as shown in (6c-d).

6. a) tsäkāj-anä’äk ‘bulls’
 b) tutk-anä’äk ‘chickens’
 b) pelot-anä’äk ‘balls’ (Efa2-322)
 c) sill-anä’äk ‘chairs’

There is another suffix *-tëjk* ‘N.DER’, which seems to derive abstract nouns, particularly from Spanish borrowings, as shown in (7). However, it is not clear to me whether it is related to the plural *-tëjk* or rather to the noun *tëjk* ‘house’. It is entirely possible that the word *justistëjk* ‘justice’ comes from the compound *justis-tëjk* ‘the house of justice’ (in the same way in which *puxtëjk* means ‘jail’, from *puxj* ‘iron’ and *tëjk* ‘house’). Then, it developed the abstract meaning *via* metonymy. Again, this is pure speculation.

7. a) *justis-tëjk* ‘justice’ (NL1-918)
 b) *parti-tëjk* ‘(political) party’

7.1.2 Plurality in Mixe-Zoque

In a comparative perspective in all Mixe-Zoque languages nominal number is optional, but the plural marking on the noun seems to vary to some extent. While I do not have data from other South Highlands Mixe and Midland Mixe languages,² in Coatlán Mixe (Lowland) the plural marker (*-tëjk*) is also restricted to nouns with a human referent (Hoogshagen & Hoogshagen 1993). In less closely related Mixe languages, such as Totontepec Mixe (Suslak 2005) and Olutec (Zavala 2000) the plural is not restricted to humans and in fact it may appear with inanimate nouns. In Zoque languages, the plural suffix is similar to Olutec, since in most of them it can occur with human, animate and inanimate nouns (Elson 1960, Engel & Engel 1987, Johnson 2000, Wonderly 1951b). However, in some of them, such as San Miguel Chimalapa Zoque (Johnson 2000) or Soteapan Zoque (Elson 1960), there might be two plural markers, one restricted to nouns referring to humans and another for any other noun.

² In the transcriptions of texts and elicitations compiled in Lyon 1980, I did not find examples of plural suffixes for Tlahuitoltepec Mixe. Given the scarce appearance of the plural marker in other Oaxaca Mixe languages, this does not exclude the existence of number inflection in this language.

7.1.3 Diminutive

Nouns can take the diminutive suffix *-u'(u)nk* (8). The diminutive comes from the noun *u'unk* 'child', but unlike the noun, the diminutive does not receive stress.

8. a) *mixy-u'nk* 'little boy'
 b) *kiixy-u'nk* 'little girl'
 c) *tutktsäj-u'nk* 'little egg'
 d) *käjp-u'nk* 'little town'

As in other languages, the diminutive is often used figuratively to imply affection.

This can be seen in the following examples. In (9a) the dog is certainly bigger than the toad, however, it is *uk* 'dog', and not *tintyuk* 'toad', that bears the diminutive suffix.

Thus, the diminutive does not correlate with the actual size, but rather with the affection.

9. a) *Ja' tintyuk japa yuku'nk tku'ex.*
ja'a tintyuk jajp=ja'a y-uk-u'nk t-ku-ex
 DEM.D toad DEIC.D=DEM.D 3POSS-dog-DIM 3A-INSIDE-see[INCH.DEP]
 'His dog is looking at the toad.' (FrogMJ-85)
- b) *Ps jama' te'n nyëju'nk tkonnët.*
pës jam=ja'a te'n y-nëj-u'nk t-kon-në-t
 DISC DEIC.D=DEM.D M.DEM 3POSS-water-DIM 3A-carry-PERF-PL;DEP
 'They carry their water.' (IsraH-102)
- c) *Po'kx yää te'n yanä'äny, wa'n yë'ë jëënu'nk tmëj.*
po'kx yää te'n y-anä'an-y wa'n yë'ë jëën-u'nk mëj
 rest DEIC.P M.DEM 3S-say-dep DUB DEM.M fire-DIM big
 'Rest here, he said, so that the fire gets bigger.' (NL2-873)

7.1.4 Possessive morphology

In order to indicate possession, a noun takes possessive prefixes, shown in (10).

These morphemes are cognates with those used for the subjects of intransitive verbs in the dependent order (see §8.2). The syntax of possession inside the NP is described in §7.3.5.

10. a) *n-uk* 'my dog'
 b) *m-uk* 'your dog'
 c) *y-uk* 'his dog'

7.2 Derived nouns

7.2.1 Nominalizations

Ayutla Mixe has several types of nominalizations, that is, nouns derived from verbs. As stated in the previous sections, some nominalizations referring to human beings can take the plural marker.

7.2.1.1 Agentive nominalizations

It is possible to derive nouns from verbs by adding a *-p*, which is homophonous with the AM suffix for neutral independent morphology.

- | | | | |
|--------|--------------|-----------------------------------|---------------------------------------|
| 11. a) | pojtsɸ | ‘brick layer’ | (<pots ‘to mud on’) |
| b) | jatyu'xp | ‘who announces misfortunes’ | (<jatyu'ux ‘to announce misfortunes’) |
| c) | tse'eyɛp | ‘doctor’ | (<tsey ‘to cure with medicine’) |
| d) | tump | ‘worker’ | (<tun ‘to work’) |
| e) | xuxp | ‘musician (of a wind instrument)’ | (<xux ‘to whistle’) |
| f) | pijy'äjtp | ‘shaman’ | (<pijy'ät ‘to cure (a shaman)’) |
| g) | jä'xp | ‘the one that cures rubbing’ | (<jäax ‘to rub’) |
| h) | tsajpkakyojp | ‘bread maker’ | (<tsajpkaky ‘bread’ + koj ‘to make’) |
| i) | o'kp | ‘dead person’ | (<ook ‘to die’) |

In many cases, this derivation produces agentive nominalization, that is, the derived noun has the meaning ‘the one who *verbs*’ (Comrie & Thompson 2007). In many cases the participant is, strictly speaking, an agent, as in (11a-h). However, in some nouns derived from intransitive verbs, such as *o'kp* ‘dead person’, the only participant of the verb is rather a patient. In some cases, the nominalization can be formed from a verb stem that contains an incorporated noun, as in (11h).

The nominalization reflects whether a verb has an inchoative conjugation (see §8.5), such as *tse'eyɛp* ‘doctor’. This nominalization comes from a verb that is derived from the noun *tsooy* ‘medicine’.

- | | | | |
|--------|--------------|----------------------|--|
| 15. a) | ta'aky | 'fabric' | (<tä'äk 'to woven') |
| b) | wonta'aky | 'promise' | (<wontä'äk 'to promise') |
| c) | ku'ooky | 'orphan' | (<ku'ook 'to die on someone') |
| d) | päkta'aky | 'the put one, thing' | (<päktä'äk 'to put') |
| e) | pějy | 'flower' | (<pěj 'to burst, to flower') |
| f) | pooxytya'aky | 'spider web' | (<pooxy 'spider' and tä'äk 'to woven') |

In most cases, the verb is a transitive or a S=A ambitransitive verb, and the nominalization refers to the object of the eventuality expressed by the verb. This is the case, for example, with *päkta'aky* 'thing', whose referent could be thought of as the entity that can be moved. In some other cases, however, the nominalization makes reference to the "cognate" object of an action, even if such an object is not usually expressed as an argument of the verb. This is the case with *ju'uky* 'cigarette', derived from the (usually) intransitive verb *ju'uk* 'to smoke'. As in other cases, the nominalization can be composed of a noun and the verb, as in *pooxytya'aky* 'spider web'.

7.2.1.3 Nominalization with -k

As with other nominalizations, a noun derived with *-k* can have different meanings. Perhaps the most common is an action/state nominalization, that is, a word with the meaning 'the act/state of *verbing*'. This is the case with the examples in (16).

- | | | | |
|--------|--------|-----------------|-----------------------------|
| 16. a) | tunk | 'work' | (<tun 'to work') |
| b) | astk | 'dance/dancing' | (<ast 'to dance') |
| c) | ne'pk | 'sowing' | (<ne'ep 'to sow') |
| d) | ma'tsk | 'robbery' | (<maats 'to rob, to steal') |
| e) | ojk | 'quarrel' | (<ooj 'to scold') |
| f) | po'kxk | 'rest' | (<po'kx 'to rest') |
| g) | pujtk | 'run' | (<put 'to run') |

There are other cases, however, where the noun has other meanings: it could be an agentive nominalization as in (17a), a result nominalization as in (17b-d), or there are even a few cases in which the nominalization refers to the body part involved in the event as in (17e).

17. a) kutunk ‘authority’ (<kutun ‘to lead’)
 b) xiiky ‘seam’ (<xëy ‘to sew’)
 c) yuuk ‘furrow’ (<yu’u ‘to plow’)
 d) kaaky ‘tortilla’ (<kay ‘to eat corn derived food’)
 e) tse'tsk ‘breast’ (<tse’ets ‘to suckle’)

7.2.1.4 Locative nominalization

In Ayutla Mixe, there is a special locative nominalization, i.e. a derivation that produces a noun with the meaning ‘the place where *verb* takes place’. This is formed with the suffix *-täjk*.

18. a) tuntäjk ‘place to work/workshop’ (<tun ‘to work’)
 b) ëxpëjktääjk ‘school’ (<ëxpëk ‘to study’)
 c) yu'tstääjk ‘hiding place’ (<yu’uts ‘to hide’)
 d) po'kxtääjk ‘resting place’ (<po’kx ‘to rest’)
 e) tsënatyääjk ‘dwelling’ (<tsënay ‘to sit/dwell’)

Notice that the resulting word is indeed a noun, and not a locative phase (of the sort described in section 5 in this chapter), as it can be the head of a noun phrase. Thus, in (19a), the noun phrase headed by *tuntäjk* ‘place to work’ is the argument the verb *päät* ‘to find’. Moreover, if the noun is not an argument, it has to be marked as a non-argument or it has to be part of a locative subordinate clause, as in (19b).

19. a) ...Ja'a tyuntäjk tpääty
 ja'a y-tun-täjk t-päät-y
 DEM.D 3POSS-wok-NMLZ 3A-find-DEP
 ‘He found a place to work.’ (Aur2-293)

- b) Te'n nniikxyë'n extaa, mää yë'ë to'ktäjkë'n.
 Te'n n-nëjkyë'n extaa mää yë'ë took-täjk=ë'n
 M.DEM 1S-go-INCL DEIC.M where DEM.M sell-NMLZ=ADJ
 ‘We go there, to the market.’ (Lit: where the place to sell is.) (NLA(4)-6)

7.2.1.5 Instrumental nominalization with *-n*.

There a specific suffix for instrumental nominalizations, which, as explained earlier, produces nouns with the meaning ‘an object for verbing with’. This is the suffix *-n*. Thus,

tujn ‘gun’ could be paraphrased as the ‘an object for shooting with’ or *yu’un* ‘plow’ as ‘an instrument for plowing with’.

- | | | | |
|--------|---------------|-----------|---------------------------|
| 20. a) | <i>tujn</i> | ‘gun’ | (< <i>tuj</i> ‘to shoot’) |
| b) | <i>xë’ëny</i> | ‘needle’ | (< <i>xëy</i> ‘to sow’) |
| c) | <i>yu’un</i> | ‘plow’ | (< <i>yu’u</i> ‘to plow’) |
| d) | <i>jo’kxn</i> | ‘heater’ | (< <i>jo’kx</i> ‘warm’) |
| e) | <i>jejpn</i> | ‘scourer’ | (< <i>jep</i> ‘to scour’) |

Although this nominalization is not entirely uncommon, not all verbs accept it either.

7.2.1.6 Instrumental/locative nominalization with *-päjt*

There is another morpheme, the suffix *-päjt*, that produces a nominalization that, depending on the verb, can be ambiguous between locative and instrumental nominalization. Some examples are presented in (21).

- | | | | |
|--------|------------------|--|--|
| 21. a) | <i>kutiipajt</i> | ‘hanger’ | (< <i>ku+tii</i> ‘to hang’) |
| b) | <i>tumpajt</i> | ‘tool’ | (< <i>tun</i> ‘to do, to make, to work’) |
| c) | <i>kaapyajt</i> | ‘table, thing where people eat on’ | (< <i>kay</i> ‘to eat’) |
| d) | <i>määpajt</i> | ‘bed, thing where people sleep on’ | (< <i>mä’ä</i> ‘to sleep’) |
| e) | <i>jäpyajt</i> | ‘desk’ | (< <i>jä’äy</i> ‘to write’) |
| f) | <i>pujpajt</i> | ‘place/thing where people washes cloths’ | (< <i>puj</i> ‘to wash cloths’) |
| g) | <i>ukpajt</i> | ‘bar, place where people drinks’ | (< <i>uuk</i> ‘to drink’) |

In some cases, as in (21a-b), the nominalization clearly refers to a tool, while in (21g) it refers to a place. In the other cases (21c-f), it refers to the thing on which one performs the activity, not the room where it is performed.

7.2.1.7 State nominalizations

There are a few nouns ending in *-ë’n* that have a stative interpretation, such as those in (22). Despite the fact that it is possible to analyze these words morphologically, the morpheme does not seem to be very productive.

- | | | | |
|--------|---------------------|------------------|--------------------------------------|
| 22. a) | <i>xontääjkë’n</i> | ‘happiness’ | (< <i>xontä’äk</i> ‘to be happy’) |
| b) | <i>ti’äjtë’n</i> | ‘ideals, reason’ | (< <i>tiy+ät</i> ‘to be straight’) |
| c) | <i>mayäjtë’n</i> | ‘favor’ | (< <i>mayät</i> ‘to give as a gift’) |
| d) | <i>ma’kxtujkë’n</i> | ‘forgiveness’ | (< <i>ma’kxtuk</i> ‘to forgive’) |

Furthermore, in some cases a noun, such as *tiy'äjtë'n* 'reason' is used almost exclusively in light verb constructions, such as the one in (23). Notice that in this case, the noun is syntactically the argument of the transitive verb *tun* 'to do, to work', although semantically the noun *tiy'äjtë'n* 'reason' would seem to be the main predicate.

23. Ja' tiy'äjtë'n tyimpy.

ja'a tiy-ät-ë'n y-tun-yp
DEM.D straight-VRBLZ-NMLZ 3A-do-INDEP;TR
'He acknowledges (it).' (Efa1H-874)

7.2.1.8 Derivation with *-kë'ëny*

There is yet another suffix that produces both action/state nominalizations and instrumental nominalizations. Some of the derivations are shown in (24).

- | | | | |
|--------|------------------|----------------------------------|--------------------------------------|
| 24. a) | pëtëjkkë'ëny | 'help' | (<pëtëk 'to help') |
| b) | jëntsä'ëjkkë'ëny | 'offer/a respectful attitude' | (<jëntsä'ëk 'to respect') |
| c) | ëxpëjkkë'ëny | 'study' | (<ëxpëjk 'to study') |
| d) | jatyu'uxkë'ëny | 'the announcement of bad events' | (<jatyu'ux 'to announce bad events') |
| e) | uujkkë'ëny | 'cup' | (<uuk 'to drink') |
| f) | apëjkkë'ëny | 'container' | (<apëk 'to put in') |

In some cases the nominalization could be better described as an instrumental nominalization, that is, a noun whose meaning is 'an object for verbing with'. This is the case of *apëjkkë'ëny* 'container'. Some of these cases are on the borderline between instrumental and locative nominalizations, although there are specific suffixes for each case, as presented in the previous sections.

7.2.2 Nouns derived from nouns

There is a suffix, *-ët*, that can be added to toponyms in order to create demonyms, i.e. a word that is used to name the people from that place, as exemplified in (25). This can be affixed to the noun regardless of the origin, as it is possible to use it even with Spanish nouns (25d).

- | | | | | |
|--------|---------------|------------------|---------------|---------------------------------------|
| 25. a) | Tikyo'm | 'Ayutla' | Tikyo'mët | 'people from Ayutla' |
| b) | Puxtääm | 'Yalalag' | Puxtäämët | 'people from Yalalag' |
| c) | Xäämkëxp | 'Tlahuitoltepec' | Xäämkëxpët | 'people from Tlahuitoltepec' |
| d) | San Francisco | | Sanfranciskët | 'people from San Francisco (Cajonos)' |

Notice that the derived noun can appear with the noun *jä'äy* 'people', as in (26a), but it is not required, as shown in (26b).

26. a) Yë' Puxtäämët jä'äy pyiky.
 yë'ë Puxtääm-ët jä'äy y-pëk-y
 DEM.M Yalalag-DEMONYM people 3O-marry-DEP
 'He got married with a person from Yalalag.' (EfA1-339)
- b) Ta Puxtaämët ojts jajp yaxäj.
 taa Puxtaäm-ët ojts jajp y-axäj
 DEIC.M Zacatepec-DEMONYM PAST DEIC.D 3O-receive[INCH.DEP]
 'Then the people from Zacatepec received him.' (Sofa1-26)

7.2.3 Compounds

In Ayutla Mixe it is possible to find compounds. The most frequent type of compounding is with two nouns, and usually the second noun is the head of the compound, as shown in (27).

- | | | | |
|--------|---|----|--|
| 27. a) | tëk-ää
tëjk-ää
house-mouth
'door' | e) | tsäjptëjk
tsäjp-tëjk
heaven-house
'church' |
| b) | ujtsääy
uujs-ääy
grass-leaf
'plant's leaves' | f) | mëknëj
mëjk-nëj
strong-water
'mezcal' |
| c) | käjtsë'e
käj-tse'e
jaguar-squash
'chilacayote' | g) | mëjä'äy
mëj-jä'äy
old-person
'old person' |
| d) | mënytsye'e
meeny-tse'e
potato-squash
'type of winter squash' | h) | texyppyu'uy
teexy-pu'uy
dish-broken
'broken dishes' (AEC-154) |

- i) *escueltëjk*
escuela-tëjk
 school-house
 ‘the school building’

In (27b), *ujtsäüy* refers to a type of leaf, not to a type of grass, and likewise *käjtsë’e* in (27c) refers to a type of squash and not to a type of feline. It is also possible to find adjective-noun compounds (27f-g), and again the noun is the head. Less frequently, it is possible to find noun-verb compounds, as in (27h). While the formation of noun-noun and adjective-noun compounds is due to juxtaposition, noun-verb compounds have a less clear formation. They could come from noun incorporation (§8.9), except that in (27h), the noun is the head, but in noun incorporation, the verb is the head. Finally, it is not uncommon to find compounds with a Spanish borrowing, as in (27i).

In noun-noun compounding, there is no question that they form a single word. Additionally, in such cases, there is some reduction in the syllabic nucleus of the first word, which happens only when a noun forms a phonological word with another lexical item. Thus, in *tëkää* ‘door’, the noun *tëjk* ‘house’ does not have the aspiration. When the compound is formed by an adjective and a noun, it is somewhat difficult to know whether there is compounding or not. Again, they usually have a single stress, but an additional clue is that the meaning of the compound is not necessarily compositional. Thus, *mëknëj* is not compositionally interpreted but it refers to *mezcal* and (by extension) to other hard liquors.

There are some cases in which nouns have a prefix that might have been at some point an independent word, such as those in (28). Synchronically, however, it is better analyzed as a prefix.

28. a) pa-jä'äy 'wild person'
 b) pa-kaaky 'type of mushroom'
 c) pa-silantr 'wild cilantro'

In some cases, part morphemes (see §6.16) also form compounds with nouns, as those shown in (29).

29. a) aněj 'saliva' (from *äw 'mouth' + něj 'water')
 b) ěxmäts 'pants' (from *jěx 'back' +?*mäts 'grab')
 c) ěxmuk 'skirt' (from *jěx 'back'+?*muk 'be together')
 d) kuyäjks 'memela's head' (from *ko- 'relative to head'+yäjks 'memela')

In some cases, the meaning of the compound is still compositional, as in (29a), but in other cases it is less transparent, as in (29b-c), where it is not clear that the word for 'pants' or 'skirt' are not analyzable anymore. So, even though one can obtain the etymon in those cases, they are perhaps better treated synchronically as being monomorphemic. Finally, the only way in which some of the part morphemes are productive with nouns is forming compounds, as in (29d). It is necessary to say that, in particular, *kuyäjks* 'memela's head' is a nickname (*memela* is a type of thick tortilla), not a regular noun, and particularly *ku-* is productive in creating nicknames but it is not common in other nouns (except for *kěpäjk* 'head' from pMZ **ko-* 'relative to head' and **pak* 'bone').

7.3 Noun phrases

A noun phrase is a constituent whose main function is to be an argument of a verb. Thus, it could be the subject of an intransitive verb (30a), the subject of a transitive verb (30b), the object of a monotransitive verb (30c), the theme of a ditransitive verb (30d), or the recipient of a ditransitive verb (30e). Additionally, a noun phrase can be also used in non-verbal predication, as in (30f), as possessor in a possessive construction (30g), and it can be the complement of the adposition *měēt* 'ASSOC', as in (30h).

30. a) Ęjts **ja' nteetymyä'äy** ojts myëtyä'äky te'n.
 ëjts ja'a n-teetymyä'äy ojts y-mëtyä'äk-y te'n
 1SG DEM.D 1POSS-grandfather PAST 3S-tell-DEP M.DEM
 'My grandfather told (us) like this.' (IreL-45)
- b) **Ja' yuk** tku'ex.
 ja'a y-uk t-ku+ex
 DEM.D 3POSS-dog 3A-look.out[INCH.DEF]
 'His dog looks out.' (FrogA-61)
- c) **Ka't ja' meeny** tpääty...
 ka't ja'a meeny t-pääty-y
 NEG DEM.D money 3A-find-DEM
 'He didn't find money.' (Aur2-81)
- d) **Yë'ë** mixy tyät **meeny** ojts myo'oy.
 yë'ë mixy y-tät **meeny** ojts y-mo'oy-y
 DEM.M boy 3POSS-father money PAST 3O[INV]-give-DEP
 'The boy's father sent him money.' (TAMA-E-100)
- e) **Ti'ny ja' jä'äy** wet ttamayaty.
 ti'ny ja'a jä'äy wet t-ta-mayät-y
 only DEM.D people cloth 3A-APPL-give.as.gift-DEP
 'He buys cloths for people.' (Aur2-130)
- f) **Ka'a** yë'ë yujk.
 caterpillar DEM.M animal
 'This animal is a caterpillar.'
- g) **Yë' jä'äy** tyistyëjk.
 yë'ë jä'äy y-tixytyëjk
 DEM.M person 3POSS-woman
 'That person's wife.' (IreL-64)
- g) **Mëët ja' yuk** nyëwiyj.
 mëët ja'a y-uk y-në+wej-y
 ASSOC DEM.D 3POSS-dog 3S-wake.up-DEP
 'He (the child) woke up with his dog.' (FrogA-109)

A noun phrase may consist of a personal pronoun (31a), a nominal demonstrative (31b), a bare noun (31c), or a noun with modifiers (31d). In the previous chapter the main characteristics of personal pronouns and demonstratives were presented, and so in the rest of the chapter I will focus on NPs containing nouns as heads.

31. a) ...tam te'n **ëëts** n'ixy...
 tam te'n ëëts n-ex-y
 as M.DEM 1PL.EXCL 1A-see-DEP
 '(I will tell you) as we saw.' (Efa1H-37)
- b) Ku **ja'a** ttunä'änt.
 kuu ja'a t-tun-ä'än-t
 COMP DEM.D 3A-do-DES-PL;DEP
 '(He said) that they will work.' (Aur2-813)
- c) ¿...kuu **tsakääj** x'ext?
 kuu tsäkäj x-ex-t
 when bull 2A-see-PL;DEP
 '(What did you do) when you were watching the cattle?'
- d) Tu'uk mutsk kiixyu'nk ojts t'extä'äyy.
 tu'uk mutsk kiiky-u'unk ojts t-ex+tä'äy-y
 one little girl-DIM PAST 3A-look.for-DEP
 'He had looked for a little girl.' (NLA1-123)

7.3.1 Components of a noun phrase

The main component of a noun phrase is the noun itself, as most noun phrases have a noun. There are two cases when a noun phrase does not have a noun, when it consists of a pronoun (either personal or demonstrative) or when it has a numeral by itself or with a demonstrative. The latter case is discussed below in §7.3.4.

As expressed in section 1, a noun can be possessed, pluralized or can have a diminutive as part of its morphology. Additionally, a noun phrase can have a demonstrative, a numeral, an adjective, and it can be possessed. The order of the components is shown in (32), and the examples in (33) show NPs with all of these components.

32. Demonstrative + numeral + adjective + possessor + head noun

33. a) Ja' tu'uk mutsk mixyu'unk tsyëënn.
 ja'a tu'uk mutsk mixy-u'unk y-tsëën-n
 DEM.D one little boy-DIM 3S-sit-PERF;DEP
 'A little kid is sat.' (FrogG-51)

- b) ja'a tintyuk
DEM.D toad
'the toad' (Frog MJ-85)
- c) tu'uk jä'äy
one person
'a person' (Irs-921)
- d) yë' poop tējk
DEM.M white house
'the white house' (Efa1H-1379)
- e) ējts n-tse'ë
1SG 1POSS-older.sister
'my older sister'

In (33a) there is a sentence that has a demonstrative, a numeral, and an adjective. In addition, the noun has the diminutive suffix. In the other examples, I present all the other components of a noun phrase, one at a time, including the possessor in (33e), which was not included in (33a).

As illustrated in the examples, the modifiers usually appear to the left of the head noun. This position is obligatory for demonstratives, numerals and possessors, and it is the most common for adjectives. However, adjectives can also appear after the head noun.

7.3.2 Definiteness

Ayutla Mixe does not have articles, and thus there is no grammatical mechanism exclusively dedicated to mark definiteness. A bare noun phrase or even a noun phrase with a demonstrative can have both a definite or indefinite interpretation.

The numeral *tu'uk* 'one' is commonly used as an indefinite article. It is hard to determine whether this is due to Spanish influence or not. In (34a), for example, the narrator is introducing a woman dressed in white.

34. a) Kuka jä'äy myiny te'n **tu'uk** tixytyëjkëk poopte'knëka myiny...
 kuu=ëk=ja'a jä'äy y-men-y te'n tu'uktixytyëjk=ëk
 when=HEARSAY=DEM.D person 3S-come-DEP M.DEM onewoman=hearsay
 poop=te'kn=ëk=ja'a y-men-y
 white=INTENS=HEARSAY=DEM.D 3s-come-DEP
 'When the people came, a woman in white came...' (IreL-393)
- b) Jam tu'uk mëj tsäj.
 jam tu'uk mëj tsäj
 DEIC.D one big stone
 'There was a rock.' (Sofa1-275)

As stated in the previous chapter (§6.8.1), in Ayutla Mixe there are four nominal demonstratives, listed in (35). All of them can be exophorically, but only *yë'ë* and *ja'a* have endophorical uses. Despite this, AyMi has not developed an article, as has been argued for other Mixe-Zoque languages (for example San Miguel Chimalapa Zoque (Johnson 2000)).

35. a) *yä'ät* 'proximal'
 b) *yë'ë* 'medial'
 c) *ja'a* 'distal'
 d) *xe'et* 'contrastive'

When a demonstrative is used endophorically, it is only a nominal marker. Depending on the context, a noun phrase with a demonstrative can have a definite interpretation, as in (36a-b), but it also might have an indefinite interpretation, particularly when it is combined with the numeral *tu'uk* 'one', as in (36c).

36. a)te'n **yë'ë** mixy t'amtey.
 te'n yë'ë mixy t-amtoo-y
 M.DEM DEM.D guy 3A-ask-DEP
 '(How was that he died?) that is what the guy is asking.' (NLA1-11)
- b) Jajp yuktsëen jëte'n mët ja yuk.
 jajp y-uk+tsëen jëte'n mët ja'a y-uk
 DEIC.D 3S-sit[INCH.DEP] M.DEM ASSOC DEM.D 3POSS-dog
 'He is sitting there with his dog.'

- c) Ja tu'uk uujts te'n kyaxi'iky tam cilantro nate'n...
 ja'a tu'uk uujts te'n y-kaxë'ëk-y tam cilantro nate'n
 DEM.D one plant M.DEM 3S-look.like-DEP like cilantro as.well
 'There is a plant that looks just like Cilantro as well.' (A&E-84)

The interpretation of bare nouns changes depending on whether the noun is a mass noun or a countable noun. In general, the definiteness of countable nouns depends on the previous discourse or on whether the referent is ostensibly identifiable in the extralinguistic context. Thus, in (37a), there is no identifiable referent for *jatsyu'u* 'deer'; it can be any or any number of deer, and thus the noun phrase is interpreted as indefinite. In contrast, in (37b) the participants of this dialog have been talking about some animals and their predators; in particular, they had been talking about that specific coyote for a while. Thus, the noun phrase has a definite interpretation. In other cases, as in (37c), it has to do with world knowledge. Since there is only one church in Ayutla, *tsäjptëjk* 'church' has to be interpreted as definite.

37. a) Jatsyu'u tujpa nyëjkxt.
 jatsyu'u tuj-p=ja'a y-nëjkx-t
 deer shoot-INF=DEM.D 3S-go-PL;DEP
 'They went to hunt deer.' (Aur2-603)
- b) Myajtsypy ijty tutk wääjx.
 y-mäts-yp ijty tutk wääjx
 3A-grab-INDEP;TR IMPF chicken coyote
 'The coyote used to grab chickens.' (AEC-192)
- c) Ku jajp tsäjptëjk tmëtiny, sacristan.
 kuu jajp tsäjptëjk t-më-tun-y sacristan
 when DEIC.D church 3A-BEN-work-DEP sacristan
 'That they worked on the church, the sacristan.' (NL1-46)

On the other hand, bare mass nouns are commonly interpreted as indefinite, as one can see in the following example.

38. Kë te'n ëëts tojcx nakeyë't.
 kuu te'n ëëjts tojcx n-ak-ey-ë-t
 when M.DEM 1PL.EX food 1A-CAUS-good-INCH-PL;DEP
 '(We played pretending) that we were preparing food.' (AEC-94)

7.3.3 Adjectives

A noun can be modified by an adjective (§6.5). The adjective appears more commonly between the demonstrative and the noun (39a-b), but it can also appear after the noun (39c). It is worth mentioning that in actual discourse it is relatively infrequent to find adjectives inside the noun phrase; it is more common to find adjectives in non-verbal predication (see §9.1) or in secondary predication (see §10.3).

39. a) Tu'uk mējnaxy kipy kyājpn.
 tu'uk mēj-nāx+y kipy y-kāp-n
 one big+INTENS stick 3S-be.stick-PERF;DEP
 'There was a big stick.' (FrogA-566)
- b) Ĕxtam yē' poop tējke'n.
 Ĕx+tam yē'ē poop tējke=ē'n
 like DEM.D white house=ADJ
 'Like the white house.' (Efa1H-1379)
- c) Tē ějts n'ixy tu'uk uk mēj.
 tēē ějts n-ex-y tu'uk uk mēj
 BEFORE.NOW 1SG 1A-see-DEP one dog big
 'I saw a big dog.'

A noun phrase cannot consist of only a demonstrative and an adjective, as in (40a), or a numeral and an adjective, as in (40c).

40. a) *Yē' tsuj
 DEM.M beautiful
 Intended: 'the beautiful'
- b) *Majtsk tsājpts
 two red
 Intended: 'two red ones'

When it is necessary to use two adjectives, there is no conjunction between them, they are just juxtaposed, as is exemplified in (41). In actual discourse, however, those constructions are extremely rare.

41. a) mēj māj kipy.
 mēj māj kipy
 old solid stick
 ‘a long and old branch’ (FrogG-537)
- b) Yë’ mēj poop uk pyity.
 yë’ë mēj poop uk y-put-y
 DEM.M old white dog 3S-run-DEP
 ‘The big white dog ran.’

7.3.4 Number and numerals in the noun phrase

As expressed in section 1.1, only a few nouns, all with human referents, are inflected for number in Ayutla Mixe. Additionally, even with these nouns the plural marker is optional. Thus, the NP *jä’äy* ‘person’ in (42) can be interpreted as having a singular or plural referent.

42. Japëk jä’äy tsyäkäixy.
 jajp=ëk jä’äy y-tsäkäj-ex-y
 DEIC.D=HEARSAY person 3S-bull-see-DEP
 ‘A person/people was/were looking after cattle’. (Sfa1L-211)

However, it is always possible to add a numeral to indicate the cardinality of the noun phrase (§6.7), as in (43).

43. a) Tëa taxtujuk po’o nojty takapajtn.
 tëë=ja’a taxtujuk po’o nojty t-ak-apat-n
 BEFORE.NOW=DEM.D nine month IMPF 3A-CAUS-grow-PERF;DEP
 ‘She was nine months old already.’
- b) Tutujuk jëmëëjts jam ntsëën.
 tutujuk jëmëjt=ëjts jam n-tsëën
 six year=1SG DEIC5 1S-live[INCH.DEF]
 ‘I lived there for six years.’

In addition to cardinal numerals, as in the previous examples, ordinal numerals can also modify a noun, as in (44).

44. a) Mëmajtsk piky... kyukëxn.
 më-mäjtsk piky y-ku+këx-n
 ORD-two part 3S-finish-PERF;DEP
 ‘The second part finished.’ (NL1H-566)

Additionally, a noun phrase can consist of only a numeral or a numeral and a demonstrative, although in this case adjectives are not allowed. These numerals can be cardinal numerals (45) or ordinal numerals (46).

45. a) Nētēkēēk y'ejty.

nē-tēkēēk y-et-y
ANIM-three 3S-exist-DEP

‘There were three (girls).’ (Aur2-1005)

b) Taa nēmajtsk tmēmēta'aky.

taa nē-majtsk t-mē-mētā'āk-y
DEIC.M ANIM-two 3A-BEN-surpass-DEP

‘Then he beat the other two.’ (Aur2-1040)

c) ...tyimyuukt tyimpēkt tē nēmajtsk.

y-timy-uuk-t y-timy-pēk-t tēē nē-majtsk
3S-just-drink-PL;DEP 3S-just-celebrate-PL;DEP BEFORE.NOW ANIM-two

‘(For that reason) both of them drank and celebrated.’ (Efa1-1668)

46. Te'n yā'āt mētu'uk... yak'ixy.

te'n yā'āt mē-tu'uk y-ak-ex-y
V.DEM DEM.P ORD-one 3S-CAUS-see-DEP

‘And that is how we see the first one.’ (FrogG-76)

7.3.5 Possession in NPs

In a noun phrase, a possessive relation is marked by a possessive prefix (presented in section 1.3) on the possessed noun, while the possessor appears before the head noun (47). In this section, I will deal with possession inside the noun phrase when there is verbal predication. Possession with non-verbal predication is slightly more complicated and will be discussed in a later chapter (§9.1). Additionally, external possession will be discussed in the same chapter (§9.6).

47. Yē' jā'āy tyistyējk.

yē'ē jā'āy y-tixytyējk
DEM.M person 3POSS-woman

‘That person’s wife.’ (IreL-64)

As in other head marking languages (Nichols 1986), the possessor might not be expressed by a modifying noun or by a pronoun, but the head noun appears alone (48). In

fact, in actual discourse it is rather uncommon to find both the possessor and the possessum as two different noun phrases. Structures like those in (48) are by far more common.

48. a) Jëts, jajp ijty mteexy mtäsu'nk xmëtätta?
 Jëts jajp ijty m-teexy m-täs-u'nk xmëët-ät-t=a
 and DEIC.D IMPF 2POSS-dish 2POSS-cup-DIM 2A-ASSOC-VRBLZ-PL;DEP=Q
 'and, did you have your dishes and your cup.' (AE)
- b) Xë'n mkaaky xkëxkont...?
 xë'n m-kaaky x-këx-kon-t
 M.DEM 3POSS-tortilla 2A-SURFACE-carry.small.objects-PL;DEP
 'How did you do your tortillas...?' (AE-312)

In the case of first and second person possessors, a first or second person pronoun is employed instead of a nominal possessor (49a). Thus, there is possessive prefix on the possessed noun and the pronominal possessor appears before the noun. As one can see from (49b), the personal pronoun can be omitted.

49. a) ëjts ntsë'ë
 ëjts n-tsë'ë
 1SG 1POSS-older.sister
 'my older sister' (AE-318)
- b) Jajp jyä'tn mäa' ntsukujë'n.
 jajp y-tä'ät-n mäa=ja'a n-tsukuj=ë'n
 DEIC.D 3S-arrive-PERF;DEP where=DEM.D 1POSS-aunt=ADJ
 'She got where my aunt is.' (NLA-21)

In the case of multiple possessive relations using the same construction recursively, where the possessors appear to the left of the possessed noun, as in (50).

50. Jam ëjts ntsëën mäa sn'ay myuku'uk tyëjkë'n.
 jam ëjts n-tsëën mäa=ja'a ëjtsn-ay
 DEIC.D 1SG 1POSS-live[INCH.DEF] where=DEM.D 1SG1POSS-younger.sibling
 y-muku'uk y-tëjk=ë'n
 3POSS-friend 3POSS-house=ADJ
 'I live there, where the house of my brother's friend is.'

7.4 Discontinuous NPs

It is possible to find discontinuous noun phrases in Ayutla Mixe, as shown in the example in (51).

51. Yä'ät ayoop jä'äy, jyätt kyupattë'n pues.
 yä'ät ayoo-p jä'äy y-jät-t y-kupat-të-n pues
 DEM.P [3S]be.poor-INDEP people 3S-suffer-PL;DEP 3S-pay-PL-PERF;DEP DISC
 'These poor people, they suffered.' (Aur2-70)

In this example, the demonstrative is dislocated from the head noun: the demonstrative is at the beginning of the sentence, before the verb, and the noun is after it. Notice that the verb *ayoo* 'be poor' is intransitive, and both the demonstrative and the noun fulfill a single grammatical relation. Another way to express this is to say that both the demonstrative and the noun refer to the same entity.

It is difficult to say which element of the NP is dislocated and which remains in situ, so to speak. However, as a general rule I would say that whichever word appears to the left of a demonstrative, or even to the left of a verb or an adverb, is the dislocated element. A noun phrase can be discontinuous in various ways. In (51), the demonstrative appeared fronted and the noun in situ. Additionally the noun can be dislocated, leaving in situ a demonstrative with a numeral (52a) or only one of them (52b).

52. a) Taa kē'ēk ja' majtsk kyonn.
 taa kē'ēk ja'a majts y-kon-n
 DEIC.M shoe DEM.D two 3S-be.small.object-PERF;DEP
 'There are two shoes.' (FrogG-163)
- b) **Carro** ojts [tu'uk]_{FN} tjëy, taa ojtsa'... tyakjä'äty.
 Carro ojts tu'uk t-jëy-y taa ojts=ja'a t-yak-jä'ät-y.
 car PAST one 3A-buy-DEP DEIC.M PAST=DEM.D 3A-CAUS-arrive- DEP
 'A car he bought, then he brought it here.' (EfAH1)

7.5 Part morphemes in locative phrases

It was explained in the previous chapter (§6.16) that part morphemes are bound morphemes that appear in locative phrases and as part of the verbal morphology. The first function will be explained here and the second one in the following chapter (§8.7.3).

In a spatial description, whether it is static (53a) or a motion event (53b), there is usually a figure and a ground (Talmy 1985, Talmy 2000). In Ayutla Mixe, the ground appears in a locative phrase, composed of a noun that denotes an entity with respect to which the figure is located, and a part morpheme that indicates a region of the noun and a locative marker.

53. a) Tama pelota näxkëxp_{LOCATIVE PHRASE}
 ta-m=ja'a pelot nääjx-këx+p
 DEIC.M-LOC=DEM.D ball ground-ON.SURFACE
 'There is a ball on the ground.' (PosV-A Bottle)

- b) Tu'uk pelot tyëk pejkkemyetpy_{LOCATIVE PHRASE}
 tu'uk pelot y-tëk-Ø pejk-kemy-jot-py
 one ball 3-enter-DEP round-fence-inside-LOC
 'A ball enters into the fence.' (EE1G)

The part morpheme and the locative marker form a compound by itself, which I will call the *LOCATIVE TERM*, and then it is combined with the ground referring noun. In section 7.5.1, I will explain the internal structure of the locative term, and then in section 7.5.2 I will explain how they are combined with the ground referring noun.

7.5.1 Internal structure of the locative term

Depending on the part morpheme, there are two main types of locative endings, which have different components: those whose ending can have three different forms and those whose ending have four different forms. In turn, there are two series for those

locative terms that have three different endings, identified as the *-ääj* series, the *-kë'ë* series, and the *-tu* series. All of this is schematized in (54).

54. a) Those that can have three forms:
- i) Containing *-ääj*:
Parts: *ëx* 'base', *pa* 'border', *jëp* 'tip', *pat* 'under'.
 - ii) Containing *-kë'ë*:
Parts: *a* 'edge', *ëx* 'behind', *pu* 'next to', *jën* 'in front of', *pat* 'under', *yuk* 'in the neck'
 - iii) Containing *-tuu*:
Parts: *jën* 'in front of', *yuk* 'in the neck'
- b) Those that have four forms:
Parts: *ojt* 'inside', *këx* 'surface', *këpäjk* 'at the apex'.

Regardless of the series, the locative terms can be further analyzed. Some of them have three endings because they contain the locative *ääj*, *kë'ë* or *tuu* plus one of the following endings: *-py*, *-(j)y*, *-m*. Depending on the ending, the form of the locative changes. All of the endings are exemplified with the part *pat* 'under', which can appear in two of the series.

55. a) *pat'ajpy*, *pat'ääjy*, *pat'am* 'under'.
b) *patki'py*, *patkë'ëjy*, *pat'kë'm* 'under'.

The exact function or the origin of those three endings is unknown. However, it is worth pointing out that there are some coincidences between those three endings and those that adverbial demonstratives can have (§6.8.2.1). In particular, adverbial demonstratives can have the composite endings *-py* and *-Vy*, in addition to the simple ending *-m*. Thus, it is not just the fact that in both demonstratives and locative terms there are three forms, but also the fact that one form has a bilabial stop, the another one a bilabial nasal and the other one a longer vowel. In the case of demonstratives, the *-p* is used when the ground is a container, the long vowel with an extended and open ground, and the *-m* with unspecified grounds. In locative terms, however, there is no such

correlation. The selection of the ending does not produce any semantic effect. As a matter of fact, some speakers show a preference for one of the three forms, and find the other two forms slightly odd, but the selection of the ending is not consistent across locative terms. In any case, it would seem that historically it was those three endings, and not *kë'ë*, *ääj* or *tuu*, that had the function of marking locative phrases or adverbial demonstratives as referring to a location. Synchronically, I am not even sure it is possible to break down *-ääjy*, *-ki'py* and *-tuu jy* (and the other forms) into different morphemes, even if historically *kë'ë*, *ääj* and *tuu* were perhaps the roots and the endings the same locative suffixes found in demonstratives. The segmentation offered here has only an explicative function, not a morphological value.

With respect to the difference between the *ääj*, *kë'ë* and *tuu* series, they do not seem to contribute a different meaning; although they have slightly different syntactic properties, as will be presented in the following section. Additionally, some comments are in order. In the first place, *pat* 'under' is the only part morpheme that occurs in two series with the same meaning. *Ēx* also appears in two series, but in one case, as *ëxajpy*, it means 'at the base' and as *ëxki'py* it means 'behind'. The other part morphemes appear in only one series: *pa* 'edge' and *jëp* 'tip' in the *ääj* series; *a* 'edge' and *pu* 'next to' in the *kë'ë* series; and, *jën* 'in front of' and *yuk* 'in the neck' in the *tuu* series.

As for the locative terms with four endings these are: *-p*, *-py*, *-j-*, *-y*. These endings are different from the terms that have three forms (all the forms have *-py*, though). In addition to having four forms, these locative terms do not have the other intermediate part (*ääj*, *kë'ë* or *tuu*) between the ending and the part morpheme. I do not know why they

lack that, but it would cause the part morpheme itself to change depending on the ending, as shown in (56).

56. *kəxp*, *kixypy*, *kəx*, *kixy* ‘on’.

Why there are four endings, why the ending is attached directly to the part morpheme and what the origin of the endings is are open questions for which I cannot offer satisfactory or conclusive answers. It is worth noting, nonetheless, that those forms would perfectly correspond to the four endings of the neuter and completive aspect markers in both the independent and the dependent form of verbs. At this point, I do not know for certain whether this is just mere coincidence or, as I will speculate below, there is a link between these locative terms and the four verbal endings. Unlike locative terms with three endings, in some cases the change in the ending imposes some semantic restrictions. The two forms in (57b) could be used to mean among a plurality of trees or inside a tree (or several trees), but *-ejtypy* ‘inside’ in (57c) can mean only ‘inside’, but not ‘among’. The changes do not seem to be consistent across all three part morphemes, though.

57. a) *ǀMää yě’ joon?*
 where DEM.M bird
 ‘Where is the bird?’

b) *Kipy-oojt/kipy-ojtp*
 ‘Among the trees’ / ‘inside a tree’

c) *Kipy-ejtypy*
 ‘Inside a tree’

It would seem that at least two of the part morphemes involved in the locative terms with four endings were incorporated as part morphemes relatively recently, or at least that they are not part of the historically more basic set of part morphemes. There are several reasons to believe this. Unlike the other part morphemes, *ojt* ‘inside’ and *kəpājik* ‘apex’

are used only in locative constructions, but not in the verbal morphology. Additionally, the part *këpäjk* ‘apex’ is in fact composed by *ku-* ‘apex’, which is in fact one of the basic part morphemes, and *pääjk* ‘head’ (see §6.16). Furthermore, *këpäjk* ‘apex’ is almost identical to the noun *këpäjk* ‘head’.

With respect to whether the four endings are related to verbs, it is necessary to compare AyMi with other languages. In Totontepec Mixe (Schoenhals & Schoenhals 1965), Coatlán Mixe (Hoogshagen & Hoogshagen 1993), and Guichicovi Mixe (Wichman 1995a) a verb *jot*, clearly related to *ojt* ‘inside’, means ‘to be pregnant’. In Ayutla Mixe, there is no verb with a similar form that has that meaning, but the fact that it is found in North Highlands and in Lowlands languages would suggest that it could have been present in AyMi as well but it was lost. Going back to AyMi, there is also another part morpheme, *nëkëxp* ‘on top’, which is composed of the verbal locative prefix *në-* ‘on’ and the part morpheme *këx* ‘surface’. *Nëkëxp*, in addition to being used as part morpheme, is also a stative verb meaning ‘to be on top’. Given that *në-* appears almost exclusively with verbs,³ it is safe to assume that the use as a part is historically derived from its verbal form. I do not know whether *këx* ‘surface’ was once used as a verb,⁴ but as *këxp* it is also an adjective meaning ‘high’. A serious problem with linking those locative terms with four endings with stative predicates is that there does not seem to be a verbal use of *käpäjk* ‘apex’.

There are some other terms whose discussion is relevant here too. There is a locative term that seems to have a general meaning, which can be attached to some nouns (without the use of a part morpheme). This locative term, shown in (58), seems to belong

³ There are a handful of cases in which it appears with nouns, as in *në-’äk* ‘skin’.

⁴ It should not be confused with *këx* ‘to finish’, as they do not seem historically related (Wichmann 1995a).

to the *ääj* series, except that it has four endings. I suspect that it is a reduced form of *a* ‘edge’+*ääj*, although it probably was merged when both components had the same vowel quality.⁵

58. -äjp, -ajpy, -ääy, -äm: ‘at’

Additionally, there is another locative term used to express a situation in which a figure is in a corner or in a small space on a ground. This locative term has three endings too, as shown in (59), but they do not coincide exactly with those of other three endings series. As for the origin, I am not certain, but it is perhaps related to *ween* ‘eye’.

59. a) *wemp*, *wimpy*, *wiiny* ‘at a corner, spot, small place’.

b) *Tama yujk yo'oty petsywyemp*.

tam=ja'a yujk y-yo'oy-t petsy-wen+p
 DEIC.M=DEM.D animal 3S-walk-PL;DEP wall-corner-LOC
 ‘The animals crawl on the wall.’ (BPMJ-52)

Unlike other terms, *wem+p* is ambiguous between a place and a location, and thus it can be the nucleus of a noun phrase on its own or it can be part of a locative construction. Thus, some words have these two interpretations, as *tsenwiiny*, which is ambiguous between a place (i.e. an entity) ‘the place where there are trees’, and a location ‘in front of a tree/trees’.

60. a) *Wäjkwemp*, *Wäjkwiiiny*, *Wäjkwimpy* ‘Oaxaca City’ (lit. ‘place of *huajes*’, from *wäjk* ‘huaje, lead tree’ (*Leucaena leucocephala*) and *wem+p* ‘corner’).

b) *Nëwemp*, *Nëwiiny*, *Nëwimpy* ‘Mexico City’ (lit. ‘place of water’, from *něj* ‘water’ and *wem+p* ‘corner’).

All possible locative terms are summarized in Table 1.

⁵ Historically, modern /ʌ/ comes from /a/, see §5.3.

	p	py	-m	-j-	y
general locative	äjp	ajpy	äm		ääjy
<i>ääj</i> series					
at the base		ëx'ajpy	ëx'am		ëx'ääjy
at the edge		pa'ajpy	pa'am		pa'ääjy
at the tip		jëp'ajpy	jëp'am		jëp'ääjy
under		pat'ajpy	pat'am		pat'ääjy
<i>kë'ë</i> series					
at the edge		aki'py	akë'm		akë'ëy
behind		ëxki'py	ëxkë'm		ëxkë'ëjy
below, underneath		patki'py	patkë'm		patkë'ëjy
beside		puki'py	pukë'm		pukë'ëy
in front		jëntujpy/ jëntijpy	jëntum		jëntuujy
at the neck		yuktijpy	yuktuum		yuktuujy
four endings series					
inside	ojtp	ejtypy		oojt	oojty
on surface	këxp	kixypy		kë(j)x	kixy
on top	nëkëxp	nëkixypy		nëkë(j)x	nëkixy
on the apex	këpäjkp	këpäjkypy		këpäjk	këpäjky
place	wemp	wimpy			wiiny

Table 1. Locative terms in Ayutla Mixe.

7.5.2 Structure of locative phrases

The mechanisms used for combining a locative frame with the ground referring noun are explained in this subsection. There are two ways in which this can happen: by compounding and by a possessive construction. In (61a), the noun *wet* ‘cloth’ forms a compound with the locative term *patki'py* ‘under’, and the whole compounding *wetpatki'py* means ‘under the cloth’. In (61b), the ground referring noun and the locative term are constructed in the same way as nominal possessive constructions, where *tsënapyäj* ‘seat’ is the possessor and *pyatki'py* ‘under’ the possessed. As such, the latter has the third person possessive prefix *y-*.

61. a) Tapa cuchara wetpatki'py.

tajp=ja'a cuchara wet-pat-ki'py
 DEIC.M=DEM.D spoon cloth-UNDER-LOC
 ‘The spoon is underneath the cloth.’ (BP-A24)

- b) Tapa pelot tsēnaypyäjt pyatki'py.
 tajp=ja'a pelot tsēnaypyäjt y-pat-ki'py
 DEIC.M=DEM.D ball seat 3POSS-under-LOC
 'The ball is underneath the chair'. (BPJ-16)

In both cases, the locative term is the head of the locative phrase. When there is a phrasal structure, the parallelism between a regular possessive construction and a locative possessive construction is clear. Thus, in (61b), the noun *tsēnaypyäjt* 'seat' is a modifier of the construction's head. In any case, the question is whether the head of the construction should be considered as only the term *pat* 'under' or the whole term *patki'py* 'under'. In the first scenario, the part morpheme and the ground referring noun would form a phrase, and the locative *ki'py* would be attached to the whole phrase; in the second scenario, the part morpheme and the locative *ki'py* would form a word, and only then would the phrasal structure be created.

Given the structure I have followed here, it is not surprising that I believe that the part morpheme and the locative suffix form a single word. Since the part morpheme is a bound morpheme, it could not be the head of a noun phrase. Thus, it cannot appear in a noun phrase as the head of a possessive construction. If one were to find cases like (62), then the analysis under which the locative suffix is a clitic to the whole NP would be a possibility. But this is not possible. I do believe, however, that diachronically parts were nouns and as such they were heads of NPs. At some point in history, a construction like (62) was perhaps possible, and so the possessive construction for locative phrases is a historical remnant.

62. *ja' tsēnaypyäjt yëx
 ja'a tsēnaypyäjt y-ëx
 DEM.D seat 3POSS-back
 Intended: 'the back of the chair'

Perhaps a similar issue arises with the other strategy, when the locative phrase is a compound. I believe that compounds are a grammaticalized form from the possessive construction. In any case, it is more or less clear that the head is the locative term, and thus the resulting compound refers to a location and not to an entity. Additionally, this is reflected in the fact that if one wants to place a diminutive, it has to be first suffixed to the ground referring noun, and then it would form a compound with the locative term, as in (63a). If the whole compound denoted an entity, or if the head was the ground referring noun, it would be possible to suffix the diminutive to the whole compound, although it is not, as shown in (63b).

63. a) Tapa tsatsy teexyu'unkkëxp.
 ta-p-ja'a tsatsy teexy-u'un-këx-p
 DEIC.M-LOC=DEM.D fly plate-DIM-SURFACE-LOC
 'The fly is there on the little plate.'
- b) *Tapa tsatsy teexykyëxpu'unk.
 ta-p-ja'a tsatsy teexy-këx-p-u'unk
 DEIC.M-LOC=DEM.D fly plate-SURFACE-LOC-DIM
 Intended: 'The fly is there on the little plate.'

The meaning for the possessive construction and the compound seem to be equivalent, at least in (61), but they are not interchangeable. For most speakers, only locative terms with the *kë'ë* series can be construed in a compound or in a possessive construction, but those with the *ääj* or *tuu* series, and locative terms with four endings, usually appear only in a compound. It is possible to see that it depends on the series, and not on the part morpheme, because the same part, *pat* 'under', appears in a possessive construction in (64a), but is not allowed with the *ääj* series in (64b). A compound has to be used, as in (64c). Locative phrases with four endings, i.e. those containing *ojts* 'inside', *këx* 'surface', and *këpäjk* 'apex', never appear as possessive phrases (65).

64. a) Tapa teexy wet pyatki'py.
 tap=ja'a teexy wet y-pat-ki'py
 DEIC.M=DEM.D plate rag 3POSS-UNDER-LOC
 'The plate is under the rag.'
- b) *Tapa teexy wet pyat'ääjy.
 tap=ja'a teexy wet y-pat-ääjy
 DEIC.M=DEM.D plate rag 3POSS-UNDER-LOC
 Intended: 'The plate is under the rag.'
- c) Tapa teexy wetpat'ääjy.
 tap=ja'a teexy wet-pat-ääjy
 DEIC.M=DEM.D plate rag-UNDER-LOC
 'The plate is under the rag.'
65. a) *tu'ujts jyejtypy
 tu'ujts y-jojt-py
 pot 3POSS-INSIDE-LOC
 Intended: 'inside the pot'
- b) *mes kyëxp
 mes y-këx-p
 table 3POSS-SURFACE-LOC
 Intended: 'on the table'
- c) *tseen kyëpäjkp
 tseen y-këpäjk-p
 pine 3POSS-APEX-LOC
 Intended: 'at the top of the pine'

There seems to be some variation among speakers. Some people who I worked with would accept the possessive strategy only for *patki'py* 'under', but not with any other locative term. Most people would accept the possessive with the *kë'ë* series, although generally only with the *ki'py* ending. Additionally, some speakers accept the possessive construction for *jëntuujy* 'in front' and *ëx'ääjy* 'at the base'.

Finally, when the ground referring noun itself is possessed, it is necessary to use a compound, as in (66a). Thus, even though the locative term and the ground referring noun can be linked by a possessive strategy (66b), in that case the construction does not allow another possessive, as shown in (66c).

66. a) Taa cuchar wyetpatki'py.
taa cuchar y-wet-pat-ki'py
DEIC.M spoon 3POSS-rag-UNDER-LOC
'The spoon is under his rag.' (BPJ-24)
- b) Taa cuchar wet pyatki'py.
taa cuchar wet y-pat-ki'py
DEIC.M spoon rag 3POSS-UNDER-LOC
'The spoon is under the rag.' (BPJ-24)
- c) * Taa cuchar wyet pyatki'py.
taa cuchar y-wet y-pat-ki'py
DEIC.M spoon 3POSS-rag 3POSS-UNDER-LOC
Intended: 'The spoon is under his rag.' (BPJ-24)

Chapter eight

Verbal Morphology

In this chapter, I discuss verbal morphology. As in other Mixe-Zoque languages, the verb in Ayutla Mixe is the locus of many grammatical aspects of the language. Given the nature of many of the affixes, most of the topics covered in this chapter are related to syntactic phenomena. For example, person markers correlate with the core arguments in a clause. Valence changing morphology, such as causatives, reflexives and applicatives, involve the addition or reduction of core arguments. The spatial morphology is also related to the codification of ground-denoting phrases or is responsible for the addition of core arguments.

Thus, in the first section, all of the verbal slots are presented and a brief description of the types of morphemes is offered. Sections two through five deal with different aspects of the inflectional morphology. In section two, I present person markers and their organization; in section three, aspect-mood morphology (including some morphological changes they introduce); in section four, I will discuss the inverse and the inchoative

morphemes; and in section five, I will summarize some morphological interactions between aspect-mood suffixes.

These sections constitute the core of the chapter. All these phenomena apply to both simple and complex verb stems. All of the phenomena discussed after section five of this chapter involve complex verb stems. In section seven, I deal with valence-changing morphology, in section eight with spatial morphology, and in section nine with pseudo-applicatives. Additionally, at the end of the chapter two cases involving more than one root are discussed: in section ten, incorporation is discussed and in section eleven, core-serialization. Since some of the phenomena discussed in this chapter are related to phenomena that occur at the sentential level, I treat them only briefly in this chapter.

8.1 Verbal Template and verbal slots

In §6.3, the basic verbal template was presented: it consists of the stem, preceded by the person prefix and followed by the aspect-mood suffix. The verb stem is whatever is left after the inflectional morphology is removed. In (1a) the stem consists only of the verb root, but it can also include derivational morphology, as in (1b), and, as one might expect in a polysynthetic language, it can include more than one root (1c), incorporation of a noun (1d), and even the incorporation of a non-nominal element such as an adjective (1e).

1. a) mtump
m-tun-p
2S-work-INDEP
'you work'
- b) yakkēēpy
y-ak-kē'ē-yp
3S-CAUS-cook-INDEP;TR
'he cooks it'

- c) tyemminy
y-tem-men-y
3S-roll-come-DEP
'it [a ball comes] rolling' (MoV-G-FG03)
- d) Yë letsy xojtpëj_{kp}.
yë'ë letsy x-jojt-pëk-p
DEM.M milk 1O[INV]-stomach-hurt-INDEP
'The milk gave me a stomach ache.'
- e) kaeymëtyä'kp
ka-ey-mëtyä'äk-p
NEG-good-tell-INDEP
'I do not sing well' (Aur2-Aur2-388)

In this chapter I will expand on the analysis of the verbal template and I will discuss all of the verbal slots. More specifically, in Table 1 I present all possible verbal slots. This is only a schematization and there is no verb that can have all of them.

Person Markers	Non-nominal "Incorporation"	Motion cum purpose	Directional and locative	Reflexive	Causative	Applicative	Benefactive	Incorporation slot	Part	Verbal Root (manner)	Main Verbal Root (Semantic head)	Phase Roots	Desiderative	INV-PERF-PL-AM
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Table 1. Verbal slots in Ayutla Mixe.

As the name in the schema indicates, the main verbal root (marked with the double-lined box) is the semantic head; that is to say, this is the verbal root that determines the main lexical meaning denoted by the whole verb stem. The main verbal root and the inflectional morphemes (marked in bold face and filling the first and last slots) are the minimal elements required for a verb to be grammatical.

From the other possible components of the verbal stem, it is necessary to distinguish three different kinds of morphemes: verbal roots, incorporated elements, and affixes. Verbal roots form what is called core serialization (Foley and Olson 1985, Foley 1991, Zavala 2000), and the phenomenon is different from incorporation, which involves non-

verbal roots. As will become clear in the following chapters, core serialization and incorporation have to be distinguished from compounding.

In the case of the verbal roots, it is necessary to distinguish proper verbal roots, which contribute to the lexical meaning of the complex verb, from other verbal roots that do not have lexical meaning. At a first glance, it might seem contradictory to call something a root and at the same time say that it does not have lexical meaning. I will argue that phase roots and the desiderative (as well as other cases to be discussed in the next chapter) are verbal roots as far as their morphological behavior is concerned, even if they have a rather grammatical function when they appear after the main verb. As far as I have determined, it is possible to have a maximum of three verbal roots with lexical meaning, as in (2), though even examples like this are extremely rare.

2. -wejtsēmpejt'ey-
 wejts-jēmpet-ey
 move.general-return-be.good
 'to arrange something by turning it upside down'

As pointed out, the other verbal roots that appear in core serialization are phasal verbs and the desiderative. Phasal roots encode fine grain aspectual information (in contrast to the broad meaning encoded in AM markers) such as 'to begin doing something' or 'to keep doing something', among other meanings, as shown in (3). More on grammatical core serialization is discussed in §10.6.2.

3. a) Tē Carlos tkatyēk uupy.
 tēē Carlos t-kay-tēk uupy
 BEFORE.NOW Carlos 3A-eat-enter[INCH.DEP] amarillito
 'Carlos began eating *amarillito* (type of meal).'
- b) Yē' maxu'unk yāxnijkxy.
 Yē'ē maxu'unk y-yā'āx-nējkx-y.
 DEM.M baby 3S-cry-go-DEP
 'The child kept crying.'

The desiderative is also used for future time reference, as exemplified in (4).

4. Jepy ějts npĕti'ikā'āny japom.
 jepy ějts n-pĕtĕ'ĕk-**ā'**ān-y japom
 early 1PRON.SG 1S-get.up-**DES**-NEUT.DEP tomorrow
 'Tomorrow I want to wake up early.' /
 'Tomorrow I will wake up early.' (TAMA E-72)

If one were to make a scale of lexical versus inflectional morphemes, proper verbal roots would be definitively lexical, phase verbs in the middle, and the desiderative towards the inflectional side.

Also on the side of roots, there are two slots for non-verbal lexical roots: one for noun incorporation and another one for non-nominal roots. The slot for non-nominal roots is at the beginning of the verb, just after the person markers, while the slot for incorporated nouns is adjacent to the verbal roots. In a restrictive sense of the term, only nouns can be considered incorporation, since a noun, which otherwise appears as an independent word, becomes part of the verb stem (Sapir 1911, Mithun 1984, 1986, Baker 1988, 1996 *inter alia*). The term “incorporation” in the slot for non-nominal incorporation is used in a less restrictive way for adverbial elements that might appear outside the verb but also for other morphemes that are not attested in my data as independent words.

In §6.19, it was reported that part morphemes have a nominal origin but that they are no longer nouns anymore. In the verbal morphology, they also have a different slot from noun incorporation. As shown in (5), the incorporated noun *tu'uts* ‘pot’ and the part morpheme *kĕx* ‘surface’ can co-occur, the latter closer to the verb root than the former. Finally, the semantics of parts differs from incorporated nouns, and they belong to derivation, not to incorporation. All of this will be discussed below (§8.7.3).

5. Ka't tyu'utskëxwity meskëxp.
 ka't y-tu'uts-këx-wets-y mes-këx-p
 NEG 3S-pot-SURFACE-put-DEP table-SURFACE-LOC
 'S/he did not put the pot on the table.'

After the slot for incorporated adverbials, they are two slots for morphemes of motion. The first of them is reserved for a prefix that encodes *motion-cum-purpose* (similar to English *I went skiing*, except that in English this is expressed by an independent verb, not by an affix); the second one is for any of three prefixes that indicate direction. Therefore, there is one slot for associated motion and another one for directional morphemes, as illustrated in (6).

6. Të Juan tëskaskapy yë' puxa'ap.
 të Juan t-ës-kas-käp-y yë'ë pujx+ja'ap
 BEFORE.NOW Juan 3A-MCP-DOWN-carry-DEP DEM.M shovel
 'Juan went to unload shovels.'

The next four slots closer to the root are slots for morphemes related to change in the number of semantic or syntactic participants of the event denoted by the verb: reflexive, causative, applicative-like, and benefactive-like morphemes. The reflexive changes the number of semantic and syntactic participants, and is also used for expressing reciprocity. The causative adds an agent to the event, but has a secondary use as active impersonal. Finally, the other two morphemes are derivational morphemes that, as a byproduct, sometimes increase the valence of the verb.

8.2 Marking core participants

8.2.1 Person Markers

As pointed out in Chapter Six, in Ayutla Mixe verbs are inflected as being dependent or independent. For this reason, there are two sets of person markers, one for each type.

In addition, only one syntactic argument (or core participant) is marked on the verb. For an intransitive verb, this is not a problem, since the only argument (S) is marked in the verb; for a transitive verb, it is necessary to choose between the agent (A) and the object (O).¹ The exact conditions for the selection of A or O has to do with inversion, which is discussed below (§8.6, §9.5). Person markers are also a means for distinguishing arguments from non-arguments, since the latter are never cross-referenced on the verb. In any case, in the tables below I present both sets of person markers for intransitive and transitive verbs; in the case of transitive verbs, the A is marked in a direct relation and the O is marked in an inverse relation.

Person	Intransitive S marked	Transitive			
		A marked		O marked	
1	∅-	n-	1>2, 1>3	x -	2>1, 3>1
2	m-	m-	2>3	m-	3>2
3	∅-	y-	3>3'	∅-	3'>3

Table 2. Independent person prefixes in Ayutla Mixe.

Person	Intransitive S marked	Transitive			
		A marked		O marked	
1	n-	n-	1>2, 1>3	x-	2>1, 3>1
2	m-	x-	2>3	m-	3>2
3	y-	t-	3>3'	y-	3'>3

Table 3. Dependent person prefixes in Ayutla Mixe.

As a reminder, the person markers used for intransitive verbs in the dependent form are also used for marking possession in nouns and for marking dependency non-verbal predication (§9.1). In order to illustrate the person markers, the conjugation in the intransitive form is presented in both the independent and the dependent form: in (7) the

¹ In AyMi, the P of a monotransitive verb, and both the T and the R of a ditransitive verb have the same morphosyntactic characteristics. For this reason all of them are considered to be equally objects and I will use O to refer to them (see §9.2).

verb starts with a glottal stop (not represented in the orthography when initial) and in (8) starts with a consonant.

7. ex ‘to see’

Independent Intransitive

- a) (ëjts) ex-p ‘I see’
1SG [1S]see-INDEP
- b) (mejts) m-ex-p ‘you see’
2SG 2S-see-INDEP
- c) (yë’ë) ex-p ‘he sees’
DEM.M [3S]see-INDEP

Dependent Intransitive

- d) (Ojts) n-ex-y ‘I saw’
PAST 1S-see-DEP
- e) (Mejts ojts) m-ex-y ‘you saw’
2SG PAST 2S-see-DEP
- f) (Yë’ë ojts) y-ex-y ‘he saw’
DEM.M PAST 3S-see-DEP

8. tun ‘to work’

Independent Intransitive

- a) (ëjts) tun-p ‘I work’
1SG [1S]work-INDEP
- b) (mejts) m-tun-p ‘you work’
2SG 2S-work-INDEP
- c) (yë’ë) tun-p ‘he works’
DEM.M [3S]work-INDEP

Dependent Intransitive

- d) (Ojts) n-tun-y ‘I worked’
PAST 1S-work-DEP
- e) (Mejts ojts) m-tun-y ‘you worked’
2SG PAST 2S-work-DEP
- f) (Yë’ë ojts) y-tun-y ‘he worked’
DEM.M PAST 3S-work-DEP

8.2.2 Ergativity in Ayutla Mixe

Historically, person markers in Ayutla Mixe derive from an ergative system and this has been the characterization for other Mixe languages (see §8.2.6 at the end of this section for a comparison with other Mixe languages). However, at the present time,

Ayutla Mixe is no longer an ergative language, although it is possible to find traces of an ergative system. As shown below, AyMi has a mixed person system.

9. First person:	Independent	$S \neq A \neq O$
	Dependent	$(S=A) \neq O$
Second person:	Independent	$S=A=O$
	Dependent	$(S=O) \neq A$
Third person:	Independent	$(S=O) \neq A$
	Dependent	$(S=O) \neq A$

For the first person independent, there is tripartite pattern, where each grammatical relation is marked differently, but for the dependent forms, it has a nominative-accusative pattern. The second person independent is the opposite of the first person, because all of the participants are marked by the same morpheme; the dependent conjugation shows an ergative pattern. The third person marker shows an ergative pattern both in the dependent and independent orders. Rather than suggesting that AyMi has all four possible alignments, this amounts to saying that the classification as accusative or ergative is not entirely relevant for AyMi.

8.2.3 Organization and meaning of person markers

In addition to providing the list of person markers, it is necessary to organize them, which I do in this section. In the examples in this grammar, person markers are glossed according to their person and grammatical role. The glosses provided in the examples, however, are for convenience and in a deeper analysis it is possible to make more generalizations. These generalizations are presented here organized according to the grammatical person.

First person independent. The morpheme *n-* indicates that the first person as the A of a transitive verb.

Second person independent. In this case, the prefix *m-* only indicates that the participant is a second person, and it makes no reference to the grammatical relation. The transitivity of the verb is marked by the AM suffix (§8.3), while the direct/inverse relation is encoded by the inverse suffix (§8.4.1).

Third person independent. The prefix *y-* indicates that one of the participants is a third person A of a transitive verb.

First person dependent. Here, *n-* indicates that the participant is a non-O first person. The transitivity of the verb, and thus the difference between an S and an A, is left to other means, such as the use of a causative morpheme, the semantics of the verb, the number of NPs in the sentence, the number of participants in the discourse, etc.

Second person dependent. In this case, *m-* makes reference to a non-A participant, which could be either the S of a transitive verb or the O of a transitive verb. In contrast, *x-* marks the A of a transitive verb.

Third person dependent. This is similar to the second person dependent, where *y-* codes a non-A participant and *t-* the A participant.

First person object. This is the only case in which I assume that the same morpheme is used in both the independent and the dependent. The *x-* marks a first person O.

As stated in the previous subsection (§8.2.3), any verb that has no overt person marker is not specified with respect to the first or the third person, at least not by morphological means. In such a case, the use of personal pronouns is necessary to obtain information regarding the grammatical participants.

In this perspective, person markers encode only three types of information: they make reference to a grammatical person, to whether the verb is independent or dependent

marking, and, to some extent, to grammatical relations. There is nothing in them that makes reference to the inverse system. They interact with inversion, but the choice between a direct or an indirect alignment is determined by a person hierarchy, according to which the first person is more prominent than the second person, and this higher than the third person. This is discussed at length in the following chapter (§9.5).

8.2.4 The case of third person dependent as independent

There is another issue with respect to third person. The third person marker for dependent transitive sentences (*t-*) sometimes also appears in independent marking, as shown in (10).

10. t'exyejtpa
 t-exyēt-p=ja'a
 3A-look.after-INDEP=DEM.D
 'he watched her' (NL1-193)

In normal circumstances, we would expect the person marker for a transitive verb with a third person A to be *y-*, while the suffix for transitive verbs in the independent AM should be *-yp*. However, in this example the person marker is *t-*. When this third person prefix appears in the independent conjugation, the AM *-p* must be used, which usually appears with intransitive verbs. This phenomenon has also been reported for other Mixe languages (Suslak 2005).

There are a few constraints on the use of *t-* in the independent conjugation. First of all, when *t-* appears in the independent conjugation, it is not possible to have full NPs as arguments. When there are two argumental NPs, it is necessary to use the normal conjugation (*y-...-yp*). This is shown in the examples in (11).

11. a) Carlos tu'uk uk yixpy.
 Carlos tu'uk uk y-ex-yp
 Carlos one dog 3A-see-INDEP;TR
 'Carlos saw a dog.'
- b) *Carlos tu'uk uk t'ixypy.
 Carlos tu'uk uk t-ex-yp
 Carlos one dog 3A-see-INDEP;TR
 Intended: 'Carlos saw a dog.'
- c) *Carlos tu'uk uk t'exp.
 Carlos tu'uk uk t-ex-p
 Carlos one dog 3A-see-INDEP
 Intended: 'Carlos saw a dog.'

In (11a), the normal conjugation for independent marking is presented. As one can see, when there are two NPs, it is not possible to use *t-*, whether it is in combination with the suffix *-yp* (11b) or the suffix *-p* (11c).

These constructions only allow the expression of one argument. Usually, the NP has to be a demonstrative, as shown in (12a), but occasionally, it is also possible to find a full NP, as in (12b). In addition, the word order is also affected: the NP has to appear before the verb. If the verb is in initial position the sentence becomes ungrammatical, as shown in (12c).

12. a) Yë'ë t'exp.
 yë'ë t-ex-p
 DEM.M 3A-see-INDEP
 'He saw it.'
- b) Ja rey nyëëx tēs-wääjnëtëp.
 ja'a rey y-nëëx t-ës-wää-në-të-p
 DEM.D king 3POSS-daughter 3A-MCP-carry-PERF-PL-INDEP
 'They were going to bring the king's daughter.' (Aur2-905)
- c) *T'exp yë'ë.
 t-ex-p yë'ë
 3A-see-INDEP DEM.M
 Intended: 'He saw it.'

I cannot offer an explanation as to why this happens, or even as to whether it is the change in the AM marker that triggers the use of *t-* instead of the regular third person transitive for independent conjugation, or vice versa. However, one can hypothesize that perhaps the person marker from one set has “migrated” to the other one in order to emphasize the transitivity of the verb.

8.2.5 Persons markers in a historical perspective

As stated above, person markers in Ayutla Mixe derive historically from an ergative system, where the S of a intransitive clause is marked the same as the O of a the transitive clause, while the A of a transitive clause is marked in a different way. The ergative pattern was reflected in the person markers, not in a pronominal system. Taking into account the dependent/independent distinction, historically the person markers for Mixe-Zoque languages would have looked roughly as in Table 4.²

	Intransitive	Transitive	
	S Marked	A Marked	O Marked
Independent	Absolutive (Set B)	Ergative (Set A)	Absolutive (Set B)
Dependent	Absolutive (Set A)	Ergative (Set C)	Absolutive (Set A)

Table 4. Historical ergative pattern.

Most of the deviations from the historically ergative system in Ayutla Mixe are due to changes in first and second person. The third person, on the other hand, still shows an ergative pattern.

In general, the current pattern in the person makers for AyMi is the result of the loss of some phonological material in the first and second person. The reconstructions I

² This is based on Wichmann (1995a), who has reconstructed a person marker system for proto-Mixe-Zoque and for proto-Mixe. A previous attempt was Kaufman (1963) (as cited in Wichmann 1995a), but it was incomplete. Set A would be also used for marking possession in noun phrases.

present in Table 5 and Table 6, below, correspond to proto-Mixe as reconstructed by Wichmann (1995a).

	Intransitive	Transitive	
	S marked	A marked	O marked
Independent	*të- > Ø-	*tën- > n-	*tëx- > x-
Dependent	*tën- > n-	↓ n-	*tëx- > x-

Table 5. Evolution of first person markers.

For the first person prefix, the reduction was $C_1VC_2 > C_2$, as one can see in Table 5. For the first person independent A and the first person dependent S, the proto-Mixe marker was probably *tën-, comparable with Olutec *tan-* (Clark 2004; Zavala 2000, 2002b). In AyMi it was reduced only to *n-*, leaving out the first two segments. Similarly, the form in proto-Mixe for the first person O in both the independent and the dependent marking was *tëx-, comparable to the same form in Sayultec (Clark 2004). In AyMi it was reduced to *x-*. Additionally, the person marker for the first person independent S was completely lost. Finally, the first person A for the dependent was regularized with the A for the independent, and thus it is also *n-* in modern AyMi.

In most cases, the second person was reduced in the opposite direction: $C_1V(C_2) > C_1$. As shown in Table 6, only the second person A dependent shows a different pattern: $C_1VC_2 > C_2$.

	Intransitive	Transitive	
	S marked	A marked	O marked
Independent	*mi- > m-	*min > m-	*mi- > m-
Dependent	*min > m-	*mix > x	*min > m-

Table 6. Evolution of second person markers.

Thus, the second person **min-* (for A in independent, and S and O in the dependent), and the second person **mi-* (for S and O in the independent) in proto-Mixe were all reduced to *m-* in AyMi. On the other hand, the first person dependent A **mix-* was reduced to *x-* in AyMi.

With the changes in the first and second person independent, the ergative pattern was hidden, as all three S, A and P are marked differently for the first person but they are marked all the same in the second person. Additionally, the regularization of the first person A dependent with the independent form (*n-* in both cases), caused a pattern that looks like nominative-accusative. The third person has remained more or less the same and thus, it does reflect an ergative pattern.

Most Oaxaca Mixe languages have a pattern relatively similar to AyMi, where person markers have been reduced to a single consonant, and the ergativity has been lost. Olutec (Clark 1981, 2004; Zavala 2000, 2002b) and Sayultec (Clack 1995, 2004), also from the Mixe branch but not part of the proper-Mixe sub-branch, have more conservative paradigms. In this respect, Olutec could be considered almost an exception among Mixe languages because not only does it have a conservative paradigm, but also the ergative pattern has been reinforced (see Wichmann 1995a).

8.3 Aspect-Mood inflection

8.3.1 Aspect-Mood suffixes

Ayutla Mixe inflects for three aspect-moods: neutral, completive and irrealis.³ There is another type of aspect marking, the perfect, but it does not belong to the AM paradigm

³ Even though the completive AM suffix encodes perfective viewpoint aspect, I call it “completive” to follow the usual terminology within the Mixe-Zoque family (Wonderly 1951c, Johnson 2000, Zavala 2000,

and therefore is discussed separately, in §8.3.3. As the reader may remember, the dependency is also marked in AM inflection, rendering a distribution as appears in Table 7.

Type of sentence Marking	Independent	Dependent
Neutral	-p (intransitive) -yp (transitive)	-y (singular) -t (plural)
Completive	√-∅	√-(y)
Irrealis	-p	-t

Table 7. The Aspect-Mood marking in Ayutla Mixe.

Several comments are in order here. First of all, what I call the neutral AM marker throughout the dissertation is cognate to what is called “incompletive” in other Mixe-Zoque languages. The reason for this choice in terminology will become clear in §8.3.4. For the time being, suffice it to say that the neutral AM markers do not really encode any viewpoint aspect. Second, the transitive version of the neutral independent always surfaces as “*py*”, but because this is due to morphophonological interaction, to be discussed later (§8.5), it is better to represent it as *-yp*. Third, it is tempting to further analyze the transitive neutral independent AM suffix as being composed by {-y} and {-p}, where the former signals transitivity and the latter the aspectual conjugation. The problem with this analysis is that the palatal approximant by itself does not really mark transitivity, as it never occurs with other AM markers. In addition, it would unnecessarily create a plethora of -y-suffixes. On a different note, notice that the neutral dependent -y is replaced to the *portmanteau* morpheme -t in the plural. I comment more on this in the following section.

inter alia). Within this tradition, the term “incompletive” is usually used for what I call “neutral”. The reason for this change in terminology is explained in §8.3.4.

The completive aspect is marked primarily by a change in the verb stem, which is called apophony and usually involves lengthening or aspiration of the nucleus in the stem's last syllable. This change on the stem is represented by “√” on Table 7. A very important issue here is that the completive conjugation of the verb is extremely restricted and perhaps disappearing from the AyMi grammar. Generally, only older speakers use it in regular language, and it is usually restricted to formal contexts. Younger speakers, in contrast, almost never use the completive form. In fact, they often do not even know the form of the verb for the completive conjugation. For this reason, it is not possible to obtain the completive form of all the verbs by elicitation or from texts. As a way of showing how restricted the completive marker is, I elicited Östen Dahl's (1985) questionnaire on tense-aspect-mood with five speakers. The questionnaire contains 156 questions specifically designed to elicit TAM marking, and out of all the questions for all five speakers, I obtained the completive conjugation in only a handful of cases. Additionally, in many cases the completive does not seem to participate in the independent/dependent alternation. This seems to be particularly common in those verbs ending in a vowel, as in (13), which takes the person markers for dependent marking but not the suffix *-y*. Again, the fact that the completive conjugation is being lost makes it difficult to draw more accurate generalizations.

13. Kom kata tyixytyëjk mëj tjää.
 komo ka't=ja'a y-tixytyëjk mëj t-jää
 as NEG=DEM.D 3POSS-wife big 3A-feel\COMPL
 'Since he didn't value her wife.' (IreL-1535)

As discussed in the following chapter, the meaning of the completive AM marker is covered by aspectual and temporal adverbs in AyMi. Perhaps for this reason, and the fact

that the completive is not very prominent perceptually (for example, in many cases the nucleus of the last syllable becomes aspirated), the completive marker is disappearing.

After discussing the verbal apophony, I will revise the previous chart. But one can venture to say here that what *-y* really marks is inflectional dependency while *-p* marks inflectional independency. In fact, as will be argued, the irrealis independent has taken the same form as the neutral independent AM marking, thus reinforcing the actual lack of aspect marking on the suffix.

8.3.2 Imperative

The imperative is not marked by any affix in AyMi, but rather is indicated by the stem alone. In other words, in the imperative there is no AM suffix or person prefix. It is worth mentioning that the bare stem does not have other uses besides the imperative. In most verbal conjugational classes (see §8.3.11), the stem has the same form in the imperative that it has in the dependent marking (14a-b), at least with respect to the type of nucleus in the last syllable, although in some cases it has the same form as the neutral independent (14c)

14. a) Imperative: *jëy* ‘buy’ dependent: *njëy* ‘I buy’.
 b) Imperative: *nëj^hkx* ‘go’ dependent: *nnij^hkxy* ‘I go’
 c) Imperative: *amtoo* ‘ask’ independent: *amtoop* ‘S/he/I ask’

The lack of marking in the imperative differentiates many Oaxaca Mixe languages from other languages in the Mixe-Zoque family. In those other languages, the imperative is marked by a suffix. In the only case where there is a suffix associated with the imperative in AyMi, is in the inverse form for the first person, which is discussed in §8.4.1.

There is also a marker for the imperative, the suffix *-ëk*, but it is used only when the first person is the O, as in the following example:

15. Èjts jä'äxëk.
 èjts jääx-ëk
 1SG rub-1O;IMP
 'Rub me.'

It is not clear to me whether the suffix *-ëk* should be treated as a first person marker or as an imperative marker, or both. The gloss only reflects that it is used for signaling a first person object in the imperative.⁴

There is no particular conjugation dedicated exclusively for negative imperatives.

However, the irrealis is used in these circumstances, as shown in (16).

16. Tsyäap yë' mutsyk kaju'nk, ka't **xto'nt** mamá...
 Tsyäap yë'ë mutsyk kaj-u'nk ka't x-ton-t mamá
 DEIC.P DEM.M little box-DIM NEG 2A-touch-IRR;DEP mother
 'This little box is here, do not touch it, mom...' (Ire-1929)

In this example, a girl is asking her mother not to open a box, and thus the verb *ton* 'to touch' appears in irrealis, marked by the suffix *-t*. Since this is a finite form, the verb has to take person prefixes, in this case the second person prefix *x-*. Also, the verb has to use dependent marking, which is triggered by the negative particle *ka't*.

Additionally, the irrealis is also used as an alternative to the imperative in order to express a polite request, as in the example in (17).

⁴ Another possibility is to think of it as an inverse marker. In Sayultec (Veracruz Mixe), a cognate suffix has two functions (Clark 1995): as in AyMi, it signals a first person patient or recipient; on addition, it would seem to be used as an inverse in the first and second person in the subjunctive.

Additionally, the cognate of *-ëk* is used in Olutec (the other Veracruz Mixe language) in order to signal local inverse in any conjugation (i.e. when a second person is acting on a first person) (Zavala 2000, 2002c). AyMi does not really have a local pattern as part of the inverse system, but it is interesting that both in the AyMi imperative and in the local inverse marker in Olutec, there is a transitive relation of a second person acting on a first person. In any case, since the functions of these forms do not correlate in AyMi, Olutec and Sayultec, one could hypothesize, along the same lines of Wichmann (1995a:106), that at some point in history this prefix was a directional towards the first person which developed into different morphemes.

17. Ęs nēnekyē'n ja'y xakkētā'ākt.
 Ęs nēnekyē'n ja'y x-ak-kētā'āk-t
 and little only 2A-CAUS-descend-IRR;DEP
 'And put it below a little bit.' (N.O-A-517)

Again, the verb must have the second person prefix, as in any other case of irrealis. Also, since in (17) there is an adverb before the verb, it has to be conjugated as dependent.

However, it is also possible to have a verb in irrealis for the independent inflection when there is no adverb that triggers the dependency.

8.3.3 Perfect Marker

In addition to the Aspect-Mood suffixes described in the previous sections, there is a suffix that encodes a perfect viewpoint aspect: *-nē*. It was not included among the previously discussed suffixes because it has a different position in the verbal morphology, and because it can co-occur with the proper AM suffixes. More information regarding its meaning is provided in the following section (§8.3.4), along with the semantic analysis of other AM suffixes. Below is an example of the perfect in combination with the neutral independent suffix.

18. Jēmpejtnēp te'na.
 jēmpejtnēp te'n=a
 [3s]return-PERF-INDEP M.DEM=Q
 'He was already coming back.' (NL1-428)

The previous example shows that the perfect appears between the verb stem and the AM suffixes. Nonetheless, it is most common to use of the perfect in dependent inflection (because very often it appears in combination with the particle *tē* 'before.now', which triggers the dependent conjugation), although in this case there is a morphological interaction such that both the vowel from the perfect and the dependent suffix itself disappear: *-nē + -y → -n*. As a result, in dependent conjugation the perfect appears only

as the *portmanteau* suffix *-n* (19a). The vowel of the perfect is present in the plural form, but now the portmanteau plural dependent suffix is placed after the perfect (19b).

19. a) tkājpxn
t-kājpx-n
3A-speak-PERF;DEP
'he has read (it)' (TAMA-A.130)

b) tmëkājpxnët
t-më-kājpx-në-t
3A-BEN-speak-PERF-PL;DEP
'he spoke to him' (Efa2-56)

If one only observes the perfect in the singular dependent form, and not in any other conjugation, its position could easily be confused with that of AM suffixes. As mentioned, in actual discourse the perfect appears in that form most of the time. Of course, that impression is rejected once one realizes that the perfect can be combined with other AM markers. The possibility of combining two AM markers never happens with the proper AM suffixes.

In addition to being combined with the neutral independent and the neutral dependent, the perfect can also be combined with the irrealis in the appropriate context. In (20) I first present one verb in isolation (20a) and then another verb with the context that triggers the use of irrealis (20b).

20. a) x'ejxnët
x-ex-në-t
2A-see-PERF-IRR;DEP
'(I wish that you) had been looking for him' (ETAM37)

b) Ęjts ntsejkypy kuu yë' jyëmpejtnët.
ëjts n-tsok-yp kuu yë'ë y-jëmpet-në-t
1SG 1A-want-INDEP;PL COMPL DEM.M 3S-return-PERF-IRR;DEP
'I want him to return.' (Efa2-56)

In the table below, I summarize all the combinations of perfect and AM suffixes.

Type of sentence Marking	Independent	Dependent
Neutral	-nĕ-p	-n (singular) -nĕ-t (plural)
Irrealis	-nĕ-p ⁵	-nĕ-t

Table 8. The perfect marker in combination with other AM markers.

8.3.4 Aspect-Mood semantics

A full description of the semantics of aspect-mood markers goes beyond the scope of this chapter, partially because it requires an account of the interaction of the verbal morphology with other parts of speech, such as aspect-tense adverbs, and with other syntactic phenomena, and partially because of the complexity of the topic in semantic terms. In this subsection I will provide a succinct report on the semantics of AM markers and the perfect suffix insofar as the verbal morphology is concerned.

When one compares AM suffixes in AyMi with other Mixe Zoque languages (*cf.* §8.3.1), it becomes clear that the neutral inceptive suffixes, both in the dependent and in the independent orders, are very similar among Mixe-Zoque languages. However, in most of the previous literature they are called “inceptive” aspect markers.⁶ The term “inceptive” is extensively used for describing aspect in Mesoamerican linguistics. For most Mixe-Zoque languages, however, there is no semantic analysis of Aspect-Mood markers. At most, Wonderly (1951c) says that in Copainalá Zoque the inceptive signals that the action has concluded while the inceptive indicates that it has not. More recently, Johnson (2000) says that the inceptive marker signals an imperfective viewpoint aspect while the inceptive signals a perfective viewpoint aspect.

⁵ Even though the suffixes for the perfect neutral independent and the perfect irrealis independent are identical, the apophony (see §8.3.9) is different for each case and thus the form of the last syllable of the verb stem can differentiate these two cases.

⁶ Additionally, many scholars related to the Summer Institute of Linguistics do not make a clear distinction between tense and aspect, and thus they claim that Mixe-Zoque languages distinguish tense in the verbal morphology. Most of them would refer to what I call neutral aspect as “present tense”.

In a recent work (Romero 2008), I have challenged the idea that the incomplete indeed correlates with imperfective aspect. Following Klein (1994), one could define aspect as the relationship between Topic Time (TT) and Time of Situation (TSit). TT is the time for which one makes a claim with respect to a situation, not the time of the situation itself. With these two elements, one can define IMPERFECTIVE aspect as the aspect when the TT is included in the TSit and PERFECTIVE aspect as that in which TT includes TSit. Thus, if one says *When I entered Carl, was eating*, the TT is the time ‘when I entered’ and the TSit is the time of ‘Carl eating’. In this case the TT is included in the TSit and thus the main clause has imperfective aspect.

Although the whole discussion goes beyond this subsection, based on the elicitation of the Dahl (1985) questionnaire plus analyzing text examples, I concluded that the so-called imperfective marker is compatible with both imperfective and perfective contexts (in other words, contexts that semantically involve an imperfective or perfective aspect marker, according to the case, if the language had a formal distinction for these two viewpoint aspects). In AyMi, the neutral is compatible with both of them, which is why I use the term “neutral” instead of “incomplete” (cf. Smith 1991). If the imperfective viewpoint aspect were really part of the semantics of the neutral AM marker, then it would be inappropriate to use it in a perfective context or in combination with an adverb that expressed complete aspect. This is exactly what happens in the following examples (the questions are from the Dahl questionnaire).

21. a) Neutral in an imperfective context

A: I went to see my brother yesterday. B: What he DO?⁷ (What activity was he engaged in when you saw him?) A answers:

Yë' neky jyaapy.

yë'ë neky y-jä'äy-yp

DEM.M paper 3A-write-INDEP;TR

'He was writing letters.' (TAMAA009)

b) Neutral in a perfective context

Q: When you visited your brother yesterday, what he DO after you had dinner?

ANSWER:

Yë' neky jyaapy.

yë'ë neky y-jä'äy-yp

DEM.M paper 3A-write-INDEP;TR

'He wrote letters.' (TAMAA-013)

c) Neutral in combination with a perfective particle *të*.⁸

Të yë' neky tjä'äy.

të yë'ë neky y-jä'äy-y.

BEFORE.NOW DEM.M paper 3A-write-DEP

'He wrote letters already.'

In the previous examples, the TT is included in the TSit in (21a), but it is the other way around in (21b). In a language that has a real contrast between imperfective and perfective aspect, the same aspectual marker cannot be used in both environments.

Additionally, in the previous examples, one can see that the neutral can be used in almost any context. Of course, there are other means to be more specific, the temporal-aspectual particles (§6.12.1), which will not be discussed here. The issue at this point is that the neutral marker is indeed neutral with respect to viewpoint aspect. I propose, then, that the only information encoded in the neutral is the distinction between dependent and independent conjugation.

Having in mind that the term “incompletive” has been proposed for an imperfective viewpoint aspect (Wonderly 1951c, Johnson 2000), the situation here is the following:

⁷ In the Dahl questionnaire, the verbs in the questions are not conjugated. The idea is to prevent the contact language from influencing the TAM used in the target language.

⁸ It would not be appropriate to develop the proper argumentation here, and for now suffice it to say the particle *të* encodes perfective aspect in Ayutla Mixe.

why should one call a morpheme incomplete that does not really encode any aspect? On the other hand, the term “neutral” aspect has been used by Smith (1991) to indicate aspect markers that are compatible with both a “closed” and an “open” situation. Thus, I believe that the best term to use is precisely “neutral aspect”.

In contrast, the completive does mark perfective viewpoint aspect. As mentioned before, its use is relatively rare in AyMi, particularly among younger speakers. The completive precisely marks “closed” situations, or in Kleinian terms (Klein 1994), that the TT includes the Tsit, as in the example in (22).

22. Te’nts nmētey ku jajpa tät tyääny.

te’n=ëjts n-mētoo-y kuu jajp=ja’a tät y-tääñ-y.
 M.DEM=1SG 1A-hear-DEP COMPL DEIC.D-DEM.D man 3S-stay\COMPL-DEP
 ‘I heard that the man stayed.’

The irrealis is used to indicate that something is not actually the case, and in general as a complement of verbs expressing desire, such as *tsok* ‘to want’ in (23), or as a complement of verbs that indicate a negative propositional attitude. Additionally, the irrealis is used in requests as a mark of being polite. The proper treatment of the irrealis would require the discussion of complex sentences.

23. Ntsejkypys ku Pedro mye’nt.

n-tsok-yp=ëjts kuu Pedro y-men-t.
 1A-want-INDEP;TR=1SG COMPL Pedro 3S-come-IRR;DEP
 ‘I want Pedro to come.’

Finally, the perfect marker indicates a persistent situation (Comrie 1976). This can be seen in (24), where the idea expressed is that Carlos started eating at some point before now, but he is still eating. The perfect suffix is in a different structural position with respect to proper AM markers, and actually co-occurs with them.

24. Carlos kaanyëp.
 Carlos kay-në-p
 Carlos [3S]eat-PERF-INDEP
 ‘Carlos has been eating.’

8.3.5 AM markers in a comparative perspective

Historically, the AM suffixes might have looked like something similar to this:

	Independent		Dependent	
	Intransitive	Direct	Intransitive	Direct
Incompletive (Neutral in AyMi)	*-pa	*-pe	*-i/e	*-i/e
Completive	*-u	*-u	*-hi	*-hi

Table 9. Aspect-Mood suffixes in proto-Mixe-Zoque (based on Wichmann 1995a).

It is important to notice that the completive marker did have phonological material in previous stages of the languages. This also happens in other Mixe-Zoque languages, particularly outside Oaxaca Mixe. For example, Olutec or Sayultec, on the Mixe branch (Zavala 2000; Clark 1995), and SM Chimalapa, on the Zoque branch (Johnson 2000), still have a labiovelar approximant marking the completive aspect. One can hypothesize that at some point in the history of the language the last morpheme was lost but it left some traces on the verb stem. In Totontepec Mixe it is still possible to see that the completive marker causes rounding of the previous vowel (Suslak 2005).

The origin of the irrealis in the Oaxaca Mixe languages is rather obscure. Wichmann (1995a) did not reconstruct any possible origin. I have not found references to a form that is cognate with the irrealis outside Oaxaca Mixe languages.⁹ As far as I can tell, it is found across Oaxaca Mixe languages, because there are also references to it from Totontepec Mixe (Suslak 2005, Schoenhals 1962), and Isthmus Mixe (Dieterman 1995).

⁹ Languages outside of the proper Mixe sub-branch also have an irrealis suffix, though it is not formally related to the irrealis suffix in Oaxaca Mixe languages, but rather derived from the desiderative (Zavala 2000, Clark 1983). The desiderative is still used in AyMi, but with exactly that meaning: as desiderative.

Additionally, I have also found it in other Highlands Mixe languages (as in Tamazulapam and Tlahuitoltepec Mixe) and in Midlans Mixe (as in Alotepec Mixe).¹⁰

As for the perfect, the origin of this suffix is uncertain; there is no reconstruction of it in Wichmann 1995a and it is interesting that the perfect suffix is not part of the AM paradigm. However, a similar morpheme can be found in other Mixe languages: Totontepec Mixe (although it has not been analyzed as a perfect, nor has it been presented as part of the aspect suffixes), which is presented in (25a), and in other neighboring Mixe languages, such as Tlahuitoltepec Mixe or Tamazulapam Mixe (25b). It is also found outside Oaxaca Mixe, as in (25c) in Olutec (analyzed as ‘already’) and even in Sotepan Zoque (Elson 1960).

25. a) Totontepec Mixe (North Highlands)

tu-tso'ts-nu-hy

3-bite-finally-PAST

‘he ate (a dog)’ (Adapted from Schoenhals 1979:66)

b) Tamazulapam Mixe (South Highlands)

xtsekñë

x-tsek-në

2A-hit-PERF;DEP

‘You had hit him.’

c) Olutec (Veracruz Mixe)

Ø-ni-jik-nü-ü-pa=k

je[?] ?i=tuku-pi

3-REFL-get.dirty-**already**-INV-INC.I=ANIM that 3POSS-cloth-LOC

‘He is already shitting in his own clothes’. (Adapted from Zavala 2002b:272)

Notice that while Totontepec Mixe in (25a) still has the dependent marker (glossed as “past” by Shoenhals), other South Highlands Mixe, as Tamazulapam Mixe in (25b), do not have the dependent marker. Rather, for the dependent conjugation, the perfect marker appears alone.

¹⁰ It is common that this morpheme is treated as future marker, as Dieterman (1995) for Isthmus Mixe or Hoogshagen & Bartholomew (1993) for Coatlán Mixe point out.

The study of the actual aspect system in Mixe-Zoque languages is almost non-existent and, based on the evidence presented in subsection 8.3.4, I would not discard the possibility that the so called incomplete AM marker does not actually have an aspectual meaning in other languages. But this is pure speculation.

8.3.6 Plural marking

In Ayutla Mixe the verbal suffix *-tē* codes the plurality of any core argument. It appears between the stem and the AM suffix, as indicated in (26a) and exemplified in (26b) and (26c).

26. a) STEM-plural-AM.marker

b) *tuntēp*
 tun-tē-p
 work-PL-INDEP
 ‘we (excl)/they work’

c) *kya’atyēt*
 y-kay-tē-t
 3S-eat-PL-IRR;DEP
 ‘you guys eat’

As a reminder, plural marking is not obligatory in AyMi. Therefore, even if a sentence does not have any plural marker (either the plural marker on the verb or on a NP), it does not mean that the participants on the eventuality have to be interpreted as being singular; it still might be the case that a core argument has a plural referent. In addition, the plural marker can code plurality of any core argument (i.e. S, A, O), and this is independent of the person marker. In actual discourse, the plural marker and the person marker tend to corefer to the same participant, but this need not be the case. In particular, the last possibility can be seen in (27), where the person marker in the complement verb

is a second person singular and the plurality in the suffix is triggered by the object. I will return to this issue in the following chapter (§9.9.2).

27. a) Jëts mjajtypy mejts yë' xë'n yë' nii xaktë'ëtsta?
 Jëts m-jät-yp mejts yë'ë xë'n yë'ë nii x-ak-të'ëts-t=a
 and 2A-know-INDEP;TR 2SG DEM.M how DEM.M pepper 2A-CAUS-roast-PL;DEP=Q
 'Do you know how to roast peppers?' (AE-1160)

b) ...kaaky xkëxko'nt.
 kaaky x-këx-kon-t
 tortilla 2A-SURFACE-put.small-PL;DEP
 '...you(sg.) made tortillas (i.e. you put them on the pan to cook them).' (AE-286)

As stated before, for the neutral independent aspect marker, there is a difference between intransitive and transitive marking. When a verb is intransitive, the independent AM marker is *-p*, as shown in (28a), but when it is transitive the AM marker is *-yp*, as in the example in (28b).

28. a) mentëp
 men-të-p
 come-PL-INDEP
 'they come'

b) myajtsypy
 y-mäts-yp
 3A-grab-INDEP;TR
 'he grabs it'

However, in the plural, this difference is neutralized according to the schematization in (29a), which produces (29b).¹¹ As one can see, the in the actual form the AM suffix appears as *-p*, not as *-py*.

29. a) -të + -yp → tëp

b) myäjstëp
 y-mäts-të-yp
 3A-grab-PL-INDEP;TR
 'they grab it' / 'he grabs them' / 'they grab them'

¹¹ As a matter of fact, the palatal approximant not appearing in the plural form is the reason for saying that the morphological representation is {-yp}. If the /j/ were placed after the /p/, there would be no reason for it to disappear.

As a reminder, in any conjugation the transitivity of the sentence is also encoded in the person markers (see Tables 2 and 3, §8.2.1). Thus, even though in the phonetic manifestation the AM marker seems identical to the intransitive form, it is not possible to say that verb in (29b) is intransitive, since the person marker is *y-*, and not \emptyset -, the marking for third person intransitive verbs.

As stated in the previous subsection, the plural for the neutral dependent is only the portmanteau morpheme *-t*, as in the following example.¹²

30. *nnëjkxt*
n-nëjkx-t
 1S-go-PL;DEP
 ‘we (exlc.) went (somewhere)’

As for the completive, I do not have even one example of the plural form from a text. From elicitation, I have been able to obtain only the independent form. In those cases, the plurality is marked only by a *-t*, without the final vowel.

31. *mkaamt*
m-kaam-t
 2A-surround\COMPL-PL
 ‘you surrounded it’

Finally, the plural of the imperative is *-t(ë)*, in most cases followed by a schwa, as shown in the examples in (32).¹³

¹² As with other cases of morphological syncretism in AyMi, this is the result of the loss of phonological material, more specifically of the drop of final vowels. In other Mixe languages, it is still possible to see the non-fused morphemes, as in the example below. Given this situation, an alternative analysis would be to analyze *-t* only as encoding the plurality and saying that the dependency is marked by zero. In this view, there would be a morphophonological process that takes *-të-y* as the input, just as in Alotepec Mixe, and produces *-t-∅*. However, I do not find it desirable to have this sort of rule. I will come back to this problem later (§9.5).

i) Alotepec Mixe
kyäjpxtëy
y-käjp-të-y
 3S-speak-PL-DEP
 ‘they said’ (Reyes 2009)

¹³ At this moment, I have no definitive hypothesis as to why this happens, but my assumption is that the final vowel is in the process of being dropped, as has happened to other final vowels in the history of the

32. a) Jämtë meets.
 jām-të meets
 go-PL 2PL
 ‘You go.’ (NL1-7:28)

b) kaaty yë’ kaaky
 kay-t yë’ë kaaky
 eat-PL DEM.M tortilla
 ‘eat tortilla (you people)’

As in other cases, in the imperative either argument might trigger the plural marker. Even though it is more frequent that either the S, as in (32a), or the (A), as in (32b), trigger the plural marker, it is also possible to find cases where the plurality is triggered by the O, as in (33), where the participant, a lady, is talking to only one person, a man who is hunting deer.

33. Ĕskojnë’ëkt yë’ uujs, nëmëk.
 ës-kon+ë’ëk-t yë’ë uujs nëm=ëk
 MCP-pick.up-PL DEM.M leaf say=HEARSAY.EV
 ‘Go pick up the leaves, (s/he) said (to a man).’ (Virginia-1-1:11)

The following table provides a summary of plural marking on the verb.¹⁴

Type of sentence Marking	Independent	Dependent
Neutral	-të-p	-t (portmanteau morpheme)
Completive	√-t	Unknown
Irrealis	-të-p	-të-t
Perfect	-në-të-p	-në-t
Imperative	-t(ë)	

Table 10. Interaction between plurality and aspect-mood.

language. The fact that the imperative may or may not have the final vowel in this context is evidence for saying that the morpheme should be regarded as {-tɨ}, with the vowel. The alternative analysis would be to say that the vowel is epenthetic when the plural appears before another consonant, but this would not explain why it can appear here.

¹⁴ It is worth saying that other Mixe-Zoque languages have developed a split in the plural marking according to the grammatical person (Zavala 2000). As one can see from the explanation on the body of the text, this does not happen in AyMi.

8.3.7 First person plural inclusive

A first person plural inclusive is marked in Ayutla Mixe by the suffix *-yë'm*. In §6.6 it was mentioned that in AyMi, as in other Mesoamerican languages, there is a distinction between two different first person plural personal pronouns: one for the inclusive (speaker, addressee, and possibly other person(s)) and another one for the exclusive (speaker and other person(s), but not the addressee). This distinction has no manifestation in the person prefixes in the verb, but the suffix *-yë'm* replaces the AM suffixes to indicate a first person plural inclusive. This is exemplified in (34).

34. a) *Ēëts ampëjktëp.*
 ëëts ampëk-të-p
 1PL.EXCL be.mad-PL-INDEP
 ‘We (exclusive) are mad.’
- b) *Atäm ampëjkyë'm.*
 atäm ampëk-yë'm
 1PL.INCL be.mad-INCL
 ‘We (inclusive) are mad.’

As the examples show, when a verb is conjugated for first person exclusive, in (34a), the verb has an AM suffix, which in this case is *-p*. However, when the verb is conjugated for the first person inclusive, in (34b), there is no AM suffix, but the exclusive suffix *-yë'm* appears instead.

Unlike AM suffixes, the first person exclusive suffix does not have an allomorph for independent conjugation and another one for dependent conjugation. Another way to say this is that when the verb is conjugated for first person exclusive, the distinction between dependent and independent conjugation is neutralized in this suffix. This distinction, however, is maintained in the person markers. In (35a) the verb should have a AM suffix that reflects the fact that the verb is in independent conjugation, while in (35b) it should have a formally different suffix that reflects the fact

that it is in dependent conjugation, because the negative particle *ka't* normally triggers dependent order. However, in both cases the verb has the exclusive suffix *-yë'm*.

35. a) **Atäm ejtsyë'm.**
 atäm ats-yë'm
 1PL.INCL dance-INCL
 'We are dancing.' / 'Let us dance.'
- b) **Ka't atäm n'ejtyë'm.**
 atäm ats-yë'm
 1PL.INCL dance-INCL
 'We are not dancing.'

The situation changes slightly for “irrealis”, or at least contexts in which the use of irrealis is otherwise obligatory. In this case, inclusive suffix is *-ë'n*, and it is not possible to use *-yë'm*. This alone may not be enough for saying that the inclusive has a special form for irrealis, since *-ë'n* could also be used in the all of the other previous cases.¹⁵

36. **Carlos tsyejkypy ku atäm njä'ätë'n.**
 Carlos y-tsok-yp kuu atäm n-jä'ät-ë'n
 Carlos 3A-want-INDEP;TR CMPLTZ 1PL.INCL 1S-arrive-INCL[IRR]
 'Carlos wants us to arrive.'

As one can expect, the inclusive suffix only replaces AM markers, but not the perfect, which is in a different structural position, as in (37).

37. **Ku Carlos nyëwijy, të nojty atäm njä'äjtnë'n.**
 kuu Carlos y-në+wej-y të nojty atäm n-jä'ät-në-yë'm
 when Carlos 3S-wake-DEP BEFORE.NOW AUX 1PL.INCL 1S-arrive-PERF-INCL
 'When Carlos woke up, we had already arrived.'

When the root ends in a vowel, the inclusive marker is reduced to *-(')n*, as in the previous example. All of the allomorphs for first person inclusive are summarized below:¹⁶

¹⁵ This might change from speaker to speaker. While some speakers seem to use *-yë'm* in most cases for non-irrealis, other speakers use either *-yë'm* or *-yë'n* interchangeably.

¹⁶ As far as I understand, Díaz and Valiñas (2007) have proposed that for Tlahuitoltpec Mixe (South Highlands), the underlying form is *-in*, but there is an AM marker *-p* after the inclusive suffix, which causes the assimilation of the nasal to a bilabial consonant. As part of some morphotactic rules, the final suffix is deleted and the resulting form is *-im*. Given that in AyMi one observes the alternation between *-yë'm* and -

38. • *-yĕ'n* / *-yĕ'm*: in all the cases in which we might expect neutral AM markers; these allomorphes never occur in irrealis.
- *-ĕ'n*: Obligatory for irrealis, although it is also possible to find it in other contexts.
 - *-(')n*: When there is a long vowel before or for the perfect.

The fact that there is no inclusive marker special for dependent sentences does not mean that such a distinction does not exist in those cases. As a reminder, for the rest of the verbal paradigm, the distinction is made in both the AM marker and in the person markers, since a different set of person markers is used in each case. Thus, for verbs in the intransitive independent conjugation there is no marker while *n-* is used in transitive independent, intransitive dependent, and transitive dependent, as shown in (39).

39. a) Intransitive independent

Atām anu'kxyĕ'm.
 atām anu'kxyĕ'm
 1PL.INCL [1S]be.tired-INCL
 'We are tired.' (E)

b) Transitive independent

Atām mojk nto'ojkyĕ'm.
 atām mojk n-took-yĕ'm
 1PL.INCL corn 1A-sell-INCL
 'We (inc.) are selling corn.'

yĕ'n, it would be tempting to propose something similar, such that the former is used for independent sentences, and thus having a deleted *-p* afterwards, and the latter for dependent sentences, with a deleted *-y*. This, however, is not the case since either one could be used in dependent or independent sentences.

I do not know whether they have checked any changes in a dependent sentence, which would prove correct their hypothesis that in Tlahuitoltepec Mixe there is an AM marker for a neutral AM. Unfortunately, they do not offer such contrast. However, they do show an example in which the irrealis dependent *-t* appears after the inclusive suffix.

In Tamazulapam Mixe (South Highlands), another neighboring language, spoken just a few minutes away from AyMi (by car), one also finds the alternation between *-ĕm* and *-ĕn* for the inclusive, but as in AyMi, either one could be used in a dependent and in an independent sentence. So, it is not possible to say that synchronically there is any AM suffix after the inclusive suffix.

One can hypothesize that Díaz and Valiñas's analysis for Tlahuitoltepec Mixe is on the right track, and, at the same time, that this language is more conservative than both Tamazulapam and Ayutla Mixe. Under these assumptions, one can further suppose that, historically, in AyMi, the inclusive suffix preceded the AM suffix. At some point in history, the last consonant was dropped (and for this reason one never sees it), and then the contrast in AM was also lost. The remnant of the division in the verbal slots is that the irrealis requires *-ĕ'n* and does not accept *-ĕ'm*.

c) Intransitive dependent

Ka't atām ntsēnā'äyē'm.

ka't atām n-tsēn+äy-yē'm

NEG 1PL.INCL 1S-sit-INCL

'We do not sit down.' (E)

d) Transitive dependent

Ka't atām njēpejpi'ikyē'm yē tsāj.

Ka't atām n-jēpep+ē'ēk-yē'm yē'ē tsāj

NEG 1PL.INCL 1A-throw-INCL DEM.M stone

'We do not throw stones (to street dogs, for example).'

In addition, the *x-* is used for inverse alignment, as always:

40. Carlos atām x'ixyē'm.

Carlos atām x-ex-yē'm

Carlos 1PL.INCL 1O-see-INCL

'Carlos is looking at us (incl).'

8.3.8 Vocalic Metaphony

In §4.6, vocalic metaphony was partially discussed, at least its phonological consequences. As a reminder, vocalic metaphony is a process of neutralization of vowel quality in the last syllable in the verb stem: non-front vowels are fronted, but preserving the same height; and front vowels are raised, with the exception of /i/, which does not change. This neutralization is caused by the palatal glide in two morphemes: the neutral independent transitive and the dependent AM suffixes. The vocalic metaphony is not a regular phonological process, but rather it is morphologically conditioned, as the same verb stem might undergo metaphony with the independent transitive AM suffix but not with the dependent AM suffix. Moreover, depending on the shape of the stem, the metaphony affects the verb conjugational classes differently (see §8.3.11). Thus, vocalic metaphony is relevant here as it is a process that only affects verbs when conjugated in those two AMs. First, I will provide some generalities, and then I will discuss the

metaphony triggered by the neutral transitive independent and finally by the neutral dependent AM marker.

The first thing to say is that the metaphony is more pervasive with the neutral independent transitive than in the neutral dependent. In some verbs, there is metaphony in both cases, as in (41a). In other verbs, the vowel changes in neutral independent transitive but not in the other (41b). Finally, there are some cases in which neither case undergoes metaphony (41c).

41. a) tun ‘to work’ INDEP.TR: tyimpy DEP: ttiny.
 b) jääx ‘to rub’ INDEP.TR: jya’xypy DEP: tjääxy.
 c) puj ‘to wash’ INDEP.TR: pyujpy DEP: tpujy.

Why the apophony happens in (41a) is not so difficult to explain, as it is part of a regressive assimilation produced by the palatal approximant (§4.6). In other cases, as in (41c), the metaphony never happens, either in the neutral independent transitive or in the neutral dependent conjugation, as the /h/ in coda position blocks the regressive assimilation. In verbs such as the one in (41c), it is more difficult to explain why the metaphony occurs in the neutral independent transitive but not in the neutral dependent. Indeed, a hypothesis that could explain all of these cases eludes me at this time. Instead of that, I will offer a detailed description of this phenomenon in the hope that the motivation can be discovered later.

8.3.8.1 *Metaphony in the neutral independent conjugation*

With the neutral independent transitive AM marker (-yp), the metaphony occurs in almost all verbs, independently of the verb conjugational class. There are three types of exceptions. The first one, the most general and already mentioned in several cases, is when the verb ends in a /h/ preceded by a non-front vowel, as in (42).

42. a) těj ‘to break’: tyějpy ‘s/he breaks it’
 b) tsuj ‘to spit’: tsujpy ‘s/he spits it’
 c) koj ‘to build’: kyojpy ‘s/he builds it’
 d) täj ‘to dig’: ttäjy ‘s/he digs it’

The second case is when a verb has the form CVy, i.e. a short vowel followed by a palatal glide (43).

43. a) jënmay ‘to think’: jyënmaapy ‘s/he thinks it’
 b) way ‘to grind’: wyaapy ‘s/he grinds it’
 c) jëy ‘to buy’: jyëpy ‘s/he buys it’

Despite what one could think of at first glance, the palatal glide is not solely responsible for blocking the metaphony, because when a verb has the form V’Vy, there is metaphony, even if it ends in a palatal approximant, as in those verbs in (44).

44. a) jo’oy ‘to dissolve’: jye’epy ‘s/he dissolves it’
 b) tsä’äy ‘to roast’: tsaapy ‘s/he roasts it’

The third case in which the stem does not change is when the verb stem has the form V’V, and the vowel in the last syllable is /u, o/, as shown in (45). There are only a few cases of transitive verbs with other vowels and a V’V stem form to make generalizations. However, with /a/ it seems to change (46a), but with /ʌ/ the change does not seem to be consistent (46b-c).

45. a) pu’u ‘to break’: pyu’upy ‘s/he breaks it’
 b) ko’o ‘to scatter’: kyo’oky ‘s/he scatters them’
46. a) ma’a ‘to grind’: myeepy ‘s/he grinds’
 b) pumā’ä ‘to sleep next to X’: pyumaapy ‘s/he is sleeps next to her/him’
 b) akkā’ä ‘to drop something’: yakä’äpy ‘s/he drops it’

The fourth exception to metaphony is with when the last nucleus of the verb stem has the form *ě’ě*. This is exemplified in (47). Notice that in (47a) the palatal glide belonging

to *-yp* ‘independent transitive’ is deleted, but it is not in (47b). I do not know why this happens in one case but not in the other.

47. a) *në’ë* ‘to soak’: *nyë’ëp* ‘s/he soaks it’
 b) *akkë’ë* ‘to cook’: *yakë’ëpy* ‘s/he cooks it’

It is important to say that in some verbs, the change does not seem to be entirely morphologically motivated. In some cases, the verb stem undergoes metaphony in the neutral independent conjugation even when conjugated intransitively, and therefore the final morpheme (*-p*) does not have a palatal approximant. This happens precisely in the examples in (48). It seems that the stem is treated analogous to a transitive ending, even if it is not. This is clearer in some verbs that can have both a transitive and an intransitive conjugation (49).

48. a) *yo’oy* ‘to walk’: *ye’epy* ‘s/he walks’
 b) *jë’ëy* ‘to melt’: *jiiipy* ‘it melts’
49. a) *jä’äy* ‘to write’: Intransitive: *jaapy* ‘s/he writes’; transitive: *jyaapy* ‘s/he writes them’.
 b) *xëy* ‘to sew’: Intransitive: *xiipy* ‘s/he sews’; transitive *xyiipy* ‘s/he sews it/them’.

In verbs like those in (48) and (49), the metaphony is also found in another case in which there is metathesis: the perfect suffix, shown in (50). So far, I have ignored this morpheme in the terms of metaphony, as the metaphony for the perfect only occurs with these two verbs.

50. a) *yo’oy* ‘to walk’: *ye’eny* ‘s/he has walked’
 b) *jä’äy* ‘to write’: *tjaany* ‘s/he has written it’

8.3.8.2 *Metaphony in the neutral dependent conjugation*

As for the neutral dependent conjugation, the vowel in the stem changes in the following cases: *i*) all verbs with a final VC rhyme, regardless of the vowel or consonant, as in (51a) (except for a final /h/); *ii*) all verbs with a final VV rhyme, regardless of the

vowel (51b), and *iii*) verbs whose last syllable has /a, e/, independently of the type of nucleus, as in (51c-d). In addition, verbs ending with ...*ëëx* always change, as well as verbs ending with ...*ë'ëk* and ...*ä'äk*.¹⁷

51. a) put 'to run': npity 'I run'
 b) koo 'to play guitar': nkey 'I play'
 c) kaap 'to cut with scissors': nkeepy 'I cut'
 d) ke'ex 'to be swollen': kyi'ixy 'it is swollen'
 e) jënë'ëk 'to lean': jyënë'ëky 's/he leans'

The vowel never changes when there is a central or back vowel (/u, ʌ, i, ʌ/) in a VVC, V'V or V'VC rhyme, except for the cases already mentioned above (i.e. verbs whose last rhyme is ...*ëëx*, ...*ë'ëk* and ...*ä'äk*). The lack of metaphony with these vowels is exemplified in (52).

52. a) *tsoon* 'to go (away)': *ntsoony* 'I go away'
 b) *mä'ä* 'to sleep': *nmä'äy* 'I sleep'
 c) *mo'ots* 'to mix': *nmo'otsy* 'I mix'

It is possible to extract two pieces of information from this. First, it seems that short vowels are more prone to undergoing metaphony caused by the final palatal glide. Long vowels, on the other hand, are less susceptible, except when the last rhyme has a VV shape. In these cases, since there is no consonant to close the syllable, the assimilation can take place more easily than with other long vowels. Second, the metaphony sets apart the front vowels /i, e, a/ from the central and back vowels /u, ʌ, i, ʌ/.¹⁸

There are two cases in which short vowels do not change, although here the explanation is of a different nature. If a verb ends in a palatal glide, the vowel in the stem does not change, as in (53a). Thus, it appears that the /j/ belonging to the root blocks the

¹⁷ For the endings ...*ë'ëk* and ...*ä'äk*, there is one exception in each case.

¹⁸ I include /i/ here even though it does not participate in vocalic change because it is already a front and high vowel.

effect of the dependent suffix. On the other hand, if the root of a verb ends in /h/ and contains a central or back vowel /u, ʌ, i, ɔ/, this vowel does not change, as in (53b); if the vowel is a front vowel /e, a/, it changes, as in (53c).

53. a) kumay ‘to serve’: kyumay ‘s/he serves’
 b) tuj ‘to shoot’: ttujy ‘s/he shoot’.
 c) tej ‘to name’: ttijy ‘s/he names it’.

8.3.9 Verbal apophony

In Ayutla Mixe, as in other proper Mixe languages, the last syllable of the verb stem changes its shape depending on the conjugation of the verb. The specific change the stem undergoes depends on the conjugational class of the verb, which will be discussed in the following section, but it involves modification in the length and in the laryngeal features of the vowel. This has to do more with description of allomorphs and not so much with the identification of morphemes and their meaning. However, it is relevant here for three reasons. First of all, even though the allomorphic variation seems to have phonological regularities, it is strictly morphologically conditioned, even if historically there seems to be a motivation, which is discussed in the following section (§8.3.10). Secondly, based on both the form of the last syllable of the stem and the apophony it undergoes, it is possible to identify verb classes (§8.3.11). Finally, and perhaps more importantly, it has other grammatical functions: the apophony alone is the formal mark for completive AM conjugation (§8.3.4) and for the benefactive applicative (§8.7.3)

In order to identify the form that the verb stem takes due to the apophony, I will use the labels Stem A, Stem B and Stem C. These labels are completely arbitrary and just

serve the function of identifying regularities in the apophony The first crude generalization one can make is the following:

54. **Stem A** appears when the neutral dependent *-y* is suffixed. Usually, though not always, this stem is the same as the one used in the imperative.

Stem B appears when the neutral independent *-p* (or the transitive *-yp*) is suffixed.

This will require further refinements, but first I will offer two examples. As a reminder, the actual type of nucleus the stem has depends upon the conjugational class (see §8.3.11).

55. a) Stem A

pyity
y-put-y
3S-run-DEP
'she/he run'
Stem shape: CVC

b) Stem B

pujtp
put-p
run-INDEP
'she/he/I run'
Stem shape: CV^hC

56. a) Stem A

tjëy
t-jëy-y
3A-buy-DEP
'she/he buys it'
Stem shape: CVC

b) Setem B

jyëëpy
y-jëy-yp
3A-buy-INDEP.TR
'she/he buys it'
Stem shape: CV:C

In (55), there is an aspirated nucleus with the neutral independent (Stem B), while the neutral dependent has a nucleus with a short, unaspirated vowel (Stem A). On the other hand, in (56) the stem has a short vowel with the neutral dependent (Stem A) but a long

vowel in the neutral independent (Stem A). The specific change depends on the conjugation class.

In addition to Stem A and Stem B, it is necessary to add a third type of stem for the completive conjugation. In general, though not always, the stem in the completive conjugation is different from all the neuter dependent or independent stems, and for this reason it will be labeled as Stem C. In the example below, I provide the independent version of the completive conjugation.

57. puujt
 put\COMPL
 ‘she/he/I run’
 Stem shape: CV:^hC

In addition, it is necessary to include the variation of the stem for irrealis. In most verbs, the shape of the stem for irrealis is the same as Stem A, but in other conjugational classes it is different (see §8.3.11). For this reason, the stem for irrealis is labeled Stem A’. The apophony that the verb undergoes in irrealis is shown in the examples in (58) for the verb *men* ‘to come’.

58. a) Neutral dependent:
 myiny
 y-men-y
 3S-come-DEP
 ‘she/he comes’
 Stem shape: CVC

b) Irrealis dependent:
 mye’nt
 y-men-t
 3S-come-IRR;DEP
 ‘she/he comes’
 Stem shape: CV’C

With these four types of stems, the conjugation in the verbal morphology would be as presented in Table 11. Here, I also include the stem of irrealis, which is in many

conjugational classes similar to Stem A, but in other conjugational classes it is different (§8.3.11). For this reason, it is labeled Stem A'. Again, the square root symbol “√” is used to represent the verb stem.

Type of sentence	Independent	Dependent
Marking		
Neutral	√B-p √B -yp (direct)	√A-y
Completive	√C-∅	√C-y
Irrealis	√A'-p	√A'-t

Table 11. Aspect-Mood morphology and verb stems.

As one can see, the modification to the stem is not phonologically conditioned, as one might have supposed at first glance, but rather morphologically conditioned. First of all, in all cases the AM morpheme involves a consonant. Second, even if one supposes that there are weak consonants, such as the coronal /t/ or the glide /j/ (represented by the “y” in the orthography), the same consonant, /p/, appears with Stem A in the neutral independent but with another stem, Stem A', in the irrealis independent, at least for conjugational classes. Additionally, one stem appears with the dependent plural -t, but another stem may appear with the irrealis -t, as shown in (59), and thus it is not possible to explain phonologically why the same sound triggers two different types of apophony.

59. a) tjëety
 t-jëy-t
 3A-buy-PL;DEP
 ‘they buy it’
 Stem shape: CV:C
- b) tjë'ëty
 t-jëy-t
 3A-buy-IRR;DEP
 ‘s/he buys it’ (irrealis)
 Stem shape: CV'VC

If there is no phonological motivation, then the other alternative is to say that the allomorphy is morphologically conditioned. One preliminary hypothesis could be that there is one stem for the dependent form and another one for the independent form. Furthermore, for some conjugational classes, the portmanteau morpheme for plural dependent *-t* can appear with the same stem as in the independent (Stem B), and not with the Stem A as the non-plural dependent.

60. a) jyëëpy
 y-jëy-yp
 3A-buy-INDEP;TR
 ‘s/he buys it’
 Stem shape: CV!C
- b) tjëëty
 t-jëy-t
 3A-buy-PL;DEP
 ‘they buy it’
 Stem shape: CV!C

I am not the first to note that there are two types of stems in Oaxaca Mixe languages (Schoenhals 1962, Wichmann 1995a). What is different in Ayutla Mixe with respect to other previous descriptions is that the completive form has a different form with no actual affix coding the aspect.

8.3.10 Historical motivation for apophony

Synchronically, the changes in the root seem somewhat arbitrary from a phonological perspective. Indeed, that is precisely the reason why I argued in the previous section that their change is morphologically motivated. However, I believe that this is a case in which the alternation was the result of a morphophonological process at some point in the history of the language, but then there were some other changes and the motivation disappeared, but the change in the stem remained. In particular, one could hypothesize

that the apophony was caused by the form of the syllable following the verb stem. Let us focus the discussion on the AM suffixes. Historically, they were a complete syllable, as seen in Table 9 (§8.3.5). When the AM suffix, and therefore the syllable, following the verb stem started with a consonant (i.e., when it had a CV shape), there was apophony; in contrast, when the suffix started with a vowel, there was no apophony. The vowels belonging to those AM suffixes were not stressed, and due to a general pattern of dropping unstressed vowels, they were lost. Thus the AM suffix was no longer a complete syllable but rather it became part of the coda of the verb stem, as schematized in (61). In this way, the motivation for the apophony disappeared. This hypothesis will be explained in more detail in the following paragraphs.

61. STEM\$-CV > STEM-C\$

I will focus first on the case of the neutral aspect, contrasting the independent with the dependent form. Historically, as presented Table 9 (§8.3.5), it is assumed by Wichmann (1995a) that the incomplete (neutral) dependent was **-pa/-pe*, in the intransitive and transitive verb, respectively. On the other hand, the dependent forms were a vowel *-i/-e*.¹⁹ Then, one could think that Stem A was present when the verb had the dependent suffix (**-i/-e*), but the verb had Stem B when the verb had the independent suffix (**-pa/-pe*).

In many cases, the plural in AyMi takes Stem B, whether it is in the independent conjugation (in which case the plural is *-të*) or in the dependent one (in which case the plural is *-t*), as shown in (62). Again, it is possible to suppose that historically the plural

¹⁹ This can still be seen in Mixe languages that have a conservative verbal morphology, which happens outside Oaxaca Mixe languages, as in Olutec (Zavala 2002), as shown in the table below.

	Independent	Dependent
Incomplete	-pe (transitive) -pa (intransitive)	-e/-i

had the form-CV(C). As presented above (§8.3.6), in the dependent form the vowel was lost, but the apophony persisted even without motivation.

62. a) jyëëtyëp
 y-jëy-të-yp
 3A-buy-PL-INDEP.TR
 ‘They buy it’
 Independent: Stem B

b) tjëëty
 t-jëy-t
 3A-buy-PL;DEP
 ‘They buy it’
 Dependent: Stem B

In addition, it was mentioned above that the suffixes for irrealis AM are *-p* and *-t*, in the independent and dependent conjugation, respectively. Synchronically, it seems unmotivated that the irrealis takes stem A in most cases (there are two classes in which the form is different). Historically, it is very likely that the irrealis also had a vowel before the consonant. Again, this can be seen in most Oaxaca Mixe languages. While other South Highlands Mixe languages do not have a vowel, North Highlands, Midlands, and Lowlands Mixe still have the vowel. In the examples in (63), the independent and the dependent irrealis for Alotepec Mixe (Reyes *in preparation*) are presented, but similar cases can be seen in Totontepec Mixe (Schoenhals 1962) and Coatlán Mixe (Hoogshagen & Bartholomew 1993).

63. Alotepec Mixe
 b) kyojxyëp
 y-kox-ëp
 3A-punch-IRR;INDEP
 ‘they buy it’
 b) kyojxëty
 y-kox-ëty
 3S-punch-IRR;DEP
 ‘s/he will punch (something)’

Thus, in AyMi, the Stem A appears in the irrealis, at least in most cases, because the irrealis suffix started with a vowel, just like the neuter dependent did.

The only cases I cannot account for is stems with the form CVy, CVn, and VV, whose irrealis is different from Stem A, as seen in (64) (labeled A' in Table 11). I have no explanation as to why in Stem A' there is a glottal stop for the irrealis.

64. a) kya'aty
 y-kay-t
 3A-eat-IRR;INDEP
 's/he eats'
- b) tyu'nt
 y-tun-t
 3S-do-IRR;DEP
 's/he does'
- b) kyo'ot
 y-koo-t
 3S-play.guitar-IRR;DEP
 's/he plays guitar'

Thus, in historical terms all of the cases treated in this section had morphophonological conditioning, but it was lost. In modern AyMi, the conditioning is only morphological.

8.3.11 Verbal conjugation and verbal classes

As stated in the previous sections, the last syllable in the verb stem changes according to the conjugation: the verb takes Stem A with the dependent AM suffix; Stem B with the independent AM suffix, with the plural independent and dependent, and with the perfect, regardless of the AM suffix; Stem C when the verb is in completive AM; and, Stem A' with irrealis. However, the actual form of the Stem is not always the same, as it changes according to the form that the last syllable in the verb has. Thus, it is useful to organize

the verbs into different conjugational classes according to the metaphony in the verb stem.

First, I will introduce the verbal classes, providing general information about the changes. All the classes are organized in Table 12, in §8.3.11.1. Then, in §8.3.11.2 I will provide examples for all the verb classes and I will elaborate on the specifics of some classes. Finally, in §8.3.11.3 I will draw a comparison between the classification of verb stems provided here and other classifications for other Mixe languages. For the full conjugational paradigm of all eight classes, see Appendix B.

8.3.11.1 General classification

In this section, I organize verbs into different conjugational verb classes. For this, I will take into account two parameters: *i*) the form that the last syllable of the verb stem has in a proposed underlying form, and *ii*) the type of metaphony that syllable undergoes in the different stems (A, B, and A'). Based on those criteria I have classified the verb into main eight classes. These subclasses are presented in Table 12 below.

Let us see some examples, before explaining the actual classification. In (65), the verb *men* 'to come' is classified in a different class than the verb *käjpx* 'to speak', because the former has a rhyme with a shape VC (where V is a vowel and C is a consonant), while the latter has a rhyme with a shape VjCx (where «j» represents an aspirated nucleus and «x» the retroflex sibilant). The number for the classes comes from Table 12 which is explained in the next subsection.

65. a) *men* 'to come' Class 1
 b) *käjpx* 'to speak' Class 2

On the other hand, in (66) the verbs *pu'u* 'to sow' and *yo'oy* 'to walk' are classified as belonging to the same class because their Stem A has a similar nucleus (a rearticulated

vowel), while the verbs *mä'ä* 'to sleep' and *mo'oy* 'to give' have a similar nucleus in Stem A (a long vowel). The whole organization will become clearer after seeing all verb classes.

- | | | | |
|--------|------------------------|----------------------|---------|
| 66. a) | <i>pu'u</i> 'to sow' | Stem A: <i>pu'up</i> | Class 6 |
| b) | <i>yo'oy</i> 'to walk' | Stem A: <i>yo'oy</i> | Class 6 |
| c) | <i>mä'ä</i> 'to sleep' | Stem A: <i>määp</i> | Class 7 |
| d) | <i>mo'oy</i> 'to give' | Stem A: <i>meepy</i> | Class 7 |

In Table 12 I present all the conjugational classes. In the first column, the number of the conjugational classes and subclasses is presented. Then, in the second column, I present the shape of the rhyme of last syllable in the verb stem. In that column, "C" stands for a consonant, "V" for a vowel, "Vj" for an aspirated nucleus, and "y" for a final palatal glide. Then the following columns present the verb stem, Stems B, Stem A, Stem A', and Stem C. Additionally, I present here only the verb stem and the AM suffix. The appropriate person prefixes are omitted here for the sake of simplicity.

The conjugational class 1 is defined by having the last syllable with the form CVC, except then the last consonant is the palatal glide. There are three subclasses. In the first subclass, 1a, the last consonant is a fricative and in this case the verb does not change in for any conjugation. Subclass 1b has a nasal in coda position, and Stems A and B are identical, both with the form CVC. In this case, Stem A', however, is different, as the nucleus of the last syllable is glottalized and it has the form CV'C. Then, in subclass 1c Stem B has an aspirated nucleus, while Stems A and A' have the form CVC. It is worth saying that some speakers treat subclass 1a as subclass 1c, and then aspirate the nucleus in Stem A.

Conjugation Class	Stem form	Verb	Neutral Independent (Stem B)	Neutral Dependent (Stem A)	Irrealis Dependent (Stem A')	Completive (Stem C)
Class 1						
1a	CVC _[fricative]	jax 'to sprain one's foot'	jax-p	jax-y	jax-t	jax
1b	CVC _[nasal]	tun 'to work'	tum-p	tin-y	tu'n-t	tuun
1c	CVC _[obstruent]	jak 'time goes by'	jajk-p	jek-y	jak-t	jaajk
Class 2						
2a	CVjCx	nějcx 'to go'	nějcx-p	nijkx-y	nějcx-t	nějcx
2b	CV'Cx	jě'kx 'to eat vegetables'	jě'kx-p	jě'kx-p	jě'kx-p	jě'kx
Class 3						
	CVy	jějy 'to buy'	jějpy	jějy	jěj'ety	jějy
Class 4						
4a	CVVC _[obstruent]	jěēt 'to saw'	jě't-p	jěēt-y	jěēt-t	jě'ějt
4b	CVVC _[fricative]	ooj 'to scold'	ooj-p	ooj-y	ooj-t	ooj
Class 5						
	CVV	ko 'to play guitar'	koo-p	ke-y	ko'o-t	koo
Class 6						
6a	CV'V	pu'u 'to sow'	pu'u-p	pu'u-y	pu'u-t	pu'u
6b	CV'Vy	yo'oy 'to walk'	ye'epy	yo'oy	yo'oty	yo'oy
Class 7						
7a	CV'V	mă'ă 'to sleep'	măă-p	mă'ă-y	mă'ă-t	măäj
7b	CV'Vy	mo'oy 'to give'	meepy	mo'oy	mo'oty	mooy
Class 8						
8a	CV'VC	jă'ăt 'to arrive'	jă't-p	jă'ăt-y	jă'ăt-t	jă'ajt
8b	CV'VC	xe'ek 'to laugh'	xek-p	xi'ik-y	xe'ek-t	xeejk

Table 12. Conjugational classes in Ayutla Mixe.

Class 2 is characterized by having a complex nucleus with a laryngeal feature: subclass 2a has an aspirated nucleus and subclass 2b a glottalized nucleus. In both cases, the stem is invariant.

Even though class 3 has a short vowel and a single consonant in the last syllable of the stem, the last consonant in the coda is a palatal glide. In addition, its conjugation is different from class 1. In this class Stem B has a short vowel, while Stem A' a rearticulated vowel. The consonants in the coda represent the appropriate AM suffix, which undergoes metathesis with the palatal approximant belonging to the stem.

Class 4 is very similar to class 1 since in both classes there is a single consonant as a coda. The main difference is that class 4 has long vowels in the nucleus of the last syllable. In subclass 4a are all the verbs ending in an obstruent. In this case Stem B has a short glottalized vowel, and thus the last syllable of the stem has a form CV'C. Stem A and Stem A' have both a long vowel and have the form CVVC. Stem C is characterized by having a rearticulated and aspirated nucleus. In subclass 4b, on the other hand, the last consonant in the stem is a glottal fricative and the last syllable does not change.

Class 5 has verbs with a long vowel but no coda in the last syllable. Stem A has a long vowel too, but Stem B has a short vowel and, in these cases, the syllable is closed by the dependent suffix, which is a palatal glide. Stem A', on the other hand, has a rearticulated vowel.

Class 6 and Class 7 both have a rearticulated vowel in the last syllable of the verb stem, and both have two subclasses: one with the form CV'V and another one with the form CV'Vy. Class 6, however, is invariant, and in all cases the stem remains the same. On the other hand Class 7 does undergo metaphony for Stem B: in both subclasses 7a and 7b, the last syllable of the verb stem has a plain long vowel.

Class 8 also has a rearticulated vowel in the last syllable, but in this case the syllable is closed by a consonant. There is in fact a rather large variation among verbs with this

form, but for the time being I have grouped verbs into two subclasses. In subclass 8a the nucleus of the last syllable for Stem B is a short glottalized vowel, with the form CV'V, while in subclass 8b the Stem B has a short plain vowel, with the form CVC. However, in some cases the Stem B for verbs in the class 8b also has a glottal stop. The main difference here occurs in the Stem C: while in subclass 8a the last syllable has a long rearticulated and aspirated nucleus, i.e. with the form CV'VjC, in subclass 8b the last syllable has a long aspirated nucleus, but not rearticulated, i.e. with the form CVVjC.

As said before, the labeling of stems as A, A', B, and C is completely arbitrary, and I do not assume that either one corresponds to the actual form of the morpheme. However, I believe that stem A is one that corresponds more closely to an underlying representation.

8.3.11.2 *Examples of verb classes*

This subsection is somewhat an expansion of the previous, as here I present examples of all the conjugational classes. Whenever possible, I will present the verb in the intransitive form, but unlike the previous section, the verbs appear fully conjugated, i.e. with the person markers. The ordering in which the examples will be presented are the following:

67. Imperative: Stem B (neuter independent); Stem A (neuter dependent); Stem A' (irrealis); Stem C (completive)

Examples of all subclasses are provided in examples (68) through (84):

68. 1a: CVC_[fricative]: Invariable, except for Stem C: CVjC
 jax 'to sprain one's foot' jaxp, jyexy, jyaxt, jajx.
 jāj 'to hurt a wound' jājp, jyājy, jyājt, jājj.

There are a few exceptions, all of them ending in *x* (/ʃ/), whose stem A and C have a long vowel, but not A' for irrealis:

69. kox 'to punch' kyexypy, tkeexy, tkoxt, kyoojx.
70. 1b CVC_[nasal]: Invariable for Stem A and Stem B; Stem A': CV'C; Stem C CVVC
 men 'to come' memp, myiny, mye'nt, meen.
 jan 'to take cloths off' jyempy, tjeny, tja'nt, jyaan.
 pëtsëm 'to exit' pëtsëmp,pyëtsimy, pyëtsë'mt, pëtsëëm.
71. 1c CVC_[obstruent]: Stem B: CVjC; Stem A CVC; Stem C: CVVjC
 pat 'to ascend' pajtp, pyety, pyatt, paajt.
 kup 'to spit, to pierce' kujpp, kyipy, kyupt, kuujp.
 ampëk 'to get angry' ampëjpk, yampiky, yampëkt, yampëëjk.
72. 2a CVhCx: Invariable, except for Stem C: CVVjCx.
 käjpx 'to speak' käjpxp, kyajpxy, kyäjpxt, kääjpx.
 nëjcx 'to go' nëjcxp, nyijcxxy, nyëjct, nëëjcx
 tojcx 'to eat stew' tojcxp, tyejcxxy, tyojcxt, toojcx
73. 2b CV'Cx: Invariable
 jë'kx 'to eat vegetables' jë'kxp, jyi'kxy, jyë'kxt, jë'kx.
 kä'px 'to be complete' kä'pxp, kya'pxy, kyä'pxt, kä'px
 po'kx 'to rest' po'kxp, pye'kxy, pyo'kxt, poo'kx.
74. 3 CVy: Stem B: CVVCy; Stem A: CVy; Stem A': CV'VCy; Stem C: CVVy
 jëy 'to buy' jyëëpy, tjëy, tjë'ëty, jyëëy.
 kay 'to eat corn' kaapy, kyay; kya'aty; kääy/kaay.
 jotmay 'to be sad' jotmaapy, jyotmay, jyotma'aty, jyotmäy.
75. 4a CVVC (CVV'C): Stem B CV'C; Stem A CVVC; Stem C: CV'VjC
 ëëts 'to vomit' ë'tsp, yëëtsy, yëëtst, ë'ëjts.
 jaap 'to scoop' jye'py, tjeepy, tjaapt, jya'ajp.
 jääx 'to rub' jya'xypy, tjaaxy, tjääxt, jyä'äjx.
76. 4b CVVh: Invariable, except for Stem C: CVVjC
 ooj 'to scold' oojp, y'oojy, y'oojt, y'oojj.
 pääj 'to carve' pääjp, pyääjy, pyääjt, pääjj
77. 5 CVV: Stem B: CVV; Stem A: CV; Stem A' CV'V; Stem C: CVV
 koo 'to play guitar' koop, kyey, kyo'ot, koo.
 mëtoo 'to hear' mëtoop, myëtey, myëto'ot, mëtoo.
 wää 'to walk an animal' wääp, wyaapy; tway; wyääj; twä'ät; twää
78. 6a CV'V: Invariable
 pu'u 'to sow' pyu'upy, tpu'uy, tpu'ut, pyu'u.
 jä'ä 'to colaps' jä'äp, jyä'äy, jyä'ät, jä'ä.
 ko'o 'to scatter' kyo'opy, tko'oy, tko'ot, kyo'o.

79. 6b CV'Vy: Invariable.
 jo'oy 'to dissolve' jye'epy, tjo'oy, tjo'oty, jo'oy.
 yo'oy 'to walk' ye'epy, yo'oy, yo'oty, yo'oy.
80. 7a CV'V: Stem B: CVV; Stem A: CV'V; Stem C: CVV(j)
 mä'ä 'to sleep' määp, myä'äy, myä'ät, määj.
 kë'ë 'to get cooked' këëp, kyë'ëy, kyë'ët, këë.
 tu'u 'to rain' tuup, tyu'uy, tyu'ut, tuu.
81. 7b CV'Vy: Stem B CVVCy; Stem A: CV'V(C)y; Stem C: CVV(j)y
 mo'oy 'to give' myeepy, tmo'oy, mo'oty, mooy.
 jä'äy 'to write' jaapy, jyä'äy, jyä'äty, jääjy.
82. 8a CV'VC: Stem B: CV'C; Stem A CV'VC; Stem C: CV'CjC.
 jä'ät 'to arrive' jä'tp, jyä'äty, jyä'ätt, jä'äjt.
 pe'ets 'to put down (fire)' pe'tsp, pyi'itsy, pye'etst, pe'ejts.
 pëtë'ëk 'to ascend' pëtë'kp, pyëti'iky, pyëtë'ëkt, pëtë'ëjk.
83. 8b CV'VC: Stem A: CVC; Stem B CV'VC Stem C: CVVjC.
 xe'ek 'to laugh' xekp, xy'iky, xye'ekt, xeejk.
 ëntä'äk 'to lie' ëntäkp, yenta'aky, yäntä'äkt; yentääjk.

The last verb class has, in fact, many exceptions. In particular, some of the verbs in class 8a do not have the glottal stop but a long vowel in the stem A, i.e. in the neutral dependent, such as the verb in (84).

84. mu'uts 'to crave' mu'tsp, myuutsy, myuutst, mu'ujts.

Additionally, there are other verbs that I classify as part of subclass 8b because the stem C has the form CVVjC, but whose stem A has optionally a non-consonantal glottal stop, as in the example in (85).

85. yä'äx 'to cry' yä'xp, yä'äxy, yä'äxt, yääjx.

I would like to emphasize that the conjugations presented in this subsections are for the sake of grouping verbs into verb classes. However, a verb stem undergoes more apophonic variation than is depicted here. In order to see the whole array of variation, it is necessary to conjugate the verb for dependent, independent, singular, plural, and

inverse in each aspect-mood, in addition to other few cases that have a special apophony, such as the benefactive applicative apophony (§8.7.3). Conjugational tables with all those possibilities for each verb class are presented in Appendix B.

8.3.11.3 *Comparing verb classes with other Mixe languages*

In this subsection, I will compare the proposed conjugational verb classes for Ayutla Mixe with the reconstructed classes made by Wichmann for proto-Mixe and other verb classes proposed for other Mixe languages. The notation used by other authors might be different from mine, or these authors might not have provided a schematized form, so I have adapted their descriptions to my notation to make the comparison easier. All of this is presented in Table 13. While the other authors might have organized the data differently, here I present the verbs organized according to my classification. This is an arbitrary decision and does not affect the content.

A general observation is that over the history of Mixe languages the number of verb classes that undergo apophony has increased. This is true not only for the languages compared here but also for other Mixe languages (Wichmann 1995a). In the case of Totontepec Mixe, Shoenhals (1962) identified sixteen classes. In total, I have presented fifteen subclasses grouped into eight classes; the number of subclasses is equivalent.

In the case of Coatlán Mixe (Hoogshagen & Bartholomew 1993), the verb classes are not entirely clear, perhaps because the authors are more interested in how verbs change but without really grouping them into classes. Additionally, it is hard to compare because of a lack of examples. Hoogshagen & Bartholomew (1993) distinguish verbs whose last syllable does not change from those whose last syllable changes. Those whose last syllable does not change are equivalent to 1a, 2a, and some of them to 4b, but perhaps only in those in which there is a final aspiration in AyMi but a /w/ in Coatlán Mixe.

Those cases in which the last syllable changes are included in Table 13. I am positive that there are many verbs missing in the table, but I cannot identify more similarities.

	AyMi	Proto Mixe		Coatlán Mixe	Totontepec Mixe
Class	Stem form	Class	Stem form		
1a	CVC _[fric]	[5d]	CVC _[fric]	CVC _[fric]	
1b	CVC _[nasal] ~CV'C	[5b,c]	CVC _[nasal]		
1c	CVC _[obstr] ~CVjC	[5a]	CVC _[obstr]	CVC~CVjC	CVC~CVjC
2a	CVhCx	[8]	CVCC	CVCx	CVC~CVjC
2b	CV'Cx	[6] [7]	CVV'CC CV'CC		
3	CVy~CVVCy	----		CVVy~Vy	
4a	CVVC~CV'C~CV'VC y	[1]	CVV'C		CVV'C
4b	CVVC _[glottal fricative]	---		CVw	
5	CVV~CV~CV'V	---			
6a	CV'V	---			
6b	CV'Vy	---			
7a	CV'V~CVV	All [2d] partially [2c] partially [3/4]	CVVh CVC~CV'C CV'C	CVV(w)~CV'V(w)	CV'V~CVV
7b	CV'Vy~CVVCy	partially [2c] partially [3/4]	CVC~CV'C CV'C	VV(y)~V'V(y)	CV'V~CVVy
8a	CV'VC~CV'C	partially [3/4] partially [2a]	CV'C CVVC~CV'C	V'~V'V	CV'VC~CV'C
8b	CV'VC~CVC	partially [2a]	CVVC~CV'C		CV'VC~CVVC

Table 13. Comparison of conjugational classes with other Mixe languages.

In the case of Totontepec Mixe, some correspondances are difficult to make, because the languages have dropped vowels in different places. In Totontepec, for example, there is a class of verbs like *vidut* 'to take a walk' (in Schoenhals' orthography), which drops the last vowel in the neuter independent resulting in *vitp*. The cognate verbs in AyMi still preserve the vowel and thus their conjugation is like any other verb that ends in a CVC stem: *jëtet* 'to walk', whose neuter independent is *jëtejtp*. One finds similar problems in other conjugational classes.

Another difficulty in comparing the verb classes is that Schoenhals (1962) includes the inchoative conjugation (§8.4.2), while I have not.

8.4 Inverse morphology

In this section, I will discuss the morphological marking of inverse in the verb. The inverse system as a whole is discussed in the following chapter (§9.5). However, as a brief reminder, there is only one slot in the verb morphology for making reference to core participants, and in a transitive verb it can be either the subject or the object. The inverse is used when the object is higher than the subject on the scale in (86), which will be called the participants hierarchy.

86. 1st person > 2nd person > 3rd person (human > animate > inanimate)

8.4.1 The inverse morpheme

There are two grammatical mechanisms from which inversion is detected: the clearest one is by using the inverse suffix *-ë*; however, inversion is also detected by the use of the person markers that correspond to the participant O. In this section, I focus mainly on the use of the inverse morpheme, as exemplified in (87).

87. m'ejxë'p
 m-ex-ë-p
 2O-see-INV-INDEP
 's/he sees you'

Inversion is marked morphologically by the inverse suffix in the neutral independent conjugation (88a) and in the irrealis (88b).

88. a) Independent
 mjëtëjtëp
 m-jëtët-ë-p
 2O-pull-INV-INDEP
 'you are pulled'

- b) Irrealis
 mjëtëtët
 m-jëtët-ë-t
 2O-pull-INV-IRR;DEP
 ‘you are pulled’

In the case of the neutral dependent, the inverse morpheme is not used in the singular (89a), but the inverse suffix does appear in the plural (89b).

89. a) Dependent singular
 Ojts m’ixy.
 ojts m-ex-y
 PAST 2O-see-DEP
 ‘S/he saw you.’ (Einv)

- b) Dependent plural
 Ojts yë’ m’ixyët.
 ojts yë’ë m-ex-yë-t
 PAST DEM.M 2O-see-INV-PL
 ‘They saw you.’

In the case of the completive, I have not been able to find any examples of inverse in an actual discourse, nor have I been able to obtain them in elicitation. Again, perhaps this is due to how unusual the completive conjugation is.

Inversion is never marked for first person, whether it is in the neutral independent (90a), the neutral dependent (90b) or irrealis (90c).

90. a) Xexp mejts.
 x-ex-p mejts
 1o-ex-indep 2sg
 ‘You see me.’ (E-c1p26)
- b) Ojts yë täjk xwepy.
 ojts yë’ë täjk x-wop-y
 PAST DEM.M guard 1O-hit-DEP
 ‘The guard hit me (with a stick).’
- c) Ęjts ntsejkypy ku mejts x’ext.
 Ęjts n-tsok-yp kuu mejts x-ex-t
 1SG 1A-want-INDEP;TR CMPLTZ 2SG 1O-see-IRR;DEP
 ‘I want you to see me.’

In the neutral dependent, it does not matter whether it is first person singular or plural, and in the first person plural, it does not matter whether it is exclusive (91a) or inclusive (91b), in none of these cases is the inverse morpheme present.

91. a) Ojts yë täjk xwo'pt.
 ojts yë'ë täjk x-wop-t
 PAST DEM.M guard 2O-see-PL;DEP
 'The guard punched us.'

b) Ja'a atäm xkojxyë'm.
 ja'a atäm x-koj-yë'm
 DEM.D 1PL.INCL 1O-punch-INCL
 'They are punching us.'

In the first person plural inclusive, it is necessary to use the appropriate first person plural inclusive suffix *-yë'm*, which appears in the slot of the AM suffixes (§8.3.7).

All this does not mean that inversion is not marked for first person, but only that there is no inverse morpheme in first person, since the language has other mechanisms for marking inversion, in this case, by the use of the first person O prefix.

Structurally, the inverse suffix appears between the base and other inflectional suffixes. Not only does this mean that it appears before the AM suffixes and the plural marker, but also before the perfect marker, as illustrated in (92).

92. Ęjts ntsejkypy ku m'exënyët Pedro.
 Ęjts n-tsok-yp kuu m-ex-ë-në-t Pedro
 1SG 1A-want-INDEP;TR CMLTZ 2O-see-PERF-IRR;DEP Pedro
 'I would like Pedro to watch you.'

8.4.2 Inversion and apophony

The inverse morpheme also causes apophonic variation in the verb stem, as stated in §8.3.9; however, the specific apophony that the inverse causes was not discussed there. Here, I will provide a brief description of the apophony triggered by the inverse suffix.

The apophony caused by the inverse morpheme is presented in Table 14. In the first column the verb classes and subclasses are presented. They are the same as those given in Table 12 (§8.3.11.1). Then in the second column the form of the last syllable of the verb stem is schematized. Again, “C” stands for a consonant, “V” for a vowel, “Vj” for an aspirated nucleus, and “y” for a final palatal glide. In the third column, a verb belonging to each class is listed. Then, in the following two columns, the apophony for neutral independent AM (-*p*), and irrealis dependent AM (-*t*) (which is by far more common than the irrealis independent), is presented.

The apophony for the irrealis independent AM (of lack thereof), however, is the same as the apophony for the irrealis dependent AM. In those last two columns, the hyphen divides the verb stem from the inverse and the AM suffixes, but these two are not separated by hyphen. Finally, person prefixes were also omitted.

Not all verb classes undergo apophony with the inverse morpheme. Subclasses, 2a, 2b, 6a, and 6b do not have a change in the last syllable of the verb stem. It is perhaps worth pointing out that those conjugational classes do not undergo apophony in the conjugation without the inverse morpheme either (Table 12 (§8.3.11.1)). Then, it is also important to notice that in the verb classes that undergo metaphony, this is more likely to occur in the independent.

For subclass 1a, depending on the speaker, the neutral independent may have an aspirated short vowel or just a short vowel, while the irrealis does not undergo apophony. Class 2b also has two pronunciations for the neutral independent, as long aspirated vowel or as rearticulated vowel; and the irrealis has a plain long vowel. Class 1c, the neutral independent has a short aspirated vowel.

Conjugation Class	Stem form	Verb	Neutral Independent (-p)	Irrealis Dependent (-t)
Class 1				
1a	CVC _[fricative]	ex 'to see'	ejx-ëp / ex-ëp	ex-ët
1b	CVC _[nasal]	tsëm 'to carry'	tsëëjm-ëp / tsë'ëm-ëp	tsëm-ët
1c	CVC _[obstruent]	nap 'kick'	najp-ëp	nap-ët
Class 2				
2a	CVhCx	tsajkx 'to scratch'	tajkx-ëp	tajkx-ët
2b	CV'Cx	jo'px 'to lasso'	jo'px-ëp	jo'px-ët
Class 3				
	CVy	atënay 'to attack'	atënääjy-ëp	atënaay-ët
		aktey 'to burn'	akto'oy-ëp	akteey-ët
Class 4				
4a	CVVC _[obstruent]	käät 'to bite'	kä'ät-ëp	käät-ët
4b	CVVC _[glottal fricative]	ooj 'to scold'	ooj-ëp	ooj-ët
Class 5				
	CVV	koo 'to play guitar'	koj-ëp	koj-ët
		amtoo 'to ask'	amtoj-ëp	amtoo-t
Class 6				
6a	CV'V	akpu'u 'to make s.o. sow'	akpu'u-p	akpu'ut
6b	CV'Vy	puyo'oy 'to follow'	puyo'oy-ëp	puye'ey-ët
Class 7				
7a	CV'V	akmä'ä 'to put to sleep'	akmäj-ëp	akmäj-ët
7b	CV'Vy	mo'oy 'to give'	mojy-ëp	mo'oy-ët
Class 8				
8a	CV'VC	akpëtë'ëk 'make s.o get up'	akpëtë'ëjk-ëp	akpëtë'ëk-ët
8b	CV'VC	ëntä'äk 'to lie'	ëntääj-ëp	ëntä'äk-ët

Table 14. Apophony in inversion.

In class 3, there are two different types of apophony in the neutral independent, but in this case it seems to depend on the verb. Some verbs have a short aspirated vowel while other verbs have a rearticulated vowel. In both cases, however, the vowel has a different quality. As explained earlier (§4.6.2), the vocalic metaphony is a historical process rather than a synchronic one. In the inverse form of verbs of Class 3, though, the metaphony has not taken place and one finds the historically unchanged vowel. For example, with the inverse morpheme, /a/ in the last syllable in *atēnay* ‘to attack’ is to /ʌ/, and /e/ in the last syllable in *aktey* ‘to burn’ is to /ɤ/. On the other hand, with apophony in the irrealis with the inverse suffix, the last syllable of the verb stem has a plain long vowel, and the vowel quality does not change in this case.

The two subclasses in conjugational class 4 have a rearticulated vowel in the neutral independent and a long vowel in the irrealis.

Subclass 6a does not have any change in the verb stem, as stated before. However, in this case the inverse suffix does not appear in either the neutral independent or the irrealis, as it is deleted by the last vowel in the nucleus.

In subclass 7a, the verb stem has a short aspirated nucleus for both the neutral independent and the irrealis, not a rearticulated vowel as the stem alone has. In subclass 7b, the neutral independent also has a short aspirated nucleus, but in this case the syllable is closed by a palatal glide. For this subclass, the stem does not undergo apophony in the irrealis AM.

Finally, in subclass 8a, the last syllable in the stem has a rearticulated and aspirated nucleus in the neutral independent AM. On the other hand, subclass 8b has a long

aspirated nucleus, without rearticulation, in the neutral dependent AM. In both subclasses, the verb stem does not undergo apophony for the irrealis AM.

As mentioned before, the complete conjugation of all verb classes, with information regarding the apophony, can be seen in Appendix B.

8.5 The inchoative suffix

In this section, I will discuss the inchoative suffix *-ë*. As discussed in the following subsections, it appears in the conjugation of deadjectival and denominal verbs (§8.5.1). It is also part of the conjugation of many non-derived verbs whose semantics express a change of state (§8.5.2), although other cases that deviate from this pattern are also discussed. Additionally, the inchoative suffix is found in verbs with applicative morphology, although in these cases the verb stem does not convey a change of state (§8.5.3). Finally, in the last subsection (§8.5.4), the possibility of conflating the inchoative and the inverse suffixes is considered.

8.5.1 Inchoative in adjectives

In §6.3.7.2, it was mentioned that deadjectival verbs take the inchoative suffix as part of their conjugation. In other words, as argued in more detail in the rest of this section, the inchoative suffix is not used to derive verbs from adjectives, but rather it is part of the inflectional morphology in a larger group of verbs. The inchoative suffix is exemplified in (93).

93. Deadjectival verbs

- a) *nä'k-ë-p* (< *nä'k* 'flat')
- flat-INCH-INDEP
- 'it is flattened'

- b) xun-ë-p (*< xun 'sour'*)
sour-INCH-INDEP
'it becomes sour'
- c) jo'kx-ë-p (*< jo'kx 'warm'*)
warm-INCH-INDEP
'it is getting warm'
- d) nu'ux-ë-p (*< nuux 'lazy'*)
lazy-INCH-INDEP
'he is lazy'

The inchoative suffix can also be found in some denominal verbs, as in the examples in (94).

94. Denominal verbs

- a) ääts-ë-p (*< ääts 'root'*)
root-INCH-INDEP
'it roots'
- b) koots-ë-p (*< koots 'night'*)
night-INCH-INDEP
'it is getting dark'

Some examples with full sentences are provided in (95).

95. a) Eyëp eyëp ja käjp.
ey-ë-p ey-ë-p ja'a käjp
good-INCH-INDEP good-INCH-INDEP DEM.D town
'The town gets better, gets better.' (Efa1-1780)
- b) Pero nyiyä'äy jantsy mējëpëka...
pero y-niyä'äy jantsy mēj-ë-p=ëk=ja'a
but 3POSS-husband truly [3S]big-INCH-INDEP=HEARSAY=DEM.D
'But her husband (pretended to be) too much...' (NL1-603)
- c) Kuuts ojts tsyu'unë kyootsë'n...
kuu=ts ojts y-tsu'u-ë-n y-koots-ë-n
when=EV PAST 3S-mid.night-INCH-PERF;DEP 3S-night-INCH-PERF;DEP
'When it was night already...' (FrogF-235)

The inchoative interacts with the dependent AM marker in such way that they cancel each other, as schematized in (96) and exemplified in (97). This happens independently of the phonological context and is further discussed in §8.6.

96. $-\ddot{e} + -y \rightarrow \emptyset$

97. a) Ojts yĕ' tojkx xyun.
 ojts yĕ'ĕ tojkx y-xun
 PAST DEM.M food 3S-sour[INCH.DEP]
 'The food became sour.'

b) Tĕĕ yĕ' nĕj jyo'kx.
 tĕĕ yĕ'ĕ nĕj y-jo'kx
 BEFORE.NOW DEM.M water 3S-warm[INCH.DEP]
 'The water got warm.'

As one can see in the in the previous examples, in the dependent AM the deadjectival verb (or denominal for that matter) does not have either the inchoative $-\ddot{e}$ or the dependent $-y$ suffixes, but just the bare stem at the end. In other words, the lack of AM morphology in combination with the person marker signals the dependent conjugation. The verb still has the appropriate person prefixes, though. Thus, the previous examples have the third person intransitive prefix for dependent conjugation, which is $y-$; in (97a) the verb conjugated in neutral dependent AM is just *xyun* 'it gets sour' and in (97b) it is *jyo'kx* 'it gets warm'.

When the verb is transitive in the neutral AM (in which case it would require a causative suffix)²⁰, the $-yp$ suffix does not have the palatal glide in the surface form, as shown in (98a). This is due only to the interaction between the inchoative and the neutral independent transitive suffixes, as the palatal glide in $-yp$ emerges if the desiderative $\ddot{a}'\ddot{a}n$ appears between the inchoative and the AM suffix, as shown in (98b).

98. a) Yakjo'kxĕp yĕ' nĕj.
 y-ak-jo'kx-ĕ-yp yĕ'ĕ nĕj
 3A-CAUS-warm-INCH-INDEP;TR DEM.M water
 'He warms up the water.'

²⁰ Verbs derived from nouns and adjectives and that have the inchoative are intransitive, and thus it is necessary to have a causative prefix (§8.7.1) to conjugate them transitively.

- b) Yakjo'kxiyampy yë' nēj.
 y-ak-jo'kx-ë-ä'an-yp yë'ë nēj
 3A-CAUS-warm-INCH-DES-INDEP;TR DEM.M water
 'He will warm up the water.'

In §6.3.7.2, it was suggested that deadjectival or denominal verbs have inchoative conjugation (i.e., the inchoative suffix is an obligatory part of the inflectional morphology in this cases), not that the inchoative is the responsible for the derivation. There are several reasons for saying this. The first one is that the inchoative is not part of the imperative in these verbs, as shown in (100). Just as a reminder, in Ayutla Mixe the imperative is signaled by the bare stem, as there is no imperative affix (see §8.3.2).

100. a) tēk 'enter' (< tējk 'house')
 b) tsey 'cure (her)' (< tsooy 'medicine')
 c) kääñ 'to salt' (< kääñ 'salt')
 b) pä'äk 'sweeten (it)' (< pä'äk 'sweet')

Most of these verbs are not used in the imperative in normal discourse, since the intransitive form expresses a change of state of a patient. However, in the context of, let us say, a tale or a story where there is a being with magical powers, it is possible to obtain the imperative, as shown in (101).

101. a) nek 'get wet!' (< nek 'wet')
 b) nuux 'be lazy!' (< nuux 'lazy')
 c) axëëk 'get dirty!' (< axëëk 'dirty')

Additionally, the imperative can be obtained when the causative *ak-* is used, as in the examples in (102).

102. a) ak-jo'kx 'heat it up!' (< jo'kx 'warm')
 b) ak-ey 'fix it', 'prepare it (food)!' (< ey 'good')
 c) ak-wä'äts 'clean it!' (< wä'äts 'clear')

What is important in the examples in (100) to (102) is that in none of these cases does the inchoative suffix appear in the imperative form. Compare this situation with a derivational morpheme, the verbalizer *-ät* (discussed in §8.3.7.1). In the examples in

- c) Mutsk'ääjt yë'ë.
 mutsk-ät yë'ë
 small-VRBLZ\COMPL DEM.M
 'He was acting like a child.'

In sum, the inchoative suffix is not present in both the imperative and the completive apophony, which suggests that it is not part of the verb stem. For this reason, in the completive AM, the inchoative is not part of the syllable that undergoes a change, as is the case with the verbalizer *-ät* in (105). If this is true, it means that in AyMi the inchoative is not really a derivational mechanism, but rather it is treated alongside inflectional morphology. Compare the situation in AyMi with the verbalizer *-en* in English (as in *flatten*, *lengthen*, *shorten*, etc.), which is obviously part of the stem and does not disappear in some conjugations or in the imperative.

In this view, one would need to say that adjectives in fact undergo a zero derivation (or conversion) in order to be used as verbs. However, they are flagged by using a special type of inflection, characterized by the use of the inchoative *-ë*. Now, even though I do not believe that it is a derivational morpheme, I would like to preserve the name “inchoative” for semantic and comparative reasons.

The idea of having a zero derivation would be compatible with the fact that many derived verbs can be conjugated with or without the inchoative, with no change in meaning. For example, this is the case with one of verbs presented before, *ääts* ‘to root’, whose incompletive neutral can be *äätsëp*, as presented earlier, or *ä'tsp*, without the inchoative.

8.5.2 The inchoative in non-derived verbs

There are other verbs, which are not obviously derived from nouns or adjectives, which also require the inchoative suffix in their conjugation. In all these cases, I will say

that the verbs require an inchoative conjugation. These verbs do not form a coherent semantic class, but there are some patterns. Some of these verbs express change in body posture, as shown in (106).

106. a) Tama yuk tsyëën.

tam=ja'a y-uk y-tsyëën
 DEIC.M=DEM.D 3POSS-dog 3S-sit[INCH.DEP]
 'His dog is sitting there.' (FrogMJ440)

b) Ès jajp atya'aky jajp wya'atskuk, jajp nēety py.

ējts jajp atya'aky jajp y-wa'atskuk jajp nēj-ojt-py
 and DEIC.D slow DEIC.D 3S-stand.up[INCH.DEP] DEIC.D water-INSIDE-LOC
 'And slowly he stands up, there in the pond.' (FrogMJ-392)

It is worth mentioning that when these verbs have the inchoative as part of their conjugation, they are ambiguous between an inchoative and a stative interpretation. Alternatively, they can be conjugated with the perdurative suffix *-nay* (see §6.3.6), in which case they have a stative interpretation, as in (107).

107. Ja' tējk tyatsēnaapy ijtyNoe.

ja'a tējk y-ta-tsyëën-naay-yp ijty Noe
 DEM.D house 3A-APPL-live-PERD-INDEP;TR IMPF Noe
 'The house where Noe used to live.' (Efa1-1412)

There are other verbs that also have the an inchoative conjugation that do not really express a change in body posture, but rather are active verbs, such as *wä'äk* 'to step' in (108).

108. Wä'äjkēp yē'.

Wä'äk-ē-p yē'ē
 [3S]step-INCH-INDEP DEM.M
 'He walks.'

Many verbs that require an inchoative conjugation express mental states, as in (109a-b), or physical states, as in (109c).

109. a) Ku ojts xyētājtpētsimy, ta ojts mixy tsyē'ëk.

kuu ojts y-xētāt-pētsēm-y taa ojts mixy y-tsyē'ëk
 when PAST 3S-fly-exit-DEP DEIC.M PAST boy 3S-be.scared[INCH.DEP]
 'When it went out flying, the kid got scared.' (FrogG-385)

b) Ja nyiyä'äy ka'tëka tsuj myutukuk.

ja'a y-niyä'äy ka't=ëk=ja'a tsuj y-mutukuk
 DEM.D 3POSS-husband NEG=HEARSAY=DEM.D beautiful 3O-understand[INCH.DEP]
 'She did not get along very well with her husband.' (NL1-660)

c) Ps japa' n'anä'äny ojts y'anë'kxën.

pës jajp ja'a n-anä'an-y ojts y-anë'kx-ë-n
 DISC DEIC.D DEM.D 1S-say-DEP PAST 3S-be.tired-INCH-PERF;DEP
 'We can say that he got tired.' (Aur2-228)

In particular, the verb *jäw* 'to feel' in example (110a) and other derived verbs, such as *nasäw* 'to think' in (110b), *näw* 'to know' in (110c), *tanäw* 'to know' in (110d), *najäw* 'to know' in (110e), among others, require the inchoative conjugation.

110. a) Ka't... ka't mëj xjäwët, nëmëk yanä'äny.

ka't ka't mëj x-jäw-ë-t nëm=ëk y-anä'an-y
 NEG NEG big 2A-feel-INCH-IRR;DEP say=HEARSAY 3S-say-DEP
 'No... do not feel it too much, he told him, it is said.' (Vir-698)

b) Ja nnäsäw jyëmëejt tutuujk .

ja'a n-nasäw y-jëmëejt tutuujk
 DEM.D 1A-think[INV.DEP] 3S-year six
 'I think they were six years old.' (A&E-288)

c) Jëts mëët xëejk, ¿ka't xnäw xë'n yeya?

jëts mëët xëejk ka't x-näw xë'n y-ey=a
 and ASSOC bean NEG 2A-know[INCH.DEP] how 3S-good[INCH.DEP]=Q
 'And with beans, don't you know how to do them?' (A&E-472)

d) Ti atäm ntanä'äp, nëmëk.

tii atäm n-tanäw-ë-yp nëm=ëk
 what 1PL.INCL 1A-know-INCH-INDEP;TR say=HEARSAY
 'What do we know, he said.' (Vir-1637)

e) Yë'ë yaknäjäw.

yë'ë y-ak-näjäw
 DEM.D 1S-CAUS-know[INCH.DEP]
 'That was known.' (Sofa1-586)

And there are other verbs that do not belong to the previous categories, such as *kuk*

'to resolve' in (111), which also take the inchoative.

111. Jaa nëma jatukojk kyuk.

jaa nëm=ja'a jatukojk y-kuk
 DEIC.D say=DEM.D once 3S-resolve[INCH.DEP]
 'Then, it (the conflict) gets resolved.' (NL1-554)

In sum, some verbs that require the inchoative conjugation express change of state, but one cannot say that the inchoative is characteristic of a semantic class, as some active verbs also require the inchoative. More research is needed to understand the use of the inchoative.

8.5.3 The inchoative in combination with other prefixes

The inchoative suffix is also present in the conjugation of other verbs, but unlike the verbs in the previous section, the verbs discussed here have derivational prefixes. For example, in (112a) the verb *takëets* ‘to tear’ has the pseudo-applicative *ta-* (see §8.9), in (112b) the verb *nastej* ‘to push’ has the directional *nas-* (see §8.8.2), and in (112c) the verb *akäp* ‘to put into’ has the part morpheme *a-* ‘inside’ (see §8.8.3.1).²¹

112. a) Wet tyakë'ëtsë'p.

wet y-ta-këets-ë-p
 cloth 3A-APPL-tear-INCH-INDEP
 ‘He’s tearing the cloth.’ (C&BA01)

b) Mejts Pedro mnastejëp.

mejts Pedro m-nas-tej-ë-yp
 2SG Pedro 2A-HORZ-knead-INCH-INDEP;TR
 ‘You are pushing Pedro.’

c) Taa jajp kyëpäjk t'akäp.

taa jajp y-këpäjk t-a-käp
 DEIC.M DEIC.D 3POSS-head 3A-INSIDE-carry[INCH.DEP]
 ‘Then it (the dog) put his snout inside (a jar).’ (FrogMJ-148)

In the sections relative to the applicative benefactive apophony (§7.3), directional prefixes (§8.8.2), part morphemes (§8.8.3), and pseudo-applicatives (§8.9) I will mention

²¹ For San Miguel Chimalapa Zoque, Johnson (2000) divides the cognate of the inchoative *-ë* into two different morphemes: one is the verbalizer (i.e. the suffix used to derive verbs from adjectives and nouns) and the other one is the suffix that attaches to verb bases. As far as I understand, Zavala (2000) also considers that there are two different morphemes in Olutec. As discussed below, it is possible that historically there were two different morphemes, but that in Ayutla Mixe they have been conflated into a single morpheme, called “inchoative” in this grammar.

in which cases the affix (or the apophony) requires, in addition, the use of the inchoative. However, it is not clear why those morphemes require the inchoative.

When a verb requires the inchoative, in many AM conjugations the inchoative and the inverse suffix merge in the surface representation. For example, when the verb takes a second person prefix and it is conjugated in neutral independent AM, the direct and the inverse form of the verb look identical, as shown in the two examples in (113).

113. a) Mejts Pedro mnastejĕp.
 mejts Pedro m-nas-tej-ĕ-yp
 2SG Pedro 2A-HORZ-knead-INCH-INDEP;TR
 ‘You push Pedro away.’

b) Pedro mnastejĕp.
 Pedro m-nas-tej-ĕ-ĕ-p
 Pedro 2O-HORZ-knead-INCH-INV-INDEP
 ‘Pedro pushed you away.’

In (113b), both the inchoative and the inverse suffixes are merged, and thus at first glance it is not possible to know whether the verb is in the inverse or in the direct alignment. As one can see in (113a), the verb in the direct alignment looks exactly the same, as the neutral independent transitive AM suffix does not have the palatal glide here (see §8.6). It is only based on the context that it is possible to know that (113b) is in inverse alignment.

8.5.4 Conflation morphemes

There are two issues I want to consider in this section. First of all, I will consider the possibility of the inchoative *-ĕ* being the result of the conflation of more than one morpheme historically. Additionally, it is worth pondering whether synchronically the inchoative is being conflated with the inverse morpheme. In order to do this, I will need to compare AyMi with other Mixe-Zoque languages.

With respect to the inchoative alone, it was mentioned in the footnote 19 in the previous section that Johnson (2000) suspects that in Zoque the suffix that is combined with adjectives and nouns is different from the suffix that co-occurs with verbs. For AyMi, I treat them as a single morpheme: the inchoative *-ē*. Part of the reason for this is that I think that the inchoative does not really act as a derivational morpheme, but rather is part of the inflectional morphology both for *i*) denominal and deadjectival verbs (see discussion in §8.5.1), and for *ii*) non-deadjectival or denominal verbs, i.e. the cases discussed in the previous two sections (§§8.5.1-2).

Additionally, I believe there is a further conflation. Johnson (2000) reports that for SMCh Zoque, there is another morpheme that derives verbs from adjectives, the versive *-ʔa*. In all the cases in which SMCh Zoque would use that morpheme, AyMi uses *-ē*. This can be seen in the following example.

114. a) SMCh Zoque

pahaʔkkawə

pahaʔk-ʔa-wə

sweet-VERS-COMPL

‘it became sweet’ (Adapted from Johnson 2000:197)

b) Ayutla Mixe

pyä'äkë'p

y-pä'äk-ë-yp

3A-sweet-INCH-INDEP;TR

‘he sweetens it’

Given the reduction in quality in post-tonic vowels, I find it more probable that the vowel in AyMi changed from an open to a mid central vowel than vice versa. In favor of this hypothesis, in Totontepec Mixe (North Highlands, Schoenhals 1962), there is a suffix with the same uses that the inchoative in AyMi alternates between *-i* and *-a*. Furthermore, Wichmann (1995a) speculates that the *-i/-a* suffix in Totontepec Mixe is the reflection of

a historical antipassive. Finally, if there is not enough confusion already, in Sayula Mixe (one of the Veracruz Mixes, also known as Sayula Popoluca) there is a directional with a very similar form. Also, from a comparative perspective, there is another suffix in SMCh Zoque that has a very similar form to the inchoative, which Johnson (2000:175) calls depositive. One can see that the situation is far from being clear, but, in any case, it would seem very likely that historically, there were different morphemes that were conflated into a single, polyfunctional morpheme in Ayutla Mixe. Perhaps for this reason it is difficult to extract a regular semantic class (or classes) among all the verbs that require the inchoative conjugation.

Independently of that, in AyMi the inverse and the inchoative suffixes have the same form (-*ë* in both cases), and with a shallow inspection of the language it would not be possible to perceive the difference between these two morphemes. Upon a closer inspection, there are three places where one can see the difference: in the interaction with the first person, in the plural, and in a different position in the verbal morphology.

In the neutral independent or in the irrealis conjugation, both morphemes are indistinguishable at the surface level, as exemplified in (115) and (116). So, from these examples, it is hard to tell them apart.

115. Inverse

- a) mnajpëp
 m-nap-ë-p
 2O-kick-INV-NDEP
 ‘he kicks you’
- b) mnapët
 m-nap-ë-t
 2O-kick-INV-IRR;DEP
 ‘he kick(irrealis) you’

116. Inchoative

a) mtëjkëp
 m-tëk-ë-p
 2S-enter-INCH-INDEP
 ‘you enter’

b) mtëkët
 m-tëk-ë-t
 2S-enter-INCH-IRR;DEP
 ‘you enter(irrealis)’

However, in the first person there are some differences. As stated, inversion is never marked in the first person (see §8.4.1), at least insofar as the inverse morpheme goes (117a). In contrast, the inchoative is required for all persons, including the first person (117b).

117. a) Xkoxp mejts.

x-kox-p mejts
 1O[INV]-punch-DEP 2SG
 ‘You punch me.’ (Ec1p29)

b) Amëjkëp ëjts.

amëjk-ë-p ëjts
 [1S]nightmare-INCH-INDEP 1SG
 ‘I am having nightmares.’

There is an additional difference in the neutral dependent. As explained in the previous section (§8.4.1), there is no inverse morpheme in the dependent singular AM, and thus only the neutral dependent suffix appears after the base in (118a). In contrast, when the verb has an inchoative conjugation, both the inchoative and the dependent morphemes disappear (118b) for the neutral dependent form.

118. a) Të yë uk mtsu’utsy.

të yë’ë uk m-tsu’uts-y
 BEFORE.NOW DEM.M dog 2O-bite-DEP
 ‘The dog bites you.’

b) Ësa yuk jajp kyu’ex...

jëts y-uk jajp y-ku-ex
 and 3POSS-dog DEIC.D 3S-INTO-see[INCH.DEP]
 ‘And a dog saw in there...’ (FrogMJ-146)

On the other hand, the dependent plural inverse is the only conjugation where the inverse shows up with the dependent and the only conjugation where the dependent appears in the plural. As a result, in (119a) all three morphemes are present. In contrast, when the verb is conjugated with the inchoative, the dependent morpheme does not appear in the plural (119a).

119. a) Ka't yě'ě mixyět.
 ka't yě'ě m-ex-y-ě-t
 NEG DEM.M 2O-see-DEP-INV-PL
 'They don't see you.'
- b) Ka't mtsě'ěkēt.
 ka't m-atsě'ěk-ě-t
 NEG 2S-scare-INCH-PL;DEP
 'You (pl.) don't get scared.'

In addition, the inchoative and the inverse morphemes appear in different positions in the verb. This difference is usually irrelevant, since both morphemes appear before the plural and the AM suffixes. It emerges, though, in two cases of core serialization: with the desiderative and with one aspectual root.

The inverse appears after the desiderative, as in (120a). In contrast, the inchoative is placed before the desiderative, as shown (120b); the reverse ordering, analogous to the inverse, is ungrammatical in (120c).

120. a) Pedro m'exäjñě'p.
 Pedro m-ex-ä'än-ě-p
 Pedro 2O-see-DES-INV-INDEP
 'Pedro will see you.'
- b) Mejts mtėkiyämp tėketyy.
 mejts m-tėk-ě-ä'än-p
 2SING 2S-enter-INCH-DES-INDEP
 'You will enter the house.'
- c) *Mejts mtėkäjñě'p tėketyy.
 mejts m-tėk-ä'än-ě'-p
 2SING 2S-enter-DES-INCH-INDEP
 Intended: 'You will enter the house.'

In fact, in some cases it is even possible to see both morphemes in different positions:

121. Pedro mnastej*iy*äjnöp.

Pedro m-nas-tej-*ë*'-ä'an-*ë*'-p
 Pedro 2o-HORZ-knead-INCH-DES-INV-INDEP
 'Pedro will push you away.'

A similar situation occurs with the serialized verb *këx* 'to finish', which is used to mark telicity. Thus, the inchoative appears before the serialized verb in (122a). On the other hand, the inverse does not appear before it (122b).

122. a) Të yë' tyëjkikyëxt.

tëë yë'ë y-tëk-*ë*-këx-t
 BEFORE.NOW DEM.M 3S-enter-INCH-finish-PL;DEP
 'All of them entered.' (Lit: 'They finished entering.')

b) Të yë' mkoxxixy.

tëë yë'ë m-kox-këx-y.
 BEFORE.NOW DEM.M 2O[INV]-punch-finish-DEP
 'He stopped punching you.'

In fact, in (122b) the inverse suffix should be between the serialized verb and the AM suffix, but as in any other case with the dependent, there is no inverse morpheme in this context.

Despite all these differences, I argue that the inverse and the inchoative are in a process of being conflated. Even though the linguist can tell them apart, the differences emerge only in a few places.

In addition, there are some intransitive verbs that seem to be marked for inversion.²² I will come back to this point in the next chapter because its full discussion has to be part of the discussion on inversion (§9.5.5), but for the time being, suffice it to say that in AyMi the morpheme can be interpreted either as inchoative or inverse. On the one hand, some verbs that have inverse in Olutec (according to Zavala 2002c), can have an inchoative conjugation in AyMi. For example, in (123), the verb *jënxëëk* 'to disgust/get

²² A similar phenomenon has been extensively described by Zavala for Olutec (2000, 2002c).

disgusted' can have an inchoative conjugation (123a) or a non-inchoative one (123a) without a change in meaning.

123. a) t-jën xëëk
 3A-get.disgusted[INCH.DEP]
 'he got disgusted by it'
- b) t-jën xëëk-y
 3A- get.disgusted-DEP
 'he got disgusted by it'

8.6 Interlude: Some morphological interactions

In the previous sections there have been cases in which the high central vowel interacts with a palatal glide. There are five morphemes involved here: the inchoative *-ë*, the plural *-të*, the perfect *-në*, the neutral independent transitive *-yp*, and the neutral dependent *-y*. There are five contexts in which these morphemes interact, resulting in the deletion of some sounds: in (124) the inchoative and the neuter dependent cancel each other, in (125) the vowels from the plural and the dependent cancel each other, in (126) the vowels in the perfect and the neuter dependent are deleted, in (127) the vowel from the plural cancels the palatal from the independent transitive morpheme, and something similar happens in (128), but with the inchoative suffix.

124. a) $-ë + -y \rightarrow \emptyset$
 INCH + DEP
- b) xyun
 y-xun
 3S-sour[INCH.DEP]
 'it becomes sour'
125. a) $-të + -y \rightarrow -t$
 PL + DEP
- b) n'ex t
 n-ex-t
 1A-see-PL;DEP
 'I saw them'

126. a) -në + -y → -n
PERF + DEP

b) tkäjpxn
t-käjpx-n
3A-speak-PERF;DEP
'he has read (it)' (TAMA-A-130)

127. a) -të + -yp → -tëp
PL+INDEP;TR

b) n'extëp
n-ex-të-yp
1A-see-PL-INDEP;TR
'I saw them'

128. a) -ë + -yp → -ëp
INCH + INDEP;TR

b) tta-pootëp
t-ta-poot-ë-yp
3A-APPL-cut-INDEP;TR
'he cut it down'

This is not an automatic phonological process, but the question arises as to whether it is possible to make a generalization, instead of five different cases. The first generalization to make is that there are actually two different cases: in all those cases in which the perfect interacts with the high central vowel both of them cancel each other; but in the cases in which the palatal from the independent transitive interacts with the vowel, only the palatal is deleted.

Then, the second problem is how to treat these interactions. In the case of the independent transitive, this is not much of a problem, because both morphemes remain, albeit with some modifications. The case involving the neuter dependent is more complicated. One view is to assume a simple interaction between morphemes, an interaction that produces silent (or null) phonological forms but that maintains both morphemes at a more abstract level. Thus, the underlying representation in (124b) would

still have both suffixes. An alternative view is that this rule operated at a historical level and that the generalizations presented in (124)-(126) are just that, generalizations, and not active morphological rules. This is the view adopted here and thus in those three cases there is either no morphological material and its absence is what conveys the meaning, as in (124), or there is a portmanteau morpheme, as in examples (125)-(126). In this view, different realizations correspond to different grammatical meanings, independently of whether we can identify a specific sequence of phonemes that correspond to a given grammatical meaning.

8.7 Valence changing morphology

In this section I will present the valence changing morphology and its interaction with other morphemes, but I will not really discuss the changes in valence. This will be dealt with in next chapter (§9.6). Here, I will discuss three cases: causative morphemes (§8.7.1), the reflexive (§8.7.2) and the benefactive applicative apophony (§8.7.3). There are other morphemes that produce, as a byproduct, changes in the morphology. I will discuss them later (§8.9).

8.7.1 Causative

There are two causative prefixes in Ayutla Mixe, *ak-* (129) and *tuk-* (130).

129. a) Pëte'na' nëju'nk takpësimy.

Pues=te'n=ja'a nëj-u'nk t-ak-pëtsëm-y
 DISC=M.DEM=DEM.D water-DIM 3A-CAUS-exit-DEP
 'Then he made the water spring.' (Sfj1L-537)

b) Ësa' kuläk taknëjkxt.

jëts=ja'a kuläk t-ak-nëjkx-t
 and=DEM.D turkey 3A-CAUS-go-PL;DEP
 'And he brought the turkeys.' (Efa1H-427)

130. a) Jëts yää jatëkojk tyixytyëjk ttuktooky yää.
 jëts yää jatukojk y-tixytyëjk t-tuk-took-y yää
 and DEIC.P once 3POSS-woman 3A-CAUS-sell-DEP DEIC.p
 ‘And his wife make him sell it.’ (NLAH-155)

b) Ok ʔti yë' burr mtukjë'kxtëp?
 ok tii yë'ë burro m-tuk-jë'kx-të-yp
 or what DEM.M donkey 2A-CAUS-eat-PL-DEP;TR
 ‘Or, what do you feed the donkey with?’

In general, *ak-* is used mainly with intransitive verb bases and *tuk-* mainly with verbal bases that are already transitive (although *ak-* can be also used with transitive verbs in some circumstances discussed in the next chapter; see §9.6.2). If it is necessary to add an agent to a verb that already has a causative prefix, then *tuk-* appears before *ak-*, as shown in (131).

131. Carlos xtukakawä'ätsy tëkää
 Carlos x-tuk-ak-a+wä'äts-y tëjk-ää
 Carlos 1O-CAUS-CAUS-be.open-DEP house-mouth
 ‘Carlos made me open the door.’

There are other means to increase the valence in the verb, mainly by a set of derivational prefixes that in many cases act as valence-changing morphemes, i.e. as causatives or as applicatives. From these morphemes, the one that seems to be a better candidate for being another causative is *a-* (132).

132. Carlos ya'okxëp yë' nëj.
 Carlos y-a-jokx-ë-p yë' nëj
 Carlos 3A-DER-be.warm-INCH-INDEP DEM.M water
 ‘Carlos heats the water up.’

The causative prefix *ak-* is also used in passive constructions.²³ As one can see in (133), in these cases the causative does not add another participant, as (133b) does not mean that someone made some other person look for a cross in the town of Zacatepec. Rather, there is an unmentioned participant who found it.

²³ The other causative, *tuk-*, is not used in passives.

133. a) Yakixy.

y-ak-ex-y

3S-CAUS-see-DEP

‘They saw him.’ (Efa1-1768)

b) Puxtaapy ojts jap yakpäät-y.

Puxtaapy ojts jajp y-ak-päät-y

Zacatepec PAST DEIC.D 3S-CAUS-find-DEP

‘They found it (the cross) in Zacatepec (another Mixe town)’ (Sfj1L-28)

This will be discussed in more detail in the following chapter (§9.6.3).²⁴

8.7.2 Reflexive

Reflexivity is expressed in Ayutla Mixe by the prefix *nay-*, as shown in (134). As the example shows, the reflexive requires the use of the inverse suffix *-ë*.

134. Yë’ë nayexëp mä yë’ extë’n.

yë’ë nay-ex-ë-p

mää

yë’ë

ex+t=ë’n

DEM.M [3S]REFL-see-INV-INDEP where DEM.M mirror=ADJ

‘He is looking at himself in the mirror.’

The complete conjugation of a verb with the reflexive in the neutral independent AM is presented in Table 15.

Person & Number	Mixe	English Translation
1 st singular	nay-ex-ë-p	I see myself
2 nd singular	m-nay-ex-ë-p	You see yourself
3 rd singular	nay-ex-ë-p	S/He sees her/himself
1 st plural	nay-ex-ë-të-p	We see ourselves
2 nd plural	m-nay-ex-ë-të-p	You see yourselves
3 rd plural	nay-ex-ë-të-p	They see themselves

Table 15. Reflexive conjugation in independent order.

As one can see, the reflexive takes the same person markers as an intransitive verb. This might not be entirely clear for the second or third person, because the person markers for S in an intransitive verb are the same as O in a transitive verb with inverse alignment. However, this is evident with the first person, because the markers are different. If the

²⁴ The same phenomenon is observed in other Mixe languages, as described by Zavala (2000, 2002).

person markers were those for O, then we would expect *x-* and not the absence of a person marker in Table 15 or *n-* for the dependent form in (135).

135. Tēs nnatsyiky.

tēë=ējts	n-nay-tsuk-y
before.now=1SG	1S-REFL-cut-DEP
'I cut myself.'	

Thus, on the one hand, the verb has inverse morphology (i.e. the inverse morpheme appears), but on the other hand the person markers are not those we would expect with inverse forms, but rather are those of an intransitive verb. Given this split, it is not possible to say that a reflexive relationship is treated entirely as an inverse alignment in AyMi.

There is another important difference between a regular inverse alignment and the reflexive. Notice that the inverse morpheme appears even in the first person with reflexive forms, as in (135), while it did not usually appear in an inverse clause, as in (136).

136. Mejts x'exp.

mejts	x-ex-p
2SG	1O[INV]-see-INDEP
'You see me.'	

In the neutral dependent AM, there is no inverse morpheme, just like in the regular use of the inverse system (137).

137. María tē nyatsyiky.

María	tēë	y-nay-tsuk-y
Mary	before.now	3S-REFL-cut-DEP
'María cut herself.'		

The reflexive marker can also be used with other types of verbs that are not necessarily transitive, such as grooming verbs, change of posture or change of state verbs, as in (138a). Particularly in this last case, the reflexive often appears in combination with

the causative (138b). All of these cases could be considered by many accounts as middles (see §9.6.5).

138. a) Juunta nyakyo'oky.

Juun=ta y-nay-ko'ok-y
when=DUB.EV 3S-REFL-lie-DEP
'Who knows what time s/he goes to bed.'

b) (With respect to a shaman:)

Ojts jēte'n jatukojk nyakyēmpity.
ojts jēte'n jatukojk y-nay-ak-jēmpet-y
PAST M.DEM again 3S-REFL-CAUS-return-DEP
'He transformed himself.' (Lit: 'He made himself get reversed again (to the same stete).') NL1-524.

As one can see in (138b), in structural terms, the reflexive appears just before the causative morpheme.

8.7.2.1 *Reflexive as reciprocal*

There is no independent morpheme for expressing reciprocity in Ayutla Mixe; rather, the reflexive marker is used for this purpose (139).

139. a) Ja tixytyējk mēēt nyakyajpxy.

ja'a tixytyējk mēēt y-nay-kājpx-y
DEM.M woman ASSOC 3S-REFL-speak-DEP
'They talked to each other with the woman.' (NL1-59)

b) Ja kē'm yē' nyakyookyēt.

jaa kē'm yē'e y-nay-ak-ook-y-ē-t
DEIC.D same DEM.M 3S-REFL-CAUS-die-DEP-INV-PL
'They themselves killed each other.'

Reflexivity is discussed in more detail in the following chapter (§9.6.6).

8.7.3 Benefactive applicative apophony

The last mechanism specialized in changing the valence in the verb is the applicative apophony.²⁵ More specifically, its function is to add a core participant as object, which otherwise is not included in the argument structure of the verb.²⁶

The applicative apophony is shown in the pairs of examples in (140) and (141), where the (a) examples provide the verb without the apophony, and the (b) examples the verb with the benefactive applicative apophony.

140. a) Të Beto tni'ipy xëjk.

tëë Beto t-ne'ep-y xëjk
BEFORE.NOW Beto 3A-sow-DEP beans
'Beto sowed beans.'

b) Të Beto tsyë'ë xëjk tneejp.

tëë Beto y-tsë'ë xëjk t-neejp
BEFORE.NOW Beto 3POSS-older.sister beans 3A-plant\BEN[INCH.DEP]
'Beto sowed beans for his sister.'

141. a) Të Silvia wet tkutiy.

tëë Silvia wet t-ku+tiy-y
before.now Silvia cloth 3A-hang-DEP
'Silvia hung the cloths.'

b) Të Silvia María wyet tkutëjy.

tëë Silvia María y-wet t-ku+tëjy
BEFORE.NOW Silvia María 3-POSS 3A-hang\BEN[INCH.DEP]
'Silvia hung the cloths for María.'

In (140a), the verb *tni'ipy* 's/he sows it' has a rearticulated vowel in the neutral dependent AM, and the sentence only has two core arguments. In contrast, in (140b) the verb appears as *tneejp* with a long aspirated vowel, and now the sentence has three core arguments. Similarly, in (141a), the verb *tkutiy* 's/he hangs it' has a short vowel and the

²⁵ As a reminder, the apophony is a change in the type of syllabic nucleus in the last syllable of the verb stem. See §8.3.9 for the apophony caused by the AM suffixes.

²⁶ As far as I can tell, having a benefactive applicative is a generalized phenomenon for other Mixe-Zoque languages (Wichmann 1995a, Zavala 2000, Johnson 2000). What is new in the description of the Mixe-Zoque family is that the benefactive is not encoded by a suffix, as happens in other languages, but rather with a change in the verb stem.

sentence only has two core arguments, but in (141b) the verb appears as *tkutëjy*, and now the sentence has three core arguments. In both (140b) and (141b), the added argument is a beneficiary (which is also an object; see §9.2). There are more syntactic considerations one can make regarding this phenomenon, but they will be dealt with in the next chapter (§9.6.9). Here, I will restrict the discussion to the morphological properties of the apophony.

To evaluate the change with more detail the apophony that the verb stem undergoes, let us compare the conjugation of *ne'ep* 'to sow/to plant' without the applicative benefactive, in (142), and with it, in (143).

142. Without the applicative apophony: *ne'ep* 'to plant'

Neuter independent (Stem B): *nyi'ppy*
 Neuter dependent (Stem A): *tni'ipy*
 Irrealis dependent (Stem A): *tne'ept*

143. With the applicative apophony: *neejp* 'to plant for someone'

Neuter independent (Stem C): *nyeejpëp*
 Neuter dependent (Stem C): *tneejp*
 Irrealis dependent (Stem C): *tneejpët*

In (142), the verb exhibits the expected changes for a verb with a CV'VC stem, i.e. the use of the Stem B in the neuter independent. However, in (143) the verb stem has an aspirated long vowel in the syllabic nucleus, and in all these cases the verb is conjugated with Stem C. Furthermore, in order to conjugate the verb with the applicative apophony, it is necessary to use the inchoative conjugation, as shown in (144). As in any other case with the inchoative, this means that the suffix is present when the verb is conjugated in the neutral independent (144a) and in the irrealis (144c), but there is no overt AM morphology when the verb is conjugated in the neutral dependent (144b).

144. a) Yë nan nu'unk xtsa'anëp.

yë'ë nan n-u'unk x-tsa'an-ë-p
 DEM.M lady 1POSS-child 1O[INV]-hold.in.arms\BEN-INCH-INDEP
 'The lady held my child in arms.'

b) Ojts Carlos xëjk tjëjy Miguel.

ojts Carlos xëjk t-jëy Miguel
 PAST Carlos bean 3A-buy\BEN[INCH.DEP] Miguel
 'Carlos bought beans from/for Miguel.'

c) Èjts ntsejkypy ku Carlos xëjk tjëjyët Miguel.

èjts n-tsok-yp kuu Carlos xëjk t-jëy-ë-t Miguel
 1SG 1A-want-INDEP;TR Cmplz Carlos beans 3A-buy\BEN-INCH-IRR;DEP Miguel
 'I want Carlos to buy beans from/for Miguel.'

It is worth pointing out that in many cases, the change that the verb stem undergoes with the applicative is exactly the same that the verb undergoes in the completive conjugation, which is also marked only by apophony and not by a suffix. In (145), the verb stem for *ne'ep* 'to plant' has exactly the same form for the completive and for the applicative.

145. Completive: neejp
 Applicative: neejp

As in the completive, the applicative benefactive was historically marked by a suffix (most probably *-jay* or a similar form, as in other Mixe-Zoque languages (Johnson 2000, Zavala 2000)). I believe that, also as in the case of the completive, the suffix triggered a change in the verb stem, a morphologically conditioned variation, but at some point in the history of the language the suffix was lost, and the only formal device that remained was the change in the stem.

8.8 Spatial verbal morphology

8.8.1 Motion-cum-purpose

As explained in the introductory section of this chapter (§8.1), there is a verbal slot for the prefix *ēs-*, which expresses motion with purpose, i.e the movement of someone with the purpose of doing whatever is expressed by the rest of the verb stem. The prefix is glossed here as ‘MCP’ (from *motion-cum-purpose*). This morpheme is the leftmost verbal prefix in the verbal stem. Only person markers and “incorporated adverbials” (§8.10.1) are outside the motion-cum-purpose prefix. This prefix is exemplified in (146).

146. a) Ey, nēspētēkēt...

ey n-ēs-pētēk-ē-t
good 1A-MCP-help-INCH-IRR;DEP
‘OK, I will go to help him...’ (NL1-314)

b) Tu'ukojk majtskojk jēte'na jatsyu'u t'ēstujt.

tu'uk+ojk majts+ojk jēte'n=ja'a jatsyu'u t-ēs-tuj-t
once twice M.DEM=DEM.D deer 3A-MCP-shoot-PL;DEP
‘Once or twice they went to hunt deer.’ (Aur2-614)

This prefix encodes a motion event, independent of the event coded by the main verbal root. In other words, (146a) does not mean that the speaker went helping the other person all the way to their destination, but rather that he went somewhere in order to help him. Similarly, in (146b) they went somewhere first and then hunted deer.

This prefix is not deictic, as it indicates motion, not necessarily away from the speaker, and therefore it can be used in a trajectory that does not involve the speaker as the point of origin. This is shown in the example below. The road between these two communities is independent of the road that goes to Ayutla.

147. Context: Carlos traveled from Tepantlali (another Mixe community):

Tē Carlos t'ēstooky kutypy Jejkyēpājk.
tēē Carlos t-ēs-took-y Kutypy Jejkyēpājk
BEFORE.NOW Carlos 3A-MCP-sell-DEP avocado Cacalotepec
‘Carlos went to sell avocados to Cacalotepec (also another Mixe community).’

However, it cannot be used when the trajectory is towards the speaker. The example in (148) cannot be appropriately used in Ayutla if the speaker is there. On the contrary, it presupposes that the speaker is not in the goal of the trajectory. I am not sure whether this is part of the meaning of the prefix, or rather it is just an implicature, i.e. it is understood that if one wants to use this prefix, then the movement cannot be towards the speaker.²⁷

148. Të Carlos yëskey Tikyo'm.
 tëë Carlos y-ës-koo-y Tikyo'm
 BEFORE.NOW Carlos 3S-MCP-play.guitar-DEP Ayutla
 'Carlos went to Ayutla to play (guitar).'

It is possible to add the motion-cum-purpose prefix to any verbal stem. As the examples show, the verbal stem needs not express motion by itself. Finally, as far as I have seen, this morpheme has not developed other meanings, such as, obligation or purpose.

8.8.2 Directional prefixes

Ayutla Mixe has a set of three directional prefixes that indicate the orientation of the motion with respect to a horizontal plane, *kas-* 'downwards' in (149a), *yuk-* 'upwards' in (149b), and *nas-* 'horizontally' in (149c).

149. a) *kas-* 'downwards'.
 Ojts yë' joon kyaske'eky.
 ojts yë'ë joon y-**kas**-ka'ak-y
 PAST DEM.M bird 3-DOWN-flee-DEP
 'The bird flew down.'

b) *yuk-* 'upwards'.
 Ojts yë joon yukke'eky.
 ojts yë'ë joon y-**yuk**-ka'ak-y
 PAST DEM.M bird 3-UP-flee-DEP
 'The bird flew up.'

²⁷ If this is an implicature, I was not able to think of an appropriate context that could cancel it.

c) nas- ‘horizontally’

Ojts yë joon nyaskaak.

ojts yë’ë joon y-nas-ka’ak-y
 PAST DEM.M bird 3-HORZ-flee-DEP

‘The bird flew (horizontally).’

In contrast with the motion-cum-purpose prefix *ës-*, these three directionals indicate the trajectory of the one of the core participants, usually S or A, with respect to the horizontal plane. The type of motion, on the other hand, is expressed by the verb. If expressing a trajectory is not compatible with the semantics of the verb, then adding one of these directionals is ungrammatical, as in (150).

150. *Tës nyuktooky kutypy.

tëë=ëjts n-yuk-took-y kutypy
 before.now=1SG 1A-up-sell-DEP avocado

Intended: ‘I went up (somewhere uphill) to sell avocados.’

The example (150) is not correct because the root *took* ‘to sell’ does not encode motion by itself. However, directionals are compatible with verbs whose meanings could involve any kind of motion, even fictive motion (Talmy 2000) such as *uuk* ‘to drink’ in (151a) or *ex* ‘to see’ in (151b).

151. a) Nasuuk mejts yë nēj.

nas-uuk mejts yë’ nēj
 HORZ-drink 2SG DEM.M water

‘Drink the water.’

b) Pedro të kyasixy.

Pedro tëë y-kas-ex-y
 Pedro BEFORE.NOW 3S-UP-see-DEP

‘Pedro looked down.’

Notice that in the (151a), it is the O *nēj* ‘water’ that is the entity that describes the trajectory, not the A. On the other hand, in (151b) it is the sight, a semantic element contained in *ex* ‘to see’, what describes a downwards trajectory, not the S.

Also in contrast to the motion-cum-purpose prefix, directionals do not show deictic restrictions. In other words, they can be used to encode a movement either towards the

speaker or away from the speaker. In some cases, however, they seem to have a deictic meaning, where the speaker is the origo, but it is due to implicatures, which are easily cancelable. For example, in (152a) the default interpretation is that the request is to move towards the speaker; however, when a non-proximal deictic is added in (152b), the implicatures do not go through.

152. a) Nas-wä'äk!
 HORZ-step
 'Move (here)!'

b) Nas-wä'äk xem.
 HORZ-step DEIC.M
 'Move there.'

Another semantic restriction with these directionals is that they are usually combined with verbs that indicate manner in a motion event, as in (153).

153. a) ...kuu ojts kyaspity.
 kuu ojts y-kas-put-y
 when PAST 3S-DOWN-run-DEP
 '...when (the dog) jumped down.' (FrogG-243)

b) Jatëkojk wenktsöamy tē ja'y nyastem.
 jatukojk weenk-tsoo-amy tēē ja'y y-nas-tem
 another.time different-DIR-LOC BEFORE.NOW just 3S-HORZ-roll[INCH.DEP]
 'And then it (the ball) rolled towards the other side.'

However, directionals cannot be combined with verbs of change of location such as *men* 'to come', *nějks* 'to go', *tsoon* 'to go away', or *näx* 'to pass', among other verbs, as shown by the ungrammaticality of (154). In contrast, directionals are compatible with the motion-cum-purpose prefix, as shown in (155).

154. a) *Pedro tē kyasminy.
 Pedro tē y-kas-men-y
 Pedro BEFORE.NOW 3S-DOWN-come-DEP
 Intended: 'Pedro came down.'

b) *Pedro të nyanijky.

Pedro të y-kas-nějky-y
 Pedro BEFORE.NOW 3S-DOWN-go-DEP
 Intended: ‘Pedro went (horizontally).’

155. Të Juan tëskaskapy yë’ puxa’ap.

të Juan t-ës-kas-käp-y yë’ë pux+ja’ap
 before.now Juan 3A-MCP-down-carry-DEP DEM.M shovel
 ‘Juan went to unload shovels.’

8.8.3 Part morphemes in the verb

There are two other components of the verbal morphology for expressing spatial relations: locative prefixes and parts. These morphemes are used for deriving new verb stems; some of them change the verb valency and some of them require an inchoative conjugation. These morphemes are highly similar in that both express a locative meaning but have some different characteristics. For this reason, I will present part morphemes in this section and locative prefixes in the following one.

Part morphemes have been discussed already in the previous two chapters (§6.16 and §7.5). As stated in those chapters, this special class of roots is used in locative phrases and in the verbal morphology. Their use outside the verb was already treated there and here the discussion will be restricted to their role in the verbal morphology.

Only as a reminder, part morphemes are historically (but not synchronically) related with body part referring nouns and in this respect they have common aspects with relational nouns in other Mesoamerican languages. More precisely, they are to some degree similar to what Levy (1992, 1996, 1999) calls “parts” in Papantla Totonac, in the sense that in both families they appear productively in the verbal morphology.²⁸

²⁸ Other languages from the same family have a similar characteristic; see for example Smythe Kung (2007).

The part morphemes that appear in the verbal morphology in Ayutla Mixe are listed in (156).

156. a) *këx-* ‘surface’
 b) *a-* ‘inside’
 c) *ëx-* ‘backwards’
 d) *pa-* ‘next’
 e) *pat-* ‘below’
 f) *pu-* ‘next to’
 g) *jën-* ‘in front, on’
 h) *jëp-* ‘tip’
 i) *ku-* ‘apex’

Notice that not all of the parts that appear in locative phrases can also appear in the verb (compare (156) with the list in §6.16). Thus, *-ojts* ‘inside’ cannot appear as a part morpheme in the verb. The semantics of *-ojts* in a locative phrase is covered by *a-* ‘inside’ in the verb. Also, the part morpheme *këpäjk* ‘tip, inside’, obviously related to *këpäjk* ‘head’, appears only in locative phrases; instead, the part morpheme *ku-* ‘tip’ appears in the verb (which, in turn, is a component of *kë+päjk*, which historically was literally ‘bonehead’). Conversely, *ku-* does not appear in locative phrases. As expressed in chapter seven, both *-ojts* and *-këpäjk* appear, additionally, in a different type of locative phrase, in comparison with the other part morphemes (see §7.5.1).

As will be discussed below, part morphemes are rather polysemous. In some cases they have meanings that are more related to their historical origin while in other cases they have a rather abstract meaning. Historically, we can conjecture that part morphemes might have been incorporated nouns, but now they are a derivational mechanism in the verb. Accordingly, in some cases they produce a new verb whose meaning is not necessarily transparent from the combination of the verbal root and the part morpheme.²⁹

In addition, part morphemes have a rather grammatical, and not lexical, status. For this

²⁹ In contrast, the meaning of incorporated nouns tends to be transparent.

reason I will not consider them as being incorporated into the verb, but rather as being prefixes.

Related to this, there is another reason for not considering part morphemes as incorporated lexemes, since they are not free morphemes and therefore cannot appear outside the verb. In contrast, when noun incorporation does occur, the same noun can appear outside the verb (cf. §8.10).³⁰ Even though noun incorporation is not fully discussed here, note that part morphemes go into a different slot than incorporated nouns. Thus, in (157), the noun *tu'uts* 'pot' is incorporated into the verb, but it could be an independent noun phrase. Next to it, and in a different position in the verbal morphology, is the part morpheme *këx* 'SURFACE'.³¹

157. Ka't tyu'utskëxwity meskëxp.
 ka't y-tu'uts-këx-wets-y mes-këx-p
 NEG 3S-pot-SURFACE-put-DEP table-SURFACE-LOC
 'S/he did not put the pot on the table.'

In the following subsections, I will discuss each of the part morphemes. For each case, I will present a list of examples, which reflects the different meanings a part morpheme can have, but it is not intended to be exhaustive.

8.8.3.1 *a-* 'inside'

In general, this part morpheme has a rather abstract meaning, indicating the trajectory of the action. Historically, it is related to the noun *ää* 'mouth'. There are a few examples of derived verbs in (158).

³⁰ Even though this might not be a criterion against incorporation in other languages in which it is rather uncommon to find noun phrases, in AyMi in noun incorporation the noun can always appear outside the verb as part of a noun phrase.

³¹ It is very likely that AyMi has gone further than other Mixe-Zoque languages in the use of part morphemes as grammatical devices. If we compare Ayutla Mixe with Olutec (Zavala 2000), the equivalent of parts in Olutec (which Zavala calls body-part prefixes) are in the same slot as incorporated nouns. Another difference is that, according to Zavala, body-part prefixes in Olutec very often make reference to the shape of agents, themes and locations. I believe that, in general, in AyMi part morphemes have a more abstract meaning; only in a rather small portion of cases does one find traces of the historical meaning.

158. Examples of verbs with <i>a-</i> ‘in’		
akäp	‘to put sticks in’	(< kâp ‘to carry sticks’)
ako’o	‘to pour (grains) in’	(< ko’o ‘to scatter grains’)
anuuk	‘to carry in’	(< nuuk ‘to carry with hand’)
apee	‘to put grains in’	(< pee ‘to select’)
apep	‘to throw in’	(< *(ë)pep ‘to throw’)
apet	‘to roll something in’	(< pet ‘to roll’)
apëk	‘to put in’	(< pëk ‘to take’)
atam	‘to pour (liquid) in’	(< tam ‘to pour’)
atem	‘to roll into’	(< tam ‘to roll’)
akë’ëy	‘to cover with something flat’	(< kë’ëy ‘to carry extended objects’)
amäts	‘to cover an opening with hands’	(< mäts ‘to carry with hands’)
axots	‘to tie an opening’	(< xots ‘to tie’)

Here there are some examples:

159. a) Nēetypy jētē yatemēt.

něj-ojt-py	jētē	y-a-tem-ë-t
water-INSIDE-LOC	BEFORE.NOW	3S-IN-roll-INCH-PL;DEP

‘They rolled into the water.’ (FrogMJ-381)

b) Ojts te’n t’atanēt.

ojts	te’n	t-a-tan-ë-t
PAST	M.DEM	3A-IN-stand-INCH-PL;DEP

‘They ambushed him (lit. made him stand in)’ (Aur2-732)

c) Èts nama’ëps nate’n eyjunety.

jëjts	n-a-ma’a-ë-yp=ëjts	nate’n	ey+jun+ety
and	1A-IN-grind-INCH-INDEP;TR=1SG	also	sometimes

‘And sometimes I also ground (the corn).’ (A&E-305)

In the previous examples, the part morpheme *a-* ‘inside’ expresses the notion that a theme moves to the interior of an enclosed space. For example, in (159a) the S ends up inside the water, in (159b) the O is cornered, and in (159c) the O (the corn) is pressed between the hand-grinder’s stones that were traditionally used. Thus, the theme can be either the S of an intransitive verb or the O of a transitive verb.

Also with respect to the previous examples, notice that when the goal is expressed by a locative phrase, as in (159a). Like any locative phrase, it is composed by a part morpheme (*ojt-* ‘inside’ in that case) and a locative suffix. In the other examples (159b-

c), the goal is understood in the context, but if it were to appear explicitly, it would have to be expressed by a locative phrase. This means that *a-* does not change the number of participants that the verb requires. However, notice that in some cases it specifies directionality, as in *këp* ‘to take/move’ > *akëp* ‘to put in’ (and not ‘to take out from inside’). There are some cases in which the part forms a compound that has been lexicalized, e.g., the verb *amuk* ‘to shut up’ (composed by *muk* ‘together’).

From the list in (158), in most cases the part morpheme *a-* introduces the meaning that the theme move to an enclosed space, which is suggested in the glosses by the use of “in”. For example, *ko’o* only means ‘to pour grains’, without restrictions with respect to the goal; but *ako’o* means ‘to pour grains into a container’. Only in a few cases does *a-* introduce a meaning relative to an opening (or a rim), as in the case of *axots* ‘to tie an opening’ (in the case of a sack, for example), which is derived from *xots* ‘to tie’. This is interesting because when the part morpheme *a-* is used in locative phrases (see §6.5.1), it makes reference to the edge, as in the locative term *-aki’py* ‘at the edge’. One can hypothesize that at some point in the history of the language it would refer to the opening and to the edges of that opening (producing an ambiguity similar to *door* in English). Now, *a-* refers not to the opening, but rather to the crossing of the opening.³²

8.8.3.2 *jën-* ‘on, in front’

This part morpheme is historically related to the nouns *ween* ‘eye’ and *jënpäjk* ‘forehead’ (etymologically from **win* ‘eye’ and **pak* ‘bone’). A list exemplifying some verbs with *jën-* is offered in (160) and two examples in (161).

³² In other Mixe languages, the cognates (*?aw-* in Olutec (Zavala 2000) and *a-* in Coatlán Mixe (Hoogshagen & Bartholomew 1993)) seem to have a more restricted meaning, more related to their etymology.

160. Examples of verbs with *jën-*

jënnäx	‘to pass in front of’	(< näx ‘to pass’)
jëntan	‘to stand in front of’	(< tan ‘to stand’)
jënwaats	‘to sit next to’	(< waats ‘to crawl’)
jënkäjp̄x	‘to criticize’	(< käjp̄x ‘to speak’)
jën'ex	‘to look at’	(< ex ‘see’)
jënwä'äts	‘to be clean (a surface)’	(< wä'äts ‘to be clear’)
jënxajkx	‘to knock on a surface’	(< xajkx ‘to knock’)
jënwets	‘to cover a surface’	(< wets ‘to carry’)
jëntsë'ëk	‘to respect’	(< tsë'ëk ‘to get scared’)
jënäw	‘to get used, to like’	(< jäw ‘to feel’)
jëntey	‘to envy’	(< tey ‘to burn’)
jëntëkey	‘to get weakened by a disease’	(< tëkey ‘to loose’)

161. a) Pedro të yë tät tjënnaxy.

Pedro	tëë	yë'ë	tät	t-jën-näx-y
Pedro	BEFORE.NOW	DEM.M	man	3A-FRONT-pass-DEP
‘Pedro passed (in front of) the man.’				

b) Tëë jyënwä'tskëxna' näxwëny.

tëë	y-jën-wä'äts-këx-n=ja'a	näxwëny
BEFORE.NOW	3S-ON-clear-finish-PERF;DEP=DEM.D	ground
‘All the ground was cleared (i.e. a surface was cleared),’ (Vir-1176)		

As the examples show, *jën-* has three basic meanings. The first one is related to something occurring in front of the ground (which is either understood deictically or expressed by a locative phrase), as in (161a). In the second meaning, the eventuality is performed on a surface, as in (161b).³³

Probably derived from ‘in front’, in some cases, the part adds the meaning ‘with respect to’, as in *jënkäjp̄x* ‘to criticize’. Perhaps the same can be said with respect to *jëntsë'ëk* ‘to respect’, which might have meant something like ‘to get scared with respect to’.

³³ As far as I can tell, in Olutec (*win-*; Zavala 2000) and Coatlán Mixe (*huin-*; Hoogshagen & Bartholomew 1993) the cognate prefix also has similar meanings: one having to do with a surface and another one having to do with crossing (in front).

There is a third meaning to which the part morpheme contributes, and it is perhaps metaphorically related to forehead or mind. This would be the case for *jëntey* ‘to envy’ or *jënaw* ‘to get use, to like’.³⁴ But this is just speculation.

8.8.3.3 *ëx-* and *jë-* ‘backwards, for nothing’

These parts have the general meaning of back or backwards. When used in a locative construction, *ëx-* means either ‘back’ or ‘base’, while *jë-* does not occur in that context. However, as stated in a previous chapter (§6.16), I think they share the same origin. They are diachronically related to several nouns referring to the back of the human body such as *jëxk* ‘animal’s back’, *jëpäjk* ‘human back’, *ëxk* ‘hip’, and *ëxmä* ‘ätsy’ ‘buttocks’. When *ëx-* is used as part of the verb, its general meaning is that the movement was backwards, as shown in (162).

162. a) ...ojtsëk ëxjëtët tpëtsëmt...
 ojts=ëk ëx-jëtët t-pëtsem-t
 PAST=HERSAY BACK-drag 3A-exit-PL;DEP
 ‘...they dragged him out...’ (NL1-1042)

b) Ëxtej yë’ kipy.
 ëx-tej yë’ë kipy
 BACK-push DEM.M stick
 ‘Push the stick back.’

Some of the words in which *ëx-* appears are exemplified in (163).

³⁴ Although a similar meaning could be developed from ‘feel with respect to someone’. Think of the colloquial phrase *ya feel me* in English, which conveys understanding or sharing one’s viewpoint.

163. Some verbs with *ëx-*

<i>ëxnëjkx</i>	‘to go backwards’	(< <i>nëjkx</i> ‘to go’)
<i>ëxput</i>	‘to run for nothing’	(< <i>put</i> ‘run’)
<i>ëxyo’oy</i>	‘to walk for no reason’	(< <i>yo’oy</i> ‘to walk’)
<i>ëxëpep</i>	‘to throw away unusable stuff’	(< *(<i>ë</i>) <i>pep</i> ‘to throw’)
<i>ëxkuj</i>	‘to throw carelessly’	(< <i>kuj</i> ‘to throw’)
<i>ëxpoot</i>	‘to cut off’	(< <i>poot</i> ‘to cut’)
<i>ëxtam</i>	‘to spill’	(< <i>tam</i> ‘pour’)
<i>ëxwaats</i>	‘to fall on one’s buttocks’	(< <i>waats</i> ‘to crawl’)
<i>ëxma’ax</i>	‘to wipe one’s buttocks’	(< * <i>ma’ax</i> ‘to wipe’)

With some verbs, particularly with verbs of change of location or manner verbs it means ‘backwards’, but with other verbs it means to do something for no reason. With a few verbs, such as *poot* ‘to cut’ it implies that the theme is completely separated. Finally, in some cases it seems to have a meaning more related to the body part, as in *ëxma’ax* ‘to wipe one’s buttocks’.³⁵

Jë-, on the other hand, appears only in a few verbs, as those in (164). All those verb roots have a meaning by themselves, but I do not find the common thread among the derived verbs. In this respect, *jë-* is more like a cranberry morpheme.

164. Verbs with *jë-*

<i>jëmuuk</i>	‘to lick’	(< <i>muuk</i> ‘lick’)
<i>jëtëj</i>	‘to break (wood, bones)’	(< <i>tëj</i> ‘to break’)

8.8.3.4 *pu-* ‘next to’

This part morpheme might be historically related to *puuy* ‘leg’ and has the general meaning of contiguity, i.e. of doing something with or next to someone or something, as shown in (165).

³⁵ In other Mixe languages, Zavala (2000) reports only *üx-* for Olutec, and even though he assigns the meaning ‘back’ to it, when one sees the examples, it seems to contribute a rather heterogeneous array of meanings. Hoogshagen & Bartholomew (1993) report *ix-* for Coatlán Mixe, and the meaning is ‘careless’ or ‘to get rid of’. Additionally, they report on two other morphemes with the form *jëë-*, and one of them covers the meaning of *ëx-* ‘backwards’ in AyMi.

165. a) Pedro të Carlos tpunijkxy.

Pedro të Carlos t-pu-nějcx-y
 Pedro BEFORE.NOW Carlos 3A-NEXT-go-DEP
 ‘Pedro went just behind Carlos.’

b) Pedro të tpunaxy.

Pedro të t-pu-näx-y
 Pedro BEFORE.NOW 3A-NEXT-pass-DEP
 ‘Pedro passed next to him.’

Other verbs with this part morpheme appear below in (166).

166. Some verbs with *pu*’-

punějcx	‘to go together with/next to’	(< nějcx ‘to go’)
pumen	‘to come together with/next to’	(< men ‘to come’)
puwä’äk	‘to step next to’	(< wä’äk ‘to step’)
puyo’oy	‘to follow’	(< yo’oy ‘to walk’)
putsëen	‘to sit next to’	(< tsëen ‘to sit’)
pumä’ä	‘to sleep next to’	(< mä’ä ‘to sleep’)
pukäjpx	‘to speak in favor of someone’	(< käjpx ‘to speak’)

Contrary to other part morphemes discussed in this section, *pu*- does not have a lot of polysemy and the only extension I have found is in *pukäjpx* ‘to speak in favor of someone else’. Interestingly, this morpheme changes the transitivity of the verb, since it is usually prefixed to intransitive verbs, while the resulting stem is transitive. Thus, the ground (or the entity to be followed, as in *puyo’oy* ‘to follow’) is expressed as the primary object.³⁶

8.8.3.5 *ku*- ‘apex’

As previously stated, the etymon of *ku*- is ‘head’, and this it is historically related to *këpäjk* ‘head’ in modern AyMi. In the verbal morphology, it has two basic meanings: one is similar to ‘in’, as in (167a), and in the other it means that the event happens from above, as in (167b).

167. a) Ĕs jajp yë... tu’uk uk tku’ex.

Ĕs jajp yë’ë tu’uk uk t-ku-ex
 and DEIC.D DEM.M one dog 3A-APEX-see[INCH.DEP]
 ‘And the dog is looking in there.’ (FrogG-70)

³⁶ In a comparative perspective, it is not reported for Olutec (Zavala 2000), but it appears in Coatlán Mixe (Hoogshagen & Bartholomew 1993) with a very similar meaning.

b) Ps jam ojtsa' jatsyu'u kyujuknaxy ojts.

pēs jam ojts=ja'a jatsyu'u y-ku-juk-nāx-y
 DISC DEIC.D PAST=DEM.D deer 3O[INV]-APEX-unload-pass-DEP
 'Then the deer threw it in there.' (FrogA-478)

In the list below are some verbs derived with this part.

168. Some verbs with *ku-*

kuput	'to run in'	(< put 'run')
kutem	'to roll in'	(< tem 'roll')
kujan	'to insert into a whole'	(< jan 'to take off')
ku'ex	'to see inside'	(< ex 'see')
kune'ep	'to graft'	(< ne'ep 'to sow')
kutej	'to put one's head in'	(< tej 'to push')
kujeets	'to put on (on the head)'	(< jeets 'to shed')
kujup	'to put a hat on'	(< jup 'to turn')

In combination with many verbs, it has a meaning roughly translated as 'in' or 'into'.

Just like *a-*, it is used as a satellite with more or less the same general function. However, while *a-* 'in' is used in general for indicating the trajectory of a figure into a container, *ku-* 'into' is specialized for cases of insertion. In many cases, as in *kutej* 'to put one's head in', the resulting stem seems to refer to the head. I am not sure whether the verb really encodes the head or it is an implicature. In many cases, it would seem to be an implicature, since it is possible to insert other things, including objects. In other cases, as in *kujeets* 'to put on (one's head)', the verb could contrast with *këxjeets* 'to put on (gloves or socks)' and *nëjeets* 'to put on (a surface)'. Thus, the specialized meaning of *kujeets* might very well be a case of lexical preemption.

In other cases, its meaning is somehow more related to its etymology, indicating that something is or happens from the upper part. This is the case of the use of *ku-* in *kutiy* 'to hang from the upper part', as exemplified in (169).

169. Taa tsäj ojts tkutiy.

taa tsäj ojts t-ku-tiy-y
 DEIC.M rock PAST 3A-apex-hang-DEP
 'Then he hung the rock.' (Aur2-1226)

In the previous example from a folk tale, the protagonist hangs a rock in order to defeat another character.

8.8.3.6 *Jëp-* ‘tip’

This part is closely related in form to the noun *jëëjp* ‘nose’, even though in the verbal morphology it has a rather abstract meaning that does not seem evidently related to its etymology, as in the example in (170).

170. Ojts te'na' ku, ku tunkäjtë'n... tjëpoo'kkëxt.
 ojts te'n=ja'a ku ku tun-k-ät-ën
 PAST M.DEM=DEM.D when when TUN-NMLZ-VBLZ-PERF;DEP
 t-jëp-ook-këx-t
 3A-tip-die-finish-PL;DEP
 ‘Like that, when they were working, the died.’ (NL1-2086)

This is not a very productive part, but some examples appear in (171).

171. Verbs with *jëp-*

- | | | |
|--------------|---|-----------------------|
| jëpma'ax | ‘to wipe one’s nose’ | (< *ma'ax ‘to wipe’) |
| jëpoktu'ut | ‘to die leaving something inconclusive’ | (< ook ‘to die’) |
| jëppo'ttu'ut | ‘to cut off a tree and make pieces’ | (< po'ot ‘to cut’) |
| jëptsu'uts | ‘to chew the tip off’ | (< tsu'uts ‘to chew’) |
| jëpyo'oy | ‘to walk forward’ | (< yo'oy ‘to walk’) |

This part morpheme is somehow problematic because, unlike most other part morphemes, it is difficult, based on the form, to differentiate between the part morpheme and the noun denoting the body part based. As one can see, in some cases the part preserves the etymological meaning, as in *jëpma'ax* ‘to wipe one’s nose’, but in other cases it has a more abstract meaning, as in *jëpyo'oy* ‘to walk forward’.³⁷

8.8.3.7 *këx-* ‘on surface’

As explained before (§6.16), this part is historically derived from the word **këx* ‘body’ from proto-Mixe-Zoque, but it does not have a counterpart as a noun denoting a body part in modern Ayutla Mixe. In the verbal morphology, it indicates that an event

³⁷ Interestingly, the cognate of this part is not reported for other Mixe languages in the verbal morphology.

takes place on a surface, as shown in (172). Notice that in these cases, the ground denoting phrase is expressed using a locative phrase, i.e. it is introduced by the part morpheme *këx* ‘surface’.

172. a) Tu'uk pelot këxtemp pu'ukyëxp.

tu'uk	pelot	këx-temp	pu'uy-këx-p
one	ball	[3S]SURFACE-roll-INDEP	board-SURFACE-LOC

‘A ball rolled onto the board.’ (FG-G-1)

b) Jam të kyëxpetyëtë tsäjkëxp.

jam	të	y-këx-pat-y=jëtë	tsäj-këx-p
DEIC.D	BEFORE.NOW	3S-SURFACE-ascend-DEP=BEFORE.NOW	rock-SURFACE-LOC

‘He stepped on the rock.’ (FrogMJ-314)

As one can see in the examples in (173), the meaning is relatively constant, with no polysemy: in all the cases it means that there is a flat surface in the path of the eventuality.

173. Verbs with *këx*-

këxja'ap	‘to scoop onto something’	(< ja'ap ‘to scoop’)
këxjeets	‘to put cloths on something’	(< jeets ‘to shed’)
këxkáp	‘to put sticks on something’	(< káp ‘to move sticks’)
këxkon	‘to put small objects on something’	(< kon ‘to move small object’)
këxpat	‘to ascend onto something’	(< pat ‘to ascend’)
këxtan	‘to kneel on something’	(< tan ‘to kneel’)
këxwets	‘to put objects on something’	(< wets ‘to move’)
këxtsëen	‘to sit onto something’	(< tsëen ‘to sit’)

From a comparative perspective, cognate forms of this part are not attested in Olutec (Zavala 2000) or Coalán Mixe (Hoogshagen & Bartholomew 1993). Since in Olutec *küx* ‘body, back’ appears as a noun, constructions equivalent to those in (173) are treated by Zavala as cases of noun incorporation. This is not just a different analysis of the same phenomenon, but as far as I can tell, there is a difference in the language, since the examples in (173) do not involve the notion of ‘back’ as a body part or as a region in space, but rather a surface.

8.8.3.8 *pa-* ‘edge, next to’

This part has a rather abstract meaning, as it is historically related to the noun *pä'ä* ‘edge’ (see §6.16). In the verbal morphology, it indicates that the action is performed in contiguity to something or someone else, as shown in (174).

174. Ojts te'n yakpatsoony.

ojts te'n y-ak-pa-tsoon-y
 PAST M.DEM 3S-CAUS-NEXT-go-DEP
 ‘He was followed.’ (Aur2-727)

In (175) are more examples with *pa-* ‘next’.

175. Verbs with *pa-*

panëjkx	‘to follow someone’	(< nëjkx ‘to go’)
patsoon	‘to follow someone’	(< tsoon ‘to go away’)
pamen	‘to follow someone, to chase’	(< men ‘to come’)
paput	‘to run after someone, to chase’	(< put ‘to run’)
panäx	‘to pass next to someone’	(< näx ‘to pass’)
pawop	‘to herd’	(< wop ‘to whip’)
payo'oy	‘to walk behind someone’	(< yo'oy ‘to walk’)
patsëm	‘to carry firewood’	(< tsëm ‘to carry’)

As one can see, many verbs roughly have a meaning similar to *follow* or *chase* in English. Just like *pu-* ‘next to’, when it is prefixed to an intransitive verb, it changes the verb’s valency, and the derived stem becomes transitive, where the followed entity is the object.

8.8.3.9 *pat-* ‘under’

This part has no nominal counterpart, but it is historically linked to pMZ **pa't* ‘under’. In the verbal morphology, it still preserves a very similar meaning, as shown in (176).

176. a) Ta uk tpatwojya' jemy.

taa uk t-pat-woj-y=ja'a jemy
 DEIC.M dog 3A-UNDER-bark-DEP=DEM.D beehive
 ‘The dog is barking at the beehive.’ (FrogMJ-230)

b) Ta mutsk mixy ja'y tpat'ixy.

taa mutsk mixy ja'y t-pat-ex-y
DEIC.M little boy only 3A-UNDER-see-DEP

'And the boy only looked up at it (the bird).' (FrogMJ-298)

In the previous examples, *pat* 'under' indicates that the action takes place from below. However, the trajectory (in terms of fictive motion) is upwards. Thus, in (176) the dog is barking below the beehive but up towards it; similarly in (176) the boy is looking up. More examples of verbs with this part morpheme appear below.

177. Verbs with *pat*-

pattsëën	'to sit under something'	(< tsëën 'to sit')
pattan	'to stand under something'	(< tan 'to stand')
pamä'ä	'to sleep under something'	(< mä'ä 'to sleep')
patwaats	'to crawl under something'	(< waats 'to crawl')
patmëtoo	'to listen to someone'	(< mëtoo 'to listen')
patwoj	'to bark at'	(< woj 'to bark')

This part morpheme changes the valency of its base, and so the intransitive verb *mä'ä* 'to sleep' becomes the transitive verb *patmä'ä* 'to sleep under'.

8.8.4 Locative prefixes

In this section I will describe other locative prefixes. These could be considered a different subtype of part morphemes because they share a locative meaning and because they appear in the same verbal position. I discuss them here in a different section mainly for presentational reasons and because they have some differences. Let us first consider the following prefixes.

178. *në*- 'on'
mu- 'at'
na- 'circumvention'

One of the main differences between locative prefixes and part morphemes is that only the latter appear in locative phrases. So, it is not possible to form a locative phrase with *në*-, *mu*- or *na*- plus one of the locative suffixes described in the last chapter

(§7.5.1). Additionally, locative prefixes seem to have a more abstract meaning and it is not possible to make even a historical link between them and body part referring nouns. Most probably, they were already part morphemes in proto states of the language, as one can see in Wichmann 1995a.

The prefix *ně-* indicates that the event (or part of it) took place on the surface of the ground, as shown in (179) and (180).

179. a) Tě jatu'uk kipyām tněwā'āk.

tě jatu'uk kipy-a-ām t-ně-wā'āk
BEFORE.NOW other stick-EDGE-LOC 3A-ON-step[INCH-DEP]
'He stepped on the other stick.' (Frog MJ-311)

b) Ętsa uk, ku tēma jemy ojts *este*, tněxuuky.

jets=ja'a uk ku tēm=ja'a jemy ojts este t-ně-xuuk-y
and=DEM.D dog when EV=DEM.D beehive PAST DISC 3A-ON-smell-DEP
'And the dog, when it, yunnow, sniffed on the beehive.' (FrogG-392)

180. Verbs with *ně-*

něnjkx	'to go get something'	(< nēj kx 'to go')
něput	'to run/jump on something'	(< put 'to run')
nětem	'to roll onto'	(< tem 'to roll')
němä'ä	'to sleep on something'	(< mä'ä 'to sleep')
něwets	'to put onto something'	(< wets 'to carry')
něnax	'to go through'	(< nax 'to pass')
němen	'to come towards'	(< men 'to come')
nětan	'to defend'	(< tan 'to stand')

Even though the meaning of *ně-* is very similar to *kěx-*, the main difference is that with the former, the event does not necessarily happen on a surface. This prefix modifies the verb's valency, and thus the goal becomes the object of the verb. When the base is intransitive, the derived verb will be monotransitive, but if the base is transitive, the resulting verb will be ditransitive.

The locative morpheme *ně-* should not be mistaken with a homophonous prefix *ně-*, whose meaning I have not been able to determine but that is perhaps an applicative or a directional, as exemplified in (181).

181. Tu'uk pelot xnëminy.

tu'uk	pelot	x-në-men-y
one	ball	1O-ON-come-DEP

‘A ball is coming towards me.’

Even though the same verb can take the both prefixes, the main difference is that the applicative *në-* triggers voicing in the following consonant while the locative *në-* does not, as shown in (182).

182. nëxëy [nɪ.ʃɪj] ‘to sew (for someone)’ vs. nëxëy [nɪ.ʃɪj] ‘to sew on’

nëxäj	[nɪ.ʒɬh]	‘to grab (for someone)’	vs.	nëxäj	[nɪ.ʃɬh]	‘to cover something (with hads)’
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Në- is the locative morpheme (and here including parts) that appears with a broader range of verbs. Thus, it is generally combined with manner verbs, verbs of change of location, posture verbs (such as *tan* ‘to stand’), and verbs of caused change of location (or verbs of manipulation).

In contrast to the locative *në-*, the prefix *na-* appears only in a few verbs, and even though it is glossed ‘circumvention’ for convenience, there is actually very little in common with the meaning it introduces. In fact, it may very well be a fossilized morpheme, i.e. it is not productive, and in this respect it is perhaps better described as a cranberry morpheme.

183. Verbs with *na-*

naawëtet	‘to put around something’	(< awëtet ‘to go around’)
natsëen	‘to live looking after someone’	(< tsëen ‘to live’)
naxet	‘to shake off’	(< xet ‘to filter’)

Wichmann (1995a:536) reconstructed the protoform **nah-*, although he says that “The etymom is weakly supported. The “reflexes” may be individual lexicalizations of some former free motion verb.” Regardless of its etymon, it is clear that the morpheme is

highly restricted among Mixe languages, because Zavala (2000) also reports only a handful of words containing it.

In a comparative view, Zavala (2000) treats the equivalent of *ně-* and *na-* in Olutec as being part of what he calls body-part morphemes. In principle, I am not opposed to conflating these two. However, I think that they could be considered as part of different subsets of the same paradigm. Interestingly enough, in Olutec these morphemes also lack a nominal counterpart (even historically), and also change the valency of the stem (Zavala 2000:622).

The other prefix, *mu-* ‘at’, also lacks a nominal counterpart and it does not appear in locative phrases.

184. verbs with *mu-*

<i>munu'kxtä'äk</i>	‘to beg’	(< <i>nu'kxtä'äk</i> ‘to apologize’)
<i>muwojpat</i>	‘to hit on’	(< <i>wojpat</i> ‘to hit down’)
<i>mutsu'uts</i>	‘to bite on’	(< <i>tsu'uts</i> ‘to bite (off)’)
<i>mutsuk</i>	‘to cut on’	(< <i>tsuk</i> ‘to cut (with knife)’)
<i>mukaap</i>	‘to prune’	(< <i>kaap</i> ‘to cut (with scissors)’)
<i>mupoot</i>	‘to cut on’	(< <i>poot</i> ‘to cut (with machete)’)
<i>mujëet</i>	‘to saw on’	(< <i>jëet</i> ‘to saw’)

The meaning it introduces, particularly with verbs of cutting or hitting, is that the action takes place only in a part of the patient. For example, the contrast between (185a) and (185b) is that *mutsuk* ‘cut at’ means that there was a cut on one’s hand, but not that the hand was cut off; in (185b) with *tatsuk* it is understood that the object was cut off.

185. a) *Të xmitsuk yë nkë'ë.*

<i>tëë</i>	<i>x-mu-tsuk</i>	<i>yë'ë</i>	<i>n-kë'ë</i>
BEFORE.NOW	1O-AT-cut.knife[INCH.DEP]	DEM.M	1POSS-hand
‘I cut my hand.’			

b) *Ojts tu'uk mixy zanahoria ttatsuk.*

<i>ojts</i>	<i>tu'uk</i>	<i>mixy</i>	<i>zanahoria</i>	<i>t-ta-tsuk</i>
PAST	one	boy	carrot	3A-APPL-cut.knife[INCH.DEP]
‘A boy cut the carrot.’ (C&B09-M)				

8.9 Pseudo-Applicative morphemes

In this section, I will discuss four morphemes whose function is to derive new verbs, and in doing so, sometimes they increase the valency of the verb. In most syntactic accounts, the main function of an applicative or a benefactive is to include as part of the core arguments of a verb an otherwise oblique participant (Alsina & Mchombo 1990, 1993, Dryer 1983, Shibatani 1996, *inter alia*). For example, by using an applicative, an instrumental, which is usually an adjunct, could become the object of a verb. However, the morphemes to be discussed here do not always cause adjuncts to become arguments, rather, they modify the semantics of the verb and, in doing so, often times they increase the number of arguments and then adjuncts become core arguments.³⁸ In this respect, they behave differently from more prototypical cases of applicatives, and thus they are better called pseudo-applicatives.

There are three pseudo-applicative morphemes (186), which will be fully discussed in the following chapter, and here I will only present them and discuss their meaning in general. Perhaps it would be necessary to add the applicative apophony to this list, but it was already discussed in a previous section (§9.7.3).

186. a) ta- ‘instrumental, locative’
 b) mē- ‘benefactive’
 c) ku(j)- ‘benefactive’

Even though the syntactic effects of pseudo-applicatives is discussed in the following chapter (§§9.6.7-11), here I include some examples in (187) to (189). More examples are given below with the discussion of each prefix.

³⁸ The equivalent cases in Olutec have been discussed at length by Zavala (2000, 2002b). Under his analysis, the main function of the so-called applicatives in Olutec is “to allow the coding of thematically peripheral participants as pragmatically salient arguments” (Zavala 2000:656).

187. a) Të Carlos tta-poot yë kipy mët machete.

tëë Carlos t-ta-poot yë'ë kipy mëët machete
 BEFORE.NOW Carlos 3A-APPL-cut[INCH.DEP] DEM.M stick ASSOC machete
 'Carlos cut the piece of wood with the machete.'

b) Luis të tyëjk tta-pëtsim-y.

Luis tëë y-tëjk t-ta-pëtsëm-y
 Luis BEFORE.NOW 3POSS-house 3A-APPL-exit-DEP
 'Luis exited his house.'

188. a) A tyëk mëtump.

ah y-tëk më-tun-p
 INTERJ 3A-enter[INCH.DEP] BEN-work-INF
 'Ah, he stated working.' (Aur2-296)

b) Akxonëk jëte'n tmëyā'äxy ja ntetyäjtëp.

akxon=ëk jëte'n t-më-yā'äx-y ja'a n-tetyäjtëp
 INTENS=HEARSAY M.DEM 3A-BEN-cry-DEP DEM.D 1POSS-saint
 'They cried a lot to our saint.' (NL1-716)

189. Carlos të tyakmä'äy tkuyääh.

Carlos tëë y-takmä'äy t-kuj-yä'äx
 Carlos before.now 3POSS-grandmother 3A-BEN-cry[INCH.DEP]
 'Carlos cried for his grandma.'

The first of these morphemes, *ta-*, can be prefixed to almost any verb. In this respect, it is a mechanism that does not have lexical restrictions. At the other extreme, *kuj-* 'benefactive' is highly restrictive with respect to the verbs it can be combined with. In the middle ground, *më-* 'benefactive' also has some selectional restrictions but not as severe as the previous one. Mithun (1989) has argued that applicative benefactives are derivational morphemes that are lexically determined, but Zavala (2000) argues against her and claims that Olutec applicatives can appear with any verbal base. Ayutla Mixe pseudo-applicative morphemes differ from those cognate forms in Olutec, because *ta-* seems to be the only one that appears with any base. Additionally, even in the case of *ta-*, the meaning it assumes depends highly on the base it attaches to. For these reasons, I consider the pseudo-applicative morphemes to be derivational in Ayutla Mixe. For the sake of simplicity, in the rest of the dissertation I will refer to these morphemes only as

APPLICATIVES (dropping “pseudo-”), but this term has to be understood as a mechanism that differs from applicatives in Bantu and many other languages (Alsina & Mchombo 1993).

This first applicative morpheme, *ta-*, can be used with instruments and with locations (see §9.6.10). With posture verbs, the location obligatorily becomes part of the argument structure (190a). In verbs of change of location, it introduces the idea of vehicle, as in (190b). Notice that in this case a location is not acceptable as the argument of the verb. The other frequent use of *ta-* is in reference to an instrument (190c).

190. a)mējnēj tyanaxypy.
 mēj-něj y-ta-näx-yp
 big-water 3A-APPL-pass-INDEP;TR
 ‘...(the ball) goes through the river.’ (MVG-P03)

b) Carlos tē ttanijkxy burro/*tēj.
 Carlos tē t-ta-něj~~kx~~-y burro / tēj
 Carlos BEFORE.NOW 3A-APPL-go-DEP donkey / house
 ‘Carlos went by donkey.’

c) Yē' tāt ojts mēēt *machete* ttafoot.
 yē'ē tāt ojts mēēt machete t-ta-foot
 DEM.M man PAST ASSOC machete 3A-APPL-cut.machete[INCH.DEP]
 ‘The man cut it with a machete.’ (C&B03-A)

In (190a) the applicative *ta-* introduces a location and in (190b) a vehicle as core arguments. In both, cases, the applicative increases the valence of the verb as both *näx* ‘ti pass’ and *něj~~kx~~* ‘to go’ are intransitive. In (190c), the applicative makes the instrument semantically more prominent (see §9.6.10.1), but it does not become a core argument as *machete* is still the object of the adposition *mēēt*. Notice, in addition, that in this case the verb takes an inchoative conjugation (§8.5).

The other applicative, the prefix *mē-*, could be described in broad terms as having a benefactive interpretation. However, in most cases there is actually no beneficiary as part

of its argument structure, but rather the interpretation is that the action is not for the subject's benefit. Thus, for example, in (190a) *mētun* means something like 'to work for someone else's benefit', which is canonically interpreted as 'to work for a salary'. In most cases, it is not necessary to mention the beneficiary (190a-b), and only in a few verbs, such as *mēkājpx* 'to talk to', the recipient becomes obligatory (the recipient is the object). As will be discussed in the following chapter (§9.6.7), it is possible to mention only two participants in a verb with *mē-*, i.e. a monotransitive verb does not become ditransitive.

191. a) Ja' tyēk mētump.

ja'a y-tēk mē-tun-p
 DEM.D 3S-enter[INCH.DEP] [3S]BEN-work-INDEP
 'He started working (for someone else).' (Aur2-296)

b) Taa jatukojka' jutyujk ojts myēke'eky.

taa jatukojk=ja'a jutyujk ojts y-mē-ka'ak-y
 DEIC.M again=DEM.D animal PAST 3S-BEN-flee-DEP
 'And then the animal ran away (with the kid).' (FrogA-463)

c) Ps taaka... ja' tixytyējk tmēkajpxy.

pēs taa=ēk=ja'a ja'a tixytyēk t-mē-kājxp-y
 DISC DEIC.M=HEARSAY=DEM.D DEM.D woman 3A-BEN-speak-DEP
 'And then he talked to the woman.' (Aur2-951)

The third applicative *kuj-*, glossed for convenience also as 'benefactive', has a meaning similar to 'with respect to', as in *kuyu'uts* 'to hide' or in *ku'ook* 'to die on someone', in (192).³⁹

³⁹ This morpheme looks suspiciously similar to the part *ku-* 'tip', and one must ask whether the prefix *kuj-* 'benefactive' is the same as *ku-* 'tip'. First of all, even though sometimes their meaning seems to overlap, particularly when *ku-* 'tip' has a rather abstract interpretation (as in *kune'ep* 'to graft' (from *ku-* 'tip' and *ne'ep* 'to sow')), it is still possible to distinguish them. Second, in a comparative view, the benefactive *ku(j)-* is attested in other Mixe languages. Indeed, Wichmann (1995a:534) reconstructed the prefix **koo-* 'benefactive', different than **ku-* 'from surface'. In addition to Olutec, there have been reports of the benefactive for Coatlán Mixe (*ko'o-*) (Hoogshagen & Bartholomew 1993:396) and Sayultec (*koo-*) (Clark 1983). Additionally, even though it is not analyzed as such, it is possible to recognize it in Totontepec Mixe (for example, throughout Schoenhals' (1962) presentation of verb stems).

192. a) Kata' tkuyu'utsy.

ka't=ja'a t-kuj-yu'uts-y

NEG=DEM.D 3A-BEN-hide-DEP

'He did not hide (the fact that he used to drink).' (NLA-628)

b) Tama' tsyëën tsyäm mää ojts tku'ookyë'n.

tam=ja'a y-tsyëën tsyäm mää ojts t-ku-ook-y=ë'n

DEIC.D=DEM.D 3S-live[INCH.DEF] now where PAST 3A-BEN-die-DEP=ADJ

'Now he lives there where he was left an orphan.' (NLA-215)

In (192a), the idea is that the person in the narration did not hide from people the fact that he used to drink, and in (192b) that someone died with respect to the main character, i.e. he became an orphan. Some other examples in which the applicative *ku(j)-* is used are presented in (193).

193. a) *kujuux* 'to cover one's head' (< *uux* 'to cover one's head')

b) *ku'ook* 'to die on someone' (< *ook* 'to die')

c) *kupëk* 'to accept something' (< *pëk* 'to take')

d) *kukäjpx* 'to visit' (< *käjpx* 'to speak')

d) *kuëy* 'to pay' (< *jëy* 'to buy')

8.9.1 Other derivational morphemes

8.9.1.1 *Change of state a-*

There is another derivational prefix that very often has a causative meaning. In general, this prefix is attached to deadjectival verbs. As was explained previously (§8.5.1), adjectives that undergo conversion into verbs must be marked with the inchoative conjugation. Some adjectives, in addition, take the prefix *a-*, which emphasizes a caused change of state (194a-b). In other cases, the prefix *a-* indicates that an eventuality happened more than once (194c). However, it does not have to be repetitive (over and over). This morpheme also prefixes to verbs, again to emphasize a caused change of state (194d).

194. a) Amējēp ējts.

a-mēj-ē-p ējts
a-old-INCH-INDEP 1SG
'I am getting old.'

b) Ojts yaey.

ojts y-a-ey
PAST 3S-a-good[INCH.DEP]
'It was fixed.'

c) Juan ya'ejpēp yē' tu'uts.

Juan y-a-jep-ē-yp yē'ē tu'uts
Juan 3A-a-scrub-INCH-INDEP;TR DEM.M pot
'Juan is scrubbing the pot (again).'

d) Ja' joon ojts yatsē'ēk.

ja'a joon ojts y-a-tsē'ēk
DEM.D bird PAST 3S-a-be.scared[INCH.DEP]
'The the bird scared him (the boy).' (FrogA-404)

8.9.1.2 *Tanku-* and *tanëx-*

The last issue to be discussed in this section is the sequence of prefixes *tan-ku-*, as shown in (195), and *tan-ëx-* exemplified in (196).

195. *tankutej* 'to throw something at someone by pushing it with the hands'.

tankuwets 'to throw something'
tankukon 'to throw small objects'
tankukāp 'to throw sticks'
tankujē'ēk 'to throw something up'

196. *tanëxkāp* 'to put sticks on top'

tanëxēpēp 'to throw something onto'
tanëxwaats 'to drag something on top'
tanëxwets 'to put objects onto'
tanëxkon 'to put small objects onto'

The meaning of these morphemes is not entirely transparent, but more likely *tan-* is a reduction of *ta-* 'applicative' plus the part morpheme *jën-* 'in front'. Additionally, *tanku-* and *tanëx-* combine in general with verbs of caused change of position (or with classificatory-like verbs). In these cases, *tanku-* indicates that the theme is thrown while *tanëx-* indicates that the object is deposited on a location. *Tanku-* is exemplified in (197).

197. Taka mēkněj ojts ttankutam.

taa=ək=ja'a mēj-k-něj ojts t-ta+ku-tam
 DEIC.M=HEARSAY=DEM.D strong=water PAST 3A-DER-pour[INCH.DEP]
 'Then (your grandpa) threw *mezcal* at the other person's face.' (Ire-430)

8.10 Incorporation

In Ayutla Mixe a noun can appear inside of the verbal morphology. This is known as noun incorporation (Mithun 1984, 1986, Baker 1988, 1996, *inter alia*). In the example in (198), the notional O is *xějk* 'beans' and it appears inside the verb between the causative prefix *ak-* and the verb root *xook* 'to wet, to water'. This example also shows that, as schematized at the beginning of the chapter (§8.1), the incorporated noun appears after the verb prefixes, such as the causative, and before the verb root.

198. Ta yanä'ány este koa jä'äy yäm nojty yëkxëkxooky.

taa y-anä'an-y este kuu ja'a jä'äy
 DEIC.M 3S-say-DEP DISC Cmplz DEM.D people
 yäm nojty y-ak-xěj-k-xook-y
 DEIC.P IMPF 3S-CAUS-beans-water-DEP
 'Then he said that people were watering bean plants.' (IreL-49).

The previous example also shows that, in noun incorporation, even though the verb has a notional object (the incorporated noun) it is morphologically treated as intransitive. In (198) this is manifested in the person marker for a third person S, *y-*.

As explained in the following chapter (§9.7), the incorporated noun can be an argument of the verb, as in (199a), or an adjunct non-argument, like a location, which is usually non-argumental, as in (199b).

199. a) Jap ojts yaku'unkpäaty.

jajp ojts y-ak-u'un-k-päät-y
 DEIC.D PAST 3O-CAUS-child-find-DEP
 'Then he made her have a child.' (Aur2-492)

b) N'ēsujtsyo'oyä'ány.

n-ēs-uujts-yo'oy-ä'an-y
 1S-MCP-plant-walk-DES-DEP
 'I will go to walk in the plants.' (NL1-453)

In AyMi, when there is noun incorporation, a noun that exists independently outside the verb can occur inside the verbal morphology. Thus, the same noun that appears incorporated in (199b) can be expressed outside the verbal complex, now as part of a locative phrase, as shown in (200).

200. Jaa n'ēsyo'oyā'āny ujtsejtypy.
 jaa n-ēs-yo'oy-ā'ān-y uujts-ojt-yp
 DEIC.D 1S-MCP-walk-DES-DEP plants-inside-LOC
 'I will go to walk in the plants.'

8.11 Serialization

The last topic to cover in the chapter on verbal morphology is verb serialization. In Ayutla Mixe, it is possible to find two verb roots forming a single verb, as shown in the examples in (201).

201. a) Yë totk jaa tē kyaknaxy mā yë xojë'n.
 yë'ë totk jaa tēē y-ka'ak-nāx-y mää yë'ë xoj=ë'n
 DEM.D butterfly DEIC.D BEFORE.NOW 3S-fly-pass-DEP where DEM.D tree=ADJ
 'A butterfly went by flying where the tree is.'
- b) Pedro tē pyujtsoony.
 Pedro tēē y-put-tsoon-y
 Pedro BEFORE.NOW 3S-run-go.away-DEP
 'Pedro started running.'

In (201), one can see that both verb roots form a single verb stem because the person prefix appears at the beginning of both of them and the AM suffixes after both of them. I will call cases like this core serial verb constructions (Zavala 2000; Foley and Olson 1985; Foley 1991) to highlight the fact that both verb roots form a single verb stem. Another characteristic of serial verb constructions is that both verb roots share a single argument. In the examples in (201), both are referring to the S.⁴⁰ It is usually assumed

⁴⁰ Strictly speaking, verb roots do not take arguments, as it is a property of the verb as a whole. However, for the purpose of describing serial verb constructions, one can say that a given argument is (semantically) associated with a verb root.

that serial verb construction express a single event (see, for example Aikhenvald 2006); however, I will not assume so here, as I consider that an open question with respect to Ayutla Mixe. What is undeniable is that core serial verb constructions in AyMi are monoclausal, since two verb roots form a single word.

In Ayutla Mixe, one can differentiate mainly between serial verb constructions in which both verbs have a heavy lexical content, as in the examples in (201), and serial verb constructions in which one of the roots rather expresses a grammatical function, as in the case of the desiderative in (202). In fact, this is the main reason serial verb constructions are treated in this chapter.

202. Yakjo'kxiyampy yë' nēj.

y-ak-jo'kx-ë-ä'än-yp	yë'ë	nēj
3A-CAUS-warm-INCH-DES-INDEP;TR	DEM.M	water
'He will warm up the water.'		

Notice that even though the desiderative in (202) is being grammaticalized to express future time reference, it is still a root, as it undergoes verbal apophony (and potentially metaphony). Whether a given morpheme undergoes apophony or not is the main test to decide whether it is a verb root or not (i.e. whether there is serialization or not), because only verb roots undergo apophony, not suffixes. For example, the root *ää* 'to halt' expresses the notion that an activity was not completed, and in this respect, it has aspectual information. It is still a root because, as one can see in the comparison between (203a) and (203b), it undergoes apophony.

203. a) Zananahoria tsyukä'äp

zananahoria	y-tsuk-ää-ë-yp
carrot	3A-cut-halt-INCH-INDEP;TR
'He is making a cut on a carrot.' (C&BA9)	

- b) Ojts tu'uk tse'e ttsujk'ää
 ojts tu'uk tse'e t-tsuk-ää
 PAST one pumpkin 3A-cut-halt[INCH.INDEP]
 'She made a cut on the pumpkin.' (C&BA14)

Notice, in the examples in (202) and (203), the serial verb that has a grammatical function is the one in the second position (V2), while the first verb root (V1) has lexical content.⁴¹

It is worth pointing out that some serialized verbs only occur as part of a serial verb construction, but not as independent verbs. This is the case of *ää* 'to halt' in (203) or the desiderative *ä'än* in (202). Even though more serial verbs with grammatical meaning occur only in a serial verb construction, the serialized verb *ë'ëk* 'to ascend' in (204) is not found as an independent verb even though it seems to have more lexical content.

204. Të yë tu'uts nwejtsi'iky meskëxp.
 tëë yë'ë tu'uts n-wets-ë'ëk-y mes-këx-p
 before.now DEM.M pot 1A-carry-ascend-DEP table-SURFACE-LOC
 'I lift the pot from the table.'

Core serial verb constructions are treated again in the chapter on complex predicates (§10.6), where their different characteristics are discussed with more detail.

⁴¹ Historically, one can suppose that the causative prefix *ak-* has grammaticalized from the verb pMZ **yak* 'to give' (see similar a hypothesis for Oltec in Zavala 2000, 2002b), which corresponds *yäk* 'to give away' in modern AyMi (notice that a similar grammaticalization channel has occurred in Mayan languages). However, the causative is not considered a serialized verb in AyMi because of its position in the verb: it appears as a prefix before the slot for incorporation, while the rest of the serialized verbs with grammatical content are in V2 position, which is after the verb with lexical content (see §8.1).

Chapter nine

Basic clause structure

In this chapter I discuss the basic clause structure as it is reflected in simple sentences. As the discussion is restricted to simple clauses, I leave the discussion of phenomena involving complex clauses to the next chapter. The notion of simple clause that I follow here is as simple as a clause that has only one verb or only one predicate. For some phenomena, I might include clauses that have a secondary predication or even that are complex clauses, but in those cases I will ignore the way in which the two predicates or the two verbs combine and will focus on the basic structure with respect to one verb. Here I will ignore the complexity and I will treat those clauses as if they were just simple clauses.

In the first section of the chapter, I treat all types of non-verbal predication. After that, I deal with phenomena that are related to verbal predication or that can be relevant to non-verbal and verbal predication alike.

9.1 Non-verbal predication

There are several types of non-verbal predicates: those that involve an adjective, a noun, a pronoun, and a numeral; those used in equative predication; and those used in locative predication. The common characteristic to all of them is that there is no verb involved as the main predicate, but rather there is a phrase that acts as the main predicate. In addition, in neutral aspect the non-verbal predicate and the subject do not require a copula, but rather are juxtaposed. Additionally, non-verbal predicates have a special form when negated, which I call *DEPENDENT* by analogy to the dependent form in verbal predication (§6.3.2). It is possible to use a copula, but only to express irrealis mood or when it is necessary to use a core serial verb construction (for example, for expressing aspect). In the following section, I explain many of the properties of non-verbal predication with adjectives and then, in the other sections, I extend those characteristics to other types of non-verbal predicates and also present the differences of each type of non-verbal predication.

9.1.1 Adjectives

In neutral independent aspect, the non-verbal predicate appears in juxtaposition with the subject, without any overt copula. Usually, the non-verbal predicate appears in initial position and the subject appears after it, as presented in (1).

1. a) Mutsk yë' uk.
 little DEM.M dog
 ‘The dog is little.’
- b) Nāk yë' mixy.
 short DEM.M boy
 ‘The boy is short.’

The adjectives *mutsk* ‘little’ in (1a) and *näk* ‘short’ in (1b) are the non-verbal predicates. In both cases, the adjective appears before the subject noun phrase, *yë’ uk* ‘the dog’ in (1a) and *yë’ mixy* ‘the boy’ in (1b).

In non-verbal predication there is a form that will be called dependent conjugation in analogy with inflectional dependency in non-verbal predication (§6.3.2). The dependent conjugation only arises when there is a negative particle, even if there is no copula, and it is marked using the person prefixes for intransitive verbs in the adjective (namely *n-* for the first person, *m-* for the second person and *y-* for the third person, as shown in (3)), and by changing the word order. In negative sentences, the negative typically appears in initial position, followed by the subject, and finally the adjectival predicate, marked with a person prefix, as in the examples in (2) and (3).

2. Ka’t yë nä’äny y’än.
 ka’t yë’ë nä’äny y-än
 NEG DEM.M *alote* 3S-hot
 ‘The *atole* is not hot.’ (*Atole* is a thick hot drink.)
3. a) Ka’t ëjts npejy.
 ka’t ëjts n-pejy
 NEG 1SG 1S-skinny
 ‘I am not skinny.’
- b) Ka’t mejts mpejy.
 ka’t mejts m-pejy
 NEG 2SG 2S-skinny
 ‘You are not skinny.’
- c) Ka’t yë pyejy.
 ka’t yë’ë y-pejy
 NEG DEM.M 3s-skinny
 ‘He is not skinny.’

As shown in the examples above, the person marker agrees with the subject. In (2), the subject is a noun phrase and consequently the adjective has a third person prefix, but in (3a) the subject is the first person pronoun *ëjts*, in (3b) the second person pronoun

mejts, and in (3c) the demonstrative *yë'ë*, and in all those cases the person prefix varies accordingly.

A major difference between verbal and non-verbal predication is that in the latter the dependency is marked only in the presence of a negative particle and in no other contexts (§6.3.2). Or another way to put this is to say that adjectival and other types of non-verbal predication have a different form only in a negative sentence. However, unlike verbal predicates, they are not in a special form (the dependent one) in other contexts, such as when there are locative adverbs. Notice that the examples in (4) have a locative adverbial demonstrative, *jam* in (4a) and *yää* in (4b), but the adjectives are not in a dependent form, i.e. they do not have person markers, as they do in the examples in (3). It is worth pointing out that, unlike in verbal predication, the locative adverbial demonstratives are not placed in initial position, but after the adjective.

4. a) Poop jam tējk.
 white DEIC.D house
 ‘The houses are white over there.’
- b) Pā'äk yë' pox yää.
 sweet DEM.M guava DEIC.P
 ‘Here guavas are sweet.’

All the previous examples are in neutral AM, and this means that depending on the context they could have any temporal and viewpoint aspect interpretation (see §8.3.4). The existential copula *et* ‘to be, to exist’ is used in non-verbal predication in a number of contexts. One of them is whenever one wants to express irrealis mood as in (5) or the perfect aspect as in (6). I have no examples of non-verbal predication with completive aspect.

5. a) Ja'y kyë'em tuk'ixy ku amwëny, amwëny y'ett.
 ja'y y-kë'em t-uk+ex-y kuu amwëny amwëny y-et-t
 only 3POSS-hand 3A-see-DEP COMP quiet quiet 3S-be-IRR;DEP
 'He (the child) showed him his hand (ordering) to be quiet.' (FrogG)
- b) Te'n ëjts n'itsy tawixy ku jo'kx yë'ë nëj y'ett.
 te'n ëjts n-itsy t-awex-y kuu
 M.DEM 1SG 1POSS-younger.sibling 3A-hope-DEP COMP
 jo'kx yë'ë nëj y-et-t
 warm DEM.M water 3S-be-IRR;DEP
 'My brother hopes that the water is warm.' (TAMAE-124)
6. ¿Y'ejtn yä'ät tējtk tsäjptsa?
 y-et-n yä'ät tējtk tsäjpts=a
 3S-be-PERF;DEP DEM.P house red=Q
 'Has the house been red?' (J-TAMAN-70)

In most cases, particularly in complement clauses, the copula appears in final position, but it can also appear at the beginning of the sentence, as in (6).

If it is necessary to use a core serial verb construction (§8.11), such as the desiderative, then the existential copula *et* 'to be, to exist' must be used, as shown in (7).

7. Axëëk yë' wet yetä'äny.
 axëëk yë'ë wet y-et-ä'än-y
 dirty DEM.M clothes 3S-be-DES-DEP
 'The clothes will be dirty.'

As in any other predicate, it is possible to use an imperfective particle in order to make sure that the sentence has imperfective aspect, as in the examples in (8).

8. a) Yëjk ijty ja'a tënë'ëk axëëy.
 black IMPF DEM.D worm yesterday
 'Yesterday, the worm was black.' (Eel08)
- b) Ayoop jä'äy ijty ëjts.
 poor person IMPF 1SG
 'I was a poor person.'

It is worth mentioning that for an aspect-mood other than the neuter, it is very common to use a verbal predicate, particularly with the verbalizer *-ät* (see §6.3.8), rather than the copula *et* 'to be, to exist', as explained at the end of this section, in §9.1.9.

9.1.2 Nouns

Nouns are also used as non-verbal predicates. As shown for adjectives, the main predicate appears usually in initial position, and it appears in juxtaposition with the subject, as presented in (9).

9. *Ka'a yë'ë yujk.*
 caterpillar DEM.M animal
 'This animal is a caterpillar.'

In (9) the noun *ka'a* 'caterpillar' is used as the main predicate, while the noun phrase *yë' yujk* 'that animal' is the subject. Non-verbal predicates whose main predicate is a noun are normally used in "ostensive contexts", i.e. when the referent is at sight (and preferable when one is pointing at it). In non-ostensive contexts, denominal verbs with the verbalizer *-ät* are preferred (§6.3.7.1).

Again, the non-verbal predicate takes a person prefix in the dependent form. Thus, in (10a) the noun *ka'a* 'caterpillar' and in (10b) in the noun *tsapajkx* 'peach' takes the third person marker.

10. a) *Ka't kya'a yë' yujk.*
ka't y-ka'a yë' yujk
 NEG 3S-caterpillar DEM.M animal
 'This animal is not caterpillar.'

- b) *Ka't yë' tsyëpajkx.*
ka't yë'ë y-tsapajkx
 NEG DEM.M 3S-peach
 'That is not a peach.'

9.1.3 Quantifiers

Quantifiers are another type of non-verbal predicate. Quantifiers were discussed as a separate part of speech in §6.11. The only way in which they can be part of a non-verbal predication is if they are the main predicate. Sentences like those in (11) have,

additionally, an existential interpretation, although they should not be regarded as instances of an existential construction (see below §9.9.1.8).

11. a) *Maynyaxy yä'ät jä'äxy.*
 many DEM.P firewood
 'This is a lot of firewood.' (Lit. 'The firewood is many.')
- b) *Kom yë' nëj.*
 much DEM.M water
 'This is a lot of water.' (Lit. 'The water is much.')

As in adjectival predication, in the negative form of the sentence, the quantifier takes the person prefixes and is placed in final position, as shown in (12), where the quantifier is inflected for third person.

12. a) *Ka't yä'ät kafe tyimykyaja.*
 ka't yä'ät kafe y-timy-kaja
 NEG DEM.P coffee 3S-just-many
 'This is not so much coffee (in grain).' (Lit. 'This coffee is not much.')
- b) *Ka't yë' nä'äny kyom.*
 ka't yë'ë nä'äny y-kom
 NEG DEM.M atole 3S-much
 'This is not a lot of *atole*.' (Lit. 'This *atole* is not much.')

9.1.4 Numerals

In Ayutla Mixe, numerals are used as main predicates as well. As in the previous cases of non-verbal predication, the numeral normally appears in initial position, as in (13).

13. *Tutujk yë' tutk.*
 six DEM.M chicken
 'These are six chicken.' (Lit. 'The chickens are six').

In the example in (13) the numeral *tutujk* 'six' is used as the main predicate while the noun phrase *yë' tutk* 'the chicken' is the subject. Additionally, (13) can have an existential interpretation (i.e., 'There are six chicken'). As in the case of nouns, non-verbal predicates whose main predicate is a numeral are normally used in "ostensive

contexts”. In non-ostensive contexts, a derived verb with the verbalizer *-ät* is preferred. Also, it seems to me that in this construction the numeral is usually in focus, in comparison to a more neutral construction in terms of information structure when the verbalization with *-ät* is used.

As in other cases of non-verbal predication, the numeral takes a person prefix in a negative sentence and is placed at the end of the sentence. In (14) the numeral *nëmëkäjxk* ‘five’ takes the third person prefix.

14. Ka’t yë anä’äk nyëmëkäkx.
 ka’t yë’ë anä’äk y-në-mëkäkx
 NEG DEM.M young.person 3S-ANIM-five
 ‘Those are not five guys.’

A numeral can be a non-verbal predicate regardless of whether it is cardinal, as in the examples in (13) and (14), or ordinal, as in the examples in (15).

15. a) Më-tëkëëk yë’ mixy.
 ORD-three DEM.M boy
 ‘The boy it the third one.’
- b) Ka’t ëjts nmëtëkëëk.
 ka’t ëjts n-më-tëkëëk
 NEG 1SG 1S-ORD-three
 ‘I am not the third one.’

9.1.5 Demonstratives

Nominal demonstratives can also be non-verbal predicates, as shown in (16). As a general rule, when the demonstrative appears in initial position, it is the non-verbal predicate.

16. a) Yä’ät yë’ në-mëkoxk tutk.
 DEM.P DEM.M ANIM-six chicken
 ‘The six chickens are these.’
- b) Yä’ät tsäjpoxj.
 DEM.P quince
 ‘This is a quince.’

- c) Ka't jya'a yë' tsapäjkk.
 ka't y-ja'a yë'ë tsapäjkk
 NEG 3S-DEM.D DEM.M guava
 'That is not a guava.'

At first glance, in (16a-b) it would be difficult to say which one is the subject and which one is the non-verbal predicate, but this becomes clear when the non-verbal predicate appears marked as dependent. In these cases, the demonstrative takes the person prefix, as any other non-verbal predicate. Consequently, in (16c) the demonstrative takes the third person prefix *y-*.

Despite what it might seem at first glance, the examples in (16), or other cases where the demonstrative is the predicate, are not equative constructions. In AyMi equative non-verbal predication is a different type of construction that is discussed later (§9.9.1.6) and its negative (or dependent) form is different from non-verbal predication with demonstratives. In addition, when the demonstrative is the predicate, the subject does not necessarily match the referential constituent and the predicate the non-referential. In other words, when the demonstrative is the main predicate it overrides the referential-nonreferential alignment of subject and predicate usually found in non-verbal predication, and nominal predication in AyMi (see, for example, 10b).

Notice that in some cases it is even possible to have a nominal demonstrative both in the subject and in the predicate. The example in (17), for example, is a natural answer if the speaker is looking for something she already knows but someone else shows her another object.

17. Ka't yë' jya'.
 ka't yë'ë y-ja'a
 NEG DEM.M 3S-DEM.D
 'That is not the one.'

In this example, the demonstrative that is the non-verbal predicate can be translated as “the one”. Again, notice that (17) is not an instance of equative predication, as will become clear in the following section (§9.9.1.6).

When there is no dependency involved, it is somewhat difficult to know which one is the predicate and which one is the subject. Furthermore, in some cases which is the subject and which is the predicate does not seem to affect the meaning, with the exception of a change in the focus. So, in (18a) the focus is on *tsäjpxoj* ‘quince’ but in (18b) on the demonstrative *yä’ät*.

18. a) [Tsäjpxoj] [yä’ät].
 quince DEM.P
 ‘This is a quince.’

b) [Yä’ät][tsäjpxoj].
 DEM.P quince
 ‘This is a quince.’

Again, it does not matter that in (18) *tsäjpxoj* ‘quince’ is not referential in both cases; since the inflected word in the negative form would be the demonstrative, it is the predicate and therefore the noun would be the subject.

When there is a full noun phrase, the demonstrative is the predicate while the NP is the subject. Thus, in (19), the non-predicate is the demonstrative *yä’ät* and it is in initial position, while the noun phrase subject follows it. Additionally, in this sentence there are two different demonstratives in a row, which is possible because they belong to two different constituents.

19. Yä’ät yë’ mēj tu’uts.
 yä’ät yë’ mēj tu’uts
 DEM.P DEM.M big pot
 ‘This is the big pot.’

As in adjectival predication, it is possible to use the existential copula for expressing irrealis, as in the example in (20).

20. Ējts ntseky ku yē' sn'ay tyixytējk yett.
 ējts n-tsok-y kuu yē'ē ējts=n-ay
 1SG 1A-want-DEP Cmplz DEM.M 1SG=1POSS-older.brother
 y-tixytējk y-et-t
 3POSS-wife 3S-exist-IRR;DEP
 'I would like her to be my older brother's wife.'

9.1.6 Equative predicates

Equative predicates are very similar to other types of non-verbal predicates in the sense that in the neutral aspect there is no need for an overt copula and so the subject and the predicate are in juxtaposition, as in the following examples in (21).

21. a) Ja' tse'yēpts xe'et tixytyējk.
 ja'a tsey-ē-p=ts xe'et tixytyējk
 DEM.D cure-INCH-NMLZ=EV DEM.C woman
 'This woman is the doctor.'
- a) Ja' maestrts yē' tāt.
 ja'a maestr=ts yē'ē tāt
 DEM.D teacher=EV DEM.M man
 'That man is the teacher.'

Equative predicates are limited in AyMi to cases when there are two referential full noun phrases. If one of the constituents is a demonstrative, then a structure such as those discussed in §9.1.5 must be used, not an equative predicate. Additionally, with proper names, the subject and the predicate are not completely interchangeable. Normally an equative sentence is used when a full NP is the predicate and the proper name the subject, as in (22a), but when the proper name is the predicate a verbal predication is preferred, as in (22b).

22. a) Yē' maestr Juan.
 yē'ē maestr Juan
 DEM.M teacher Juan
 'Juan is the teacher.'

- b) Juankäjtp ja' teety.
 Juank-ät-p ja'a teety
 Juan-VRBLZ-INDEP DEM.M father
 'The father is Juan.'

The verbalizer *-ät* was discussed in previous chapters (§6.3.7.1), but cases like (22b) will be discussed again at the end of this section (§9.9.1.9), in the context of verbalization as an alternative to non-verbal predication.

In the negative form, equative sentences are different from the other types of non-verbal predication discussed above in §§ 9.1.1-9.1.5. Unlike other types of non-verbal predication, there is no person marker and the predicate takes the suffix *-ëp*, as shown in (23a). At this point, it is not clear whether it is possible to further analyze this suffix.¹ The negative form of an equative sentence in (23a) contrasts with non-equative nominal predication, shown in (23b), which does not have the suffix *-ëp* but it has the person prefix *y-*.

23. a) Ka't ja' maestrëp yë' tät.
 ka't ja'a maestr-ëp yë'ë tät
 NEG DEM.D teacher-SUFFIX DEM.M man
 'That man is not the teacher.'
- b) Ka't yë' tät myastr
 ka't yë'ë tät y-mastr
 NEG DEM.D man 3S-teacher
 'That man is not a teacher.'

When the main predicate is a proper name, the negative form is usually a denominal predicate derived with the verbalizer *-ät*.

¹ This suffix seems very similar to a sequence composed by the inchoative suffix (*-ë*) and the neutral independent AM suffix (*-p*). I have not analyzed this suffix in this way because an independent conjugation never appears in a negative sentence, as the negative particle *ka't* always triggers dependency. Thus, either this is an exception to an otherwise general rule in AyMi or *-ëp* is a different suffix. Additionally, there is an evidential clitic *=ëp* (see §6.15) used to indicate counter-expectation, similar to a mirative clitic. Since a negative equative sentence is very often used precisely in when someone has counter-expectations, it is more difficult to differentiate the suffix *-ëp* from then evidential clitic *=ëp*. However, the former is obligatory and the latter optional.

9.1.7 Possession

There are also non-verbal possessive predication constructions, of the type *This is my house* or *The house is mine*, i.e. constructions in which the main predicate expresses a possessive relation. There are two types of non-verbal possessive constructions: one in which the personal pronoun is the predicate on its own and another one in which the predicate is a possessed phrase.

In this first type of possessive construction, the personal pronoun is the main predicate and the noun phrase is the subject, as in (24). Notice that the subject is in fact a possessed noun phrase, since the head noun has the first person possessive prefix *n-* in (24a) and the second person possessive prefix *m-* in (24b).

24. a) Ęjts yĕ' n-tĕjk.
 1SG DEM.M 1POSS-house
 'My house is mine.'

b) Mejts yĕ' m-uk.
 2SG DEM.M 2POSS-dog
 'Your dog is yours.'

In the other type of possessive construction, the main predicate is a possessive phrase that has a possessed demonstrative as nucleus. The other noun phrase is the subject. This construction is shown in (25).

25. a) Mejts mja'a yĕ' tĕj.
 mejts m-ja'a yĕ'ĕ tĕjk
 2SG 2POSS-DEM.D DEM.M house
 'That house is yours.'

b) Yĕ'ĕ tĕjk mejts mja'a.
 yĕ'ĕ tĕjk mejts m-ja'a
 DEM.M house 2SG 2POSS-DEM.D
 'That house is yours.'

In (25a), the predicate *mejts mja'a* ‘yours’ has the personal pronoun *mejts* ‘you’ possessing the demonstrative *ja'a*, which bears the second person possessive prefix *m-*.² This type of possessive is somewhat similar to an equative predication (presented in the previous section), as the subject and the predicate can be easily reversed, as shown in the contrast between (25a) and (25b).

The negative form of the non-verbal possessive predication is different from any other type of negative non-verbal predicate, except for equative predications, because there is no person marker in the main predicate. Neither *ějts* ‘I’ in (26a) nor *ějts nja'a* ‘mine’ have a person marker or any other mark in the negative sentence in (26b).

26. a) *Ka't ějtsĕp xe'et ntĕjk.*
ka't ějts=ĕp³ xe'et n-tĕjk
 NEG 1SG=EXPECT DEM.C 1POSS-house
 ‘My house is not that one.’ (Eel08)

b) *Ka't ějts nja'a xe'et tĕjk.*
ka't ějts n-ja'a xe'et tĕjk
 NEG 1SG 1POSS-DEM.D DEM.C house
 ‘That house is not mine.’

Additionally, it is always possible to express possession using another non-verbal predicative construction whose main predicate is a demonstrative and whose subject is an NP with a possessed nucleus, such as the one in (27).

27. *Yĕ'ĕ ějts n-tĕjk.*
 DEM.M 1SG 1POSS-house
 ‘This is my house.’

The example in (27) conveys a possessive meaning because the head noun in the subject is possessed. This is the type of non-verbal predication discussed in §9.1.2.

² This possessive constituent can also appear as an oblique recipient, but not as a core argument.

³ The evidential =*ĕp* looks very similar to the suffix -*ĕp* that equative sentences take; however, as explained in footnote 1, the former is the evidential used for counter-expectations (see §6.15).

9.1.8 Locative and existential predicates

Non-verbal predication is also used for locative and existential predicates. These types of predicates are formed by the following elements: they have an (optional) locative adverbial demonstrative (§6.8.2) in topic position, followed by a subject noun phrase and followed by a locative phrase, as described in §7.5, i.e. phrases that have a part morpheme (§6.16) and a locative suffix. Locative non-verbal predication is exemplified in (28).

28. a) Jajp tu'uk kutypy meskixypy.

jajp tu'uk kutypy mes-këx-py
DEIC.D one avocado table-SURFACE-LOC

'An avocado is on the table.' / 'There is an avocado on the table.'

b) Tapa äjkx nëetypy.

tajp=ja'a äjkx nëj-ojt-py
DEIC.M=DEM.D fish water-INSIDE-LOC

'The fish is in the water.' / 'There is a fish in the water.' (BPA-32)

c) Taa mext kaapyajtpatki'py.

taa=ja'a mext kaaky+äjt-pat-ki'py
DEIC.M=DEM.D cat table-under-LOC

'The cat is under the table.' (BPJ-31)

In (28a) the subject is *tu'uk kutypy* 'an avocado' and the locative phrase is *meskixypy* 'on the table'; in (28b) the subject is *ja'a äjkx* 'the fish' and the locative phrase *nëetypy* 'in the water'; and in (28c) the subject is *ja'a mext* 'the cat' and the locative phrase *kaapyajtpatki'py* 'under the table'. Also, in locative non-verbal predication, a locative adverbial demonstrative (§6.8.2) usually appears in initial position, in what seems to be a focus position.

While it is clear that the non-verbal predicate must contain the locative phrase, it is not obvious which constituent is the predicate of the non-verbal predication. In other cases of non-verbal predication, the predicate had a special marker in the negative form.

However, in locative non-verbal predication a negative sentence does not help decide which element is the main predicate. In (29a), the locative adverbial demonstrative takes a person marker, which has been used to single out the main predicate. However, the person marker is optional in this context, as one can see in the grammaticality of (29b). When the sentence does not have a locative adverbial demonstrative, as in (29c), it is not possible to place the person marker on the locative phrase, as one can see in (29d).

29. a) Kata' uk jyajp tēketypy.
 ka't ja'a uk y-jajp tējk-ot-py
 NEG DEM.D dog 3S-DEIC.D house-INSIDE-LOC
 'The dog is not inside the house.'
- b) Ka't ja' uk jajp tēketypy.
 ka't ja'a uk jajp tējk-ot-py
 NEG DEM.D dog DEIC.D house-INSIDE-LOC
 'The dog is not inside the house.'
- c) Ka't yē' tas meskēxp.
 ka't yē'ē tas mes-kēx-p
 NEG DEM.M cup table-SURFACE-LOC
 'The cup is not on the table.'
- d) *Ka't yē' tas myeskēxp.
 ka't yē'ē tas y-mes-kēx-p
 NEG DEM.M cup 3S-table-SURFACE-LOC
 'The cup is not on the table.'

The examples in (29) eliminate the locative phrase as the head of the non-verbal predication, and might suggest that the locative adverbial demonstrative is the head. However, this is also implausible as the demonstrative lacks the proper argument structure to project the subject noun phrase. Also, it would require the verbal predicate to be discontinuous, including the locative adverbial demonstrative and the locative phrase,

but this is also seems unlikely. The other possibility is that non-verbal locative sentences lack an overt predicate.⁴

As previously stated, the examples in (28)-(29) also have an existential interpretation. However, locative and existential predicates can be differentiated in the negative form. While locative predicates do not have any additional marking, as discussed in the previous paragraphs, existential predicates take the negative word *te* in addition to the particle *ka't*, as shown in (30). The second negative word, *te*, is usually placed immediately after *ka't*, as in (30a), or between it and the subject, as in (30b).

30. a) **Ka't te** ma'tsp yää käjpoojty.
 ka't tee maats-p yää käjp-ot-y
 NEG NEG steal-NMLZ DEIC.P town-INSIDE-LOC
 'There are no thieves in this town.'

b) **Ka't** meeny **te** yää Tukyo'm.
 ka't meeny te yää Tukyo'm
 NEG money NEG DEIC.P Ayutla
 'There is no money here in Ayutla.'

A negative existential non-verbal predicate is further differentiated from other non-verbal predicates in that there is no need for a locative phrase, as in (31a).⁵ Notice that even though in this case the NP *yä'ät käjp* 'this town' expresses a location, syntactically it is the subject while *ma'tsp* 'thieves' is the main predicate. Moreover, the sentences can consist of only the two negative words, as in (31b).

31. a) **Yä'ät** käjp ka't te ma'tsp.
 yä'ät käjp ka't te maats-p
 DEM.P town NEG NEG steal-NMLZ
 'There are no thieves in this town.'

⁴ There is yet another possibility, which is that the head is phonologically empty. In such a view, locative non-verbal predication is just the simplest instance of locative predication, which includes any case of locative predication that has a locative adverbial demonstrative and locative phrase. However, I would prefer not to open up the possibility of having heads that are phonologically empty. Also, even though non-verbal and verbal locative predications are very similar, I do not believe that they are instances of the same construction: importantly, one has a verb and the other does not.

⁵ Existential affirmative sentences, on the other hand, do require a locative phrase.

- b) Ka't tee.
 NEG NEG
 'No problem.'

It is perhaps worth mentioning that the negative word *te* is also found in verbal predication, as in (32).

32. Pero kata' meeny **te** tpääty.
 pero ka't=ja'a meeny te t-pää-t-y
 but NEG=DEM.D money NEG 3A-find-DEP
 'But he doesn't find any money.'

There are other cases of locative predicates, but all of them involve verbal predication, as in (33). In these cases, the verbal predicate is usually one of the positional-like verbs (§6.3.6), but a locative phrase has to be used. However, while the non-verbal predicates are ambiguous between a locative and an existential meaning, the verbal predicates in (33) only have the locative meaning.

33. a) Tajp tu'uk kentsy wyejtsn tēketypy.
 tajp tu'uk kentsy y-wets-n tējk-ot-py
 DEM.M one sack 3A-carry.sacks-PERF.DEP house-INSIDE-LOC
 'The sack is inside the house.'
- b) Jam yē kutsypy kyonn meskēxp.
 jam yē'ē kutsypy y-kon-n mes-kēx-p
 DEIC.D DEM.M avocado 3S-carry.small.objects-PREF.DEP table-SURFACE-LOC
 'The avocado is on the table.'

Finally, as stated above, when a quantifier is the main predicate, it is also possible to obtain an existential reading, as in the examples in (34).

34. a) Tsyām jaa may tojcx.
 now DEIC.D many food
 'Now there is a lot of food.'
- b) Kom-naxy nēj yā Tikyo'm
 many-INTENS water DEIC.P Ayutla
 'There is a lot of water here in Ayutla.'

9.1.9 Verbalization

As the final point in this section, the verbalizer *-ät* is used to derive a verb from another part of speech. In this way a member of a part of speech whose main function is not predicative becomes a main predicate (see §6.3.7.1). However, once a verb is derived, the sentence should be treated as verbal predication.

The examples in (35) are verbal predicates in Mixe, since they have the verbalizer *-ät*, although their meaning is very similar to that of a nominal predication.

35. a) *Yë'ë Juankäjtp.*
yë'ë Juank-ät-p
 DEM.M Juan-VRBLZ-INDEP
 'He is Juan.'
- b) *Käj ëjts njityëjk'ajtypy.*
käj ëjts n-jityëjk-ät-yp
 lion 1SG 1A-husband-VBLZ-INDEP;TR
 'I have a lion for a husband.' (Aur2-1070)

In (35a) the main predicate is the verb *Juankäjtp* 'he is Juan', while the subject is the demonstrative *yë'ë*. Notice that the verb was derived from a proper name and it takes the neutral independent AM suffix *-p*. This contrasts with non-verbal predicates, which never take an AM suffix. The example (35b) is more complicated; the main predicate is the verb *njityëjk'ajtypy* 'X is my husband' or 'I have X for a husband'. Again, like any other verb and unlike non-verbal predicates, the verb takes the person marker for the agent of a transitive verb (the A) in the independent AM, and the appropriate AM suffix (*-yp*). In this case, the first person (which semantically is a possessor) is the subject while *käj* 'lion' is the direct object.

For non-matrix predicates, the use of a verbal predicate is obligatory, as in (36a), since non-verbal predicates are not possible in this context (regardless of whether the main predicate is a noun, an adjective, a numeral or other type of non-verbal predicate).

Thus, in the following example, it is not possible to use a non-verbal predication, not even if the existential copula *et* ‘to exist’ is used so that it can take the irrealis AM, which is obligatory in this context. The ungrammaticality of this construction is shown in (36b).

36. a) Ējts ntsejkypy nmētu'ukätt
 ějts n-tsok-yp n-mě-tu'uk-ät-t
 1SG 1A-want-INDEP;TR 1S-ORD-one-VRBLZ-IRR;DEP
 ‘I want to be the first one.’
- b) *Ējts ntsejkypy ku mejts mētu'uk m'ett.
 ějts n-tsok-yp kuu mejts mě-tu'uk m-et-t
 1SG 1A-want-INDEP;TR CMPLZ 2SG ORD-one 2A-be-IRR;DEP
 ‘I want you to be the first one.’

In addition to the verbalizer *-ät*, it is also common to use the inchoative suffix to create verbal predicates (for the discussion of the suffix, see §8.5). Again, deriving a verb is very often preferred in negative or subordinate sentences.

37. Ka't yě' tutk ja'y nyëmaktäxkět.
 ka't yě' tutk ja'y y-ně-maktäxk-ě-t
 NEG DEM.M chicken only 3S-ANIM-six-INCH-PL;DEP
 ‘Those are not six chickens.’

9.2 Core participants and grammatical relations

In Ayutla Mixe, as in any other language, one would like to distinguish between core and non-core participants of an eventuality described by a given predicate. Core participants are required semantically and syntactically by the predicate. Core participants are referred to as arguments as well. In a language like English, or in any other language with an accusative pattern, one can say that intransitive verbs have a subject and transitive verbs have a subject and an object. However, in typological terms, it is common to use other terms to avoid the problem of what the subject is in a language with an ergative pattern. Following Comrie (1978) and Dryer (2007c) one can refer to core participants as presented below. In the case of an intransitive verb, the single participant

is called S. In a transitive verb, A is used for the most agent-like argument and P for the most patient-like argument, as in (38).

38. a) The hunter killed a rabbit.
 b) Pat heard a noise.
 c) Robert moved a chair.

As Dryer (2007c:552) points out, A need not be an Agent in a restricted sense of a volitional human being, as in (38a), but it could also cover other semantic roles such as experiencer, as in (38b). Likewise, P need not be a patient also in a restricted sense but could also be a stimulus, as in (38b), or theme, as in (38c).

Ditransitive verbs, on the other hand, typically have a theme and a recipient, in addition to an agent. In analogy to S, A and P, one can use other symbols to refer to the core participants of a ditransitive verb. Thus, A will be the most agent-like participant, R the recipient-like argument and T the theme-like argument. Again, R can be someone who receives something and T the given entity in a literal sense, as in (39a), or in a more metaphorical sense, as in (39b) (Dryer 2007c:254).

39. a) Pat gave the book to Bill.
 b) Pat told a story to Bill.

Notice that S, A, P, T and R are not grammatical relations but rather a way to refer to core arguments. In a way, they are notions similar the concepts of semantic macroroles used in Role and Reference Grammar (Van Valin 2003; Van Valin 2005; Van Valin & LaPolla 1997), except that here we have different macroroles for each type of verb (i.e. one for intransitive verbs, two for monotransitive verbs and three for ditransitive verbs) and not just two macroroles that cover all possible functions. In a language with an accusative pattern, S and A are conflated into the notion of subject and P is the object; in

a language with an ergative pattern S and P are treated in the same way and we can call them ergative and A is treated in a different way and we can call it absolutive.

For the particular case of Ayutla Mixe, given that there is no clear ergative or accusative pattern (see §8.2.2), I see no reason to conflate S with A or P. Thus, the single argument of an intransitive verb will be referred to as S. On the other hand, the most agent-like arguments in monotransitive and ditransitive verbs are treated similarly and will be called A. Finally, as explained in this and other sections (see §§9.5.2 and 9.6.2), P in a monotransitive verb and both T and R in a ditransitive verb are treated all alike, and thus I will call them objects or just O. Summarizing, S, A and O are the three grammatical relations found in AyMi.

Core arguments have the following characteristics: they are unmarked noun phrases, i.e. they do not have an adposition or a locative term (see §7.5.1), they can be cross-referenced on the verb by a personal prefix, and they can trigger the plural suffix on the verb. In the following examples the argument noun phrases are not specially marked, in contrast to noun phrases that are part of a locative construction (40a-b) or that are introduced with the adposition *mëët* (40d).

40. a) Ojtsa' maxu'unk jajp tmatsy nëëejtypy.

ojts=ja'a maxu'unk jajp t-mäts-y nëj-ojt-py
 PAST=DEM.D baby DEIC.D 3A-grab-DEP water-INSIDE-LOC
 'She grabbed the baby inside the water.' (Sofa1-915)

b) Tak ojtsa jä'äxy tukë'yëka jä'äxy ojts jajp nyëpajtkixy tēkëxajpyëk.

taa=ëk ojts=ja'a jä'äxy tukë'y=ëk=ja'a jä'äxy
 DEIC.M=HEARSAY PAST=DEM.D firewood all=HEARSAY=DEM.D firewood

ojts jajp y-në-pat-këx-y tēj-k-ëx-ajpy=ëk
 PAST DEIC.D 3S-ON-ascend-finish-DEP house-BEHIND-LOC=HEARSAY
 'Then the firewood, then all the firewood put (itself) behind the house.' (IreL-2014)

- c) Tu'uk kiixy mēēt tsujx tšujk'ää tu'uk tse'e.
 tu'uk kiixy meet tsuujxk t-tšujk-ää tu'uk tse'e
 one girl ASSOC knife 3A-cut-halt[INCH.DEP] one pumpkin
 'A girl cut a pumpkin with a knife.' (C&BA-14)

In (40a), the O argument *ja'a maxu'unk* 'the baby' does not have any additional marking while the NP *nēēj* is part of a locative phrase introduced by the locative term *-ejtypy* 'inside' (see §7.5.1). Similarly, in (40b), which is part of a folk tale where the firewood turns out to be mice, the S argument *ja'a jä'äxy* 'the firewood' does not have additional marking but *tējk* 'house' is part of a locative phrase with *ēxajpy* 'behind'. In the example in (40c), the A argument *tu'uk kiixy* 'a girl' and the O argument *tu'uk tse'e* 'a pumpkin' do not have additional marking, but for the instrumental, the noun phrase *tsujx* 'knife' is introduced by the adposition *mēēt*.

The second characteristic for core participants is that they are also cross-referenced by the person prefixes. This is presented in (41), where all core arguments are cross-referenced. All the person prefixes are discussed in §8.2.

41. a) S cross-referenced

Japa jä'äy y'awextēt.
 jajp=ja'a jä'äy y-awex-tē-t
 DEIC.D=DEM.D people 3S-wait-PL-IRR;DEP
 'Let people wait there.' (Ire1L-173)

b) A cross-referenced

Tsyä ējts moojk nakjä'äty.
 tsyä ējts moojk n-ak-jä'ät-y
 DEIC.P 1SG corn 1A-CAUS-arrive-DEP
 'I brought corn.' (VMA1L-348)

c) O (=P in a monotransitive clause) cross-referenced

Ja'a mējk ējts jä'äy xtimtyäkaty.
 ja'a mējk ējts jä'äy x-timy-tääkät-y
 DEM.D strong 1SG people 1O-just-envy-DEP
 'People envy me very much.' (NL1-348)

- d) O (=T in a ditransitive clause) cross-referenced

Maadr ojts ějts ntääk xtakětĕk.

maadr ojts ějts n-tääk x-takĕ+tĕk

nun PAST 1SG IPOSS-mother IO[INV]-give.in.adoption[INCH.DEP]

‘My mom left me under the nuns’ care.’ (Lit.: ‘My mom gave me in adoption to the nuns.’)

- e) O (=R in a ditransitive clause) cross-referenced

Mĕknĕj ojts Carlos ějts xmo’oyy.

mĕknĕj ojts Carlos ějts x-mo’oy-y

mezcal PAST Carlos 1SG IO-give-DEP

‘Carlos gave me *mezcal*.’

In (41a), the noun phrase *ja’a jā’äy* ‘the people’ is cross-referenced with the third person prefix *y-* on the verb. The example (41b) shows a direct alignment in a transitive clause and the A, a first person, is cross-referenced by the person prefix *n-* in the verb; in contrast, (41c-e) show an inverse alignment, as the O (the P, and both the T and the R, respectively) is cross-referenced by the person marker *x-*. Notice that the P in a monotransitive clause and the T and R in a ditransitive clause are treated in the same way, as all of them trigger the same person marker, the first person O.

Finally, all core participants can trigger plural marking on the verb. This means, then, that S, A, and O all can trigger the plural suffix, as shown in the examples in (42)-(44). Usually, the person prefix and the plural suffix are cross-referenced by the same participant, as in most of the examples below, although this need not always be the case, as in (44b).

42. S triggers plurality.

- a) Jä’ttĕp yĕ’ jā’äy.

jä’ät-tĕ-p yĕ’ĕ jā’äy

[3S]arrive-PL-INDEP DEM.M people

‘People are arriving.’

- b) Tĕ te’na yää jyĕmpejtnĕt...

tĕĕ te’n=ja’a yää y-jĕmpet-nĕ-t

BEFORE.NOW M.DEM=DEM.D DEIC.P 3S-return-PERF-PL;DEP

‘They had come back...’ (NL1-421)

43. A triggers plurality

- a) Jatsyu'u yë' jä'äy jam pyapeetyëp.

jatsyu'u yë'ë jä'äy jam y-pa+po'oy-të-p
 deer DEM.M people DEIC.D 3A-hunt-PL-INDEP
 'People are hunting deer.'

- b) Ta jam ojts tnëkojt ja cruz.

taa jam ojts t-në-kojt ja'a cruz
 DEIC.M DEIC.D PAST 3A-ON-build-PL.DEP DEM.D cross
 'They built the cross there.' (NL1-705)

44. O triggers plurality

- a) Yë' tät meets m'exëtëp.

yë'ë tät meets m-ex-ë-të-p
 DEM.M man 2PL 2O-see-INV-PL-INDEP
 'The man is going to see you (pl).' (C3p47)

- b) Tajp ja' neky'a tukë'y tmët'äjkëxt.

tajp ja'a neky=ja'a tukë'y t-mëët-ät-këx-t
 DEIC.D DEM.D paper=DEM.D all 3A-ASSOC-VRBLZ-finish-PL;DEP
 'He has all the paperwork.' (Efa1-1299)

Non-core participants are not required semantically or syntactically by the verb, and thus have different syntactic properties compared to core participants. Non-core arguments are also called adjuncts. In Ayutla Mixe, they do not present any of the characteristics of core participants: they are marked by the adposition or they are part of locative phrases, as shown in the examples in (40), and they cannot be cross-referenced by personal prefixes and they do not trigger the plural maker. Summarizing, one can say that core participants are required semantically and syntactically, while non-core participants are optional both semantically and syntactically.

Additionally, there are intermediate cases. Some participants might be required semantically but they do not have the same syntactic properties that arguments do. I will call participants with these characteristics obliques.⁶ Crosslinguistically, there could be

⁶ The term oblique has been used in various ways in linguistics, but I will limit its use as a participant that is semantically an argument but syntactically has not (all) the properties of an argument, along the use of the term by Van Valin (2001).

different reasons for an argument to be treated as oblique, particularly as part of a valence-changing morphology. Here, the discussion will be restricted to arguments introduced by the adposition *mëët*.

The most important and obvious syntactic characteristic is that the comitative is introduced by the adposition *mëët* and therefore it cannot be a syntactic argument as defined above; however, when it is part of a reciprocal construction, it is a semantic argument of the verb. Additionally, there are cases in which the comitative has some syntactic properties, discussed below, that make it similar to arguments, and in those cases it will be treated as an oblique. When it does not have those properties, it will be treated as any an adjunct.

First of all, the object of the preposition can be cross-referenced by the person marker when it is an oblique. Thus, in (45) the object of the adposition *ëjts* ‘I’ is the one that triggers the agreement, not the S *yë’ mixy* ‘the young man’ in (45a) or the *yë’ n’u’unk* ‘my son’ in (45b).

45. a) *Mëët ëjts ojts yë’ mixy nniykxy.*
 mëët ëjts ojts yë’ë mixy n-nëjcx-y
 ASSOC 1SG PAST DEM.M boy 1S-go-DEP
 ‘The young man went with me (i.e. He and I went).’
- b) *Ëjts mëët ojts yë’ n’u’unk nniykxy ukp.*
 ëjts mëët ojts yë’ë n-u’unk n-nëjcx-y uk-p
 1SG ASSOC PAST DEM.M 1POSS-child 1S-go-DEP drink-INF
 ‘My son went to drink with me (i.e. He and I went to drink).’

Notice that not all comitatives are treated in the same way, in that with some of them the object of the adposition is not cross-referenced with the person prefix. The sentence in (46) contrasts with the previous examples in (45) in this respect. In cases like this, the adpositional phrase is not an oblique but an adjunct.

46. Te'ep te'n ëëts mët jyaty.
 te'ep te'n ëëts mëët y-jät-y
 REL M.DEM 1PL ASSOC 3S-know.how-DEP
 'he who played with us.' (Sofa1L-840)

Additionally, the union of the object of the adposition and one of the arguments of the verb can trigger the plural suffix on the verb, as in (47).

47. Lunes ojts jyëptä'äkt jëte'n mëta myänku'unk.
 lunes ojts y-jëptä'äk-t jëte'n mëët=ja'a y-mänk-u'unk
 Monday PAST 3S-discend-PL;DEP M.DEM ASSOC=DEM.D 3POSS-child-DIM
 'On Monday, she and his son came down.' (IreL-2120)

In (47), the verb is marked as intransitive because it takes the person marker *y-* which is used to cross-reference the S participant in an intransitive predicate when the verb is marked as dependent. The S, not mentioned as an NP in (47), is a woman who is selling stuff, and thus it is a singular participant. However, the verb takes the plural suffix *-t*. Thus plurality is triggered by the conjunction of the S plus the comitative, which is semantically a participant in the event as well, even though it is not treated syntactically as argument. Even though the person prefix agrees with only one argument, as discussed above, both the object of the adposition and the S function like a conjoined structure with respect to the plural suffix.

Some more examples where the comitative in combination with S triggers the plural suffix are given in (48). This is particularly clear in (48a), where the person marker is in cross-reference with a singular participant; since the personal pronoun is *ëjts* 'I', and not *ëëts* 'we', the S alone cannot trigger the plural suffix. However, the verb is still marked for plural, triggered by two constituents, the S and the comitative.

48. a) ...ku ëtsa mëët nmä'ät, ku ëtsa mëët... nmatyä'äkt.
 kuu ëjts=ja'a mëët n-mä'ä-t ku ëjts=ja'a mëët nmatyä'äk-t
 when 1SG=DEM.D ASSOC 1S-sleep-PL;DEP when 1SG=DEM.D ASSOC 1S-talk-PL;DEP
 '(It has been recently) since we (my grandpa and I) slept in the same place, since I talked to him.' (NL1-2047) (Lit. I slept with him.)

- b) ...mēt yuk ojts te'n nēety py tuknāx tyimyapepēt tām.
 mēet y-uk ojts te'n nēj-ojt-py tuknāx
 ASSOC 3POSS-dog PAST M.DEM water-INSIDE-LOC at.the.same.time
 y-timy-apep-ē-t tām
 3S-just-fall-INCH-PL;DEP DEIC.M
 ‘With his dog, he fell into the water.’ (FrogG-555)

One question here is whether the adpositional phrase attaches to the verb phrase or to the subject noun phrase. Since the comitative triggers plurality, it might seem plausible to say that it attaches to the subject NP, and it is this complex NP which triggers plurality on the verb. However, the problem with this analysis is that the person marker on the verb, as in the example in (48a), would be in cross-reference with an NP inside another NP. The other option is that the adpositional phrase is neither part of the subject NP nor part of the verb phrase, if a verb phrase exists at all in AyMi. Rather, it is a constituent at the same level as the subject NP.

When the comitative in combination with a core argument triggers plurality, there is evidence that it is treated as an oblique, but when the combination does not trigger plural marking, the comitative should be taken as an adjunct. In this respect, a difference in agreement on the verb is similar to the difference between *John and Peter went*, and *John went with Peter*: in the former both participants together form a syntactic and semantic argument but in the latter only *John* is an argument of the verb. Thus, in (49a), only the S, the grandfather, not mentioned explicitly, is taken as argument, and *ja'a jā'äy mēet* ‘with the person’ is an adjunct, not an oblique. Similarly, in (49b) *ja' nan mēet* ‘with the woman’ is to be taken as an adjunct as well.⁷

⁷ Strictly speaking, since plurality is in general optionally marked, when it does not trigger plurality, the comitative could be ambiguous between an adjunct or an oblique.

49. a) Tam jēkeexy ja jā'äy mēēt yyo'oyyē'n.
 tam jēkeexy ja'a jā'äy mēēt y-yo'oy-y=ē'n
 as HYPO DEM.D person ASSOC 3S-walk-DEP-ADJ
 'As if he (the grandpa) was walking with the person.' (IreL-457)
- b) Ta ojtsa' nan mēēt nyējkxn.
 taa ojts=ja'a nan mēēt y-nējkx-n
 DEIC.M PAST=DEM.D woman ASSOC 3S-go-PERF;DEP
 'Then she had gone with the woman.' (VirL-164)

A somewhat similar situation occurs with reciprocals. In a reciprocal construction (which requires the prefix *nay-*, see §9.9.6.6) one of the participants is expressed by the S while the other is expressed by the oblique. In (50), the first person is coded by S and the other participant (the one the subject meets) is coded as by a phrase headed by the adposition *mēēt*. Notice that neither the S nor the oblique alone could trigger the plural marker.

50. Ku yää mēt ejts nnapyätēt.
 ku yää mēēt ejts n-nay-päät-ē-t
 when DEIC.P ASSOC 1SG 1S-REFL-find-INV-PL;DEP
 '(He said like that,) that he would meet with me here.' (Sofa1L-431)

Triggering plurality is not a property of any adpositional phrase, but rather exclusively a property of comitatives and reciprocals. Instrumentals or stimuli, which are also expressed with the adposition *mēēt*, do not trigger plural marking on the verb.

A difficulty here is that since plurality is optional in Ayutla Mixe, the absence of plural marking is not a defining characteristic for not being an adjunct; only the impossibility for triggering plural marking is a diagnostic for not being an oblique. Additionally, while in general omitting an oblique might be odd, it is not odd omitting an adjunct.

9.3 Word Order

Ayutla Mixe has a fairly flexible order of constituents. In particular, the order of the subject with respect to the object, or either of these with respect to the verb, does not encode grammatical relations. In the previous sections, I avoided generalizing the notion of subject for both intransitive and transitive verbs. Even though it is common to present word order generalizations in terms of the subject, the object and the verb itself, in this section I will keep using S, A, and O.

However, there are preferences for different word orders depending on whether the verb is marked as dependent or as independent. For the independent marking, it is not possible to find a clear tendency, since all possible combinations are found in actual discourse and none of them seems clearly more frequent than the rest. For dependent marking, there is a clear tendency for verb-final order. This is discussed in §9.3.1.

From a typological perspective, it is common to find correlations between the order of the object with respect to the verb and the order of other pairs of elements such as the ordering of a noun phrase and the adposition or the ordering of a the verb and a manner adverb. As is presented in §9.3.2, Ayutla Mixe presents characteristics that could correlate with both VO or OV languages. Even though it is difficult to draw generalizations as to which of the two possibilities is more basic –and in fact it seems preferable just to state that AyMi has both types of characteristics, it is worth presenting the most important of those characteristics as they provide useful information about ordering of elements in general in the language.

9.3.1 Flexible word order

The different possibilities found in texts both for independent and dependent will be presented in these subsections. It is worth noting that the examples for determining word order have to be taken from text, not from elicitation, as the word order can be influenced by the contact language (which was Spanish) in linguistic elicitation.

9.3.1.1 *Independent marking*

Ayutla Mixe does not present a clear tendency of ordering of elements for the independent marking. S can appear either before or after the verb, as shown in examples (51) and (52).

51. VS

- a) Timjyemtyepyëj_{kp} luz.
 timy-jemy-tepyëk-p luz
 just-new-turn.on-INDEP light
 ‘The new light was turned on.’ (Efa1-1573)
- b) Eyëp, eyëp ja’ käjp.
 ey-ë-p ey-ë-p ja’a käjp
 good-INCH-INDEP good-INCH-INDEP DEM.D town
 ‘The town gets better, gets better.’ (Efa1-1780)

52. SV

- a) Ni tu'uk mixy Juank'äjtp.
 ni tu'uk mixy Juank-ät-p
 NEG one boy Juan-VRBLZ-INDEP
 ‘No kid is called Juan.’ (Aur2-263)
- b) Ës yë' mixy atspëka'.
 ës yë'ë mixy ats-p=ëk=a'
 and DEM.M boy dance-INDEP=HEARSAY=DEM.D
 ‘And the kid was dancing.’ (Efa1-1524)

For transitive verbs, it is possible to find all six possible word order combinations, which are presented in examples (53) to (58). Even though it would be preferable to have examples with full noun phrases, in some cases I included sentences with pronouns instead.

53. VAO

a) Yaktimpy yë' nanyë' y'u'unk.

V	A		O	
y-ak-tun-yp	yë'ë	nan	yë'ë	y-u'unk
3A-CAUS-work-INDEP;TR	DEM.M	woman	DEM.M	3POSS-child

'The woman lets his son work.'

b) N'expatypy ëjts yë'.

V	A	O
n-expäät-yp	ëjts	yë'ë
1A-find-INDEP;TR	1SG	DEM.M

'I found it.' (Efa1-1842)

54. OAV

Käj ëjts njityëjk'ajtypy.

O	A	V
käj	ëjts	n-jëtyëjk-ät-yp
lion	1SG	1A-man-VRBLZ-INDEP;TR

'My husband is a lion.' (Aur2-1070)

55. OVA

a) Jëë, ja' tēj k tyatsënaapy ijty Noe.

	O		V		A
jëë	ja'a	tēj k	y-ta-tsëen-nay-yp	ijty	Noe
AFF	DEM.D	house	3A-APPL-live-PERD-INDEP;TR	IMPF	Noe

'Yes, Noe lived in THAT house.' (Efa1-1421)

b) Ja'a tmëtäjp tyetymyä'äy.

O	V	A
ja'a	t-mëët-ät-p	y-teetymyä'äy
DEM.D	3A-ASSOC-VRBLZ	3POSS-grandfather

'His grandfather has it.' (Efa1-1479)

56. VAO

Ya keyë'ps nnän uupy.

V		A	O
y-ak-ey-ë-yp=ëjts		n-nän	uupy
3A-CAUS-good-INCH-INDEP;TR=1SG		1POSS-mother	amarillito

'My mom cooks *amarillito* (type of stew).' (AEC-265)

57. VOA

Myajtsypy ijty tutk wääjx.

V		O	A
y-mäts-yp		ijty tutk	wääjx
3A-grab-INDEP;TR		IMPF chicken	fox

'The fox used to grab chicken.' (AEC-192)

58. AVO

Ja' tēntenaapy comite.

A	V	O
Ja'a	t-jēntenay-p	comite
DEM.M	3A-direct-INDEP	committee

'He directed the committee.' (Efa1-1580)

Not surprisingly, in “unscripted” material, it is more common to find only one argument, usually the O. In these cases, the word order is usually OV.

59. OV

a) Ak'expikyjyä'äy yake'kypy.

ak+expäk-y-jä'äy	y-ak-ook-yp
study-NMLZ-people	3A-CAUS-die-INDEP;TR

'He kills students.' (Efa2-524)

b) Ja rey nyëëx yëswää'ajñetëp.

ja'a	rey	y-nëëx	y-ës-wää-ä'an-ë-të-p
DEM.D	king	3POSS-daughter	3O-carry-DES-INV-PL-INDEP

'They were going to bring the king's daughter.' (Aur2-902)

9.3.1.2 *Dependent marking*

Dependent marking also has flexible word order although here there is a clear tendency towards verb-final order. As in the independent marking, in intransitive clauses the S can be placed before or after the verb.

60. SV

Mixyëk ojts kyëxë'ëky.

mixy=ëk	ojts	y-kaxë'ëk-y
boy=HEARSAY PAST	3S-appear-DEP	

'The boy was born.' (Aur2-512)

61. VS

...ku te'n ojts kyaknëta' tistyëjk.

kuu	te'n	ojts	y-ka'ak-në-t=a'	tistyëjk
when	M.DEM	PAST	3S-flee-PERF-PL;DEP=DEM.D	woman

'(It was two or three times) that the woman escaped.' (Aur2-619)

In transitive clauses, it is possible to find AVO, OAV, and AOV word orders, as shown in (62) to (64). However, AVO is less common than either OAV or AOV.

62. AVO

Jä'äy tump ttseky.

jä'äy tun-p t-tsok-y
 person work-NMLZ 3A-want-DEP

'The person wants a worker.' (Aur2-205)

63. OAV

Për nia' wet jä'äy tkajëëyy.

për ni=ja'a wet jä'äy t-ka-jëy-y
 but NEG=DEM.D clothes person 3A-NEG-buy-DEP

'But people do not even buy clothes.' (Aur2-120)

64. AOV

Ku ëëts yë' tsajptëjk njëntsë'ëkët.

kuu ëëts yë'ë tsajptëjk n-jën-tsë'ëk-ë-t
 when 1PLEX DEM.M churh 1A-FRONT-respect-inch-PL;DEP

'When we respect the church' (NL1-225)

9.3.2 Word order correlations

It was shown in the previous section that AyMi does not have a preferred word order in the independent marked clauses. In dependent marked clauses, OV word orders are more common than VO. Interestingly, though, AyMi, as well as other languages from the Mixe branch of the family (Zavala 2000), has a mix of VO and OV characteristics, as explained in this section.

It has been shown that the order of the O with respect to the V has some correlation with the order of other pairs of elements. Dryer (2007b) distinguishes between word order characteristics that correlate bidirectionally with the order of verb and object, and word order characteristics that correlated unidirectionally.⁸ Here, I will pay attention to the bidirectional correlations presented in (65).

⁸ For example, the correlation between OV order and postpositions correlates bidirectionally, which means that if a language has OV order it is postpositional, and if it is postpositional then it has OV order. On the other hand, the relation between nouns and a relative clause correlates unidirectionally with the order between O and V: if a language has Rel(ative clause)N(oun) word order, then it is OV, and if VO then it is NRel. However, one cannot make a generalization of the form "if OV, then...", because given OV it is equally likely to find both RelN and NRel.

65. Word order generalizations

- Manner adverb and verb.
- Possessor and possessum.
- Noun phrase and adposition.
- Standard of comparison, comparison marker and adjective.
- Verb and adpositional phrases.
- Verb and non-argument noun phrases.

Ayutla Mixe presents characteristics of both VO and OV languages.

9.3.2.1 *Verb final characteristics*

Manner adverbials. In §6.10.3.1, it was discussed that adjectives are commonly used in secondary predication for expressing manner. Additionally, it is possible to derive proper manner adverbs from adjectives. In either case, the secondary predicate (66) or the manner adverb (67) precedes the main verb.

66. a) Tsuj yë' mixy kyajpxy.

tsuj yë'ë mixy y-käjpx-y
 good DEM.M boy 3S-speak-DEP
 'The young man speaks well.'

b) Pës natyu'uk ojts jajp jyä'äty.

pës nay+tu'uk ojts jajp y-jä'ät-y
 DISC alone PAST DEIC.D 3S-arrive-DEP
 'Then he arrived alone.' (Aur2-875)

67. a) Ayoopë'm mtsëënëp mtanëp.

ayoo-p-ëm m-tsëën-ë-p m-tan-ë-p
 be.poor-INDEP-ADV 2S-sit-INCH-INDEP 2S-stand-INCH-INDEP
 'You live in a poor manner.'

b) Axëëkë'm mkajpxy.

axëëk-ë'm m-käjpx-y
 bad-ADV 2S-speak-DEP
 'You speak badly.'

c) Pës nate'n ji'inë'm tyiny.

pës nate'n ji'in-ë'm y-tun-y
 DISC as.well little-ADV 3S-do-DEP
 '(If you make little money), then you spend little as well.' (NLA-338)

Possessor precedes Possessum. In possessive constructions, the possessor precedes the possessed noun or possessum. Since AyMi is a head marking language, usually the head noun appears alone, with the possessive prefix, but if the possessor is expressed either by a noun or by a personal pronoun, then it has to be placed before the head, as in the examples in (68).⁹

68. a) Yë' jä'äy tyistyëjk.

yë'ë jä'äy y-tixytyëjk
DEM.M person 3POSS-woman
'That person's wife.' (IreL-64)

b) Ja' rey nyëëx tnënjxët.

ja'a rey y-nëëx t-në-nëjx-ë-t
DEM.D king 3POSS-daughter 3A-ON-go-INCH-PL;DEP
'They went to where the king's daughter is.' (Aur2-898)

c) Kyëxpety mäa' jatsyu'u kyëpäjkë'n.

y-këx-pat-y mäa=ja'a jatsyu'u y-këpäjk=ë'n
3S-SURFACE-ascend-DEP where=DEM.D deer 3POSS-head=ADJ
'He (the kid) climbed where the deer's head is.' (FrogA-451)

d) Èjts ntsë'ë mas jëjtsp.

ëjts n-tsë'ë mas jëjtsp
1SG 1POSS-sister more grind-INDEP
'My older sister ground more (corn).' (AE-296)

Locative constructions. In a locative construction, the noun precedes the locative marker. As discussed in chapter seven (§7.5), locative constructions in Ayutla Mixe are headed by a locative term, which is composed by a part morpheme and a locative ending. Thus, adpositions, postpositional clitics or proper relational nouns are not used in expressing location. There are two locative constructions (see §7.5.2), one that has a possessive structure (69a) and another one that is composition (69b).

⁹ However, it is perhaps worth noting that GenN is as common as NGen in SVO languages (Dryer p.c.), and AyMi has both VO and OV characteristics.

- b) Měj yě' Pedro tyěk, ni ka't tam Carlos tyëjkë'n.
 Adjective Standard
 měj yě'ë Pedro y-tëk nika't tam Carlos y-tëjk-ë'n
 big DEM.M Pedro 3POSS-house NEG-NEG as Carlos 3POSS-house-ADJ
 'Pedro's house is bigger than Carlos' house. (Lit. 'Pedro's house is big, not like Carlos' house.')

- c) Yä'ät tojkxy waan jyay, ni ka't yë jatu'uk.
 Adjective Standard
 yä'ät tojkxy waan y-jay ni-ka't yë'ë jatu'uk
 DEM.P meal less 3S-spicy NEG-NEG DEM.M another
 'This meal is less spicy than the other.' (Lit. 'This meal is less spicy, this other is not.')

In comparatives of equality, however, the construction involves a single clause, with a comparative marker *tam* 'as'. In these cases, the adjective precedes the comparative marker, which in turn precedes the standard of comparison, as in (71).

71. Ęjts yeny tam Pedro.
 Adjective Standard
 Ęjts yeny tam Pedro
 1sg tall as Pedro
 'I am as tall as Pedro.'

Adpositions. Ayutla Mixe has only one adposition, the associative *mëët*. The order of the adposition and the noun phrase is variable. In (72a) it acts as a preposition and in (72b-c) as a postposition.

72. a) Mëta' yu'unk.
 mëët=ja'a y-u'unk
 ASSOC=DEM.D 3POSS-child
 'With his son.'
- b) Tam jëkeexy ja jä'äy mëët yyo'oyyë'n.
 tam jëkeexy ja'a jä'äy mëët y-yo'oy-y=ë'n
 as HYPO DEM.D person ASSOC 3S-walk-DEP=ADJ
 'As if he (the grandfather) were walking with the person.'
- c) Ęs n'itsya' mëët te'n jyaty.
 Ęjts n-itsy=ja'a mëët te'n y-jät-y
 1SG 2POSS-younger.sibling=DEM.D ASSOC M.DEM 3S-happen-DEP
 'And that happened with my younger sister.'

However, the use of *mëët* as preposition is by far more common than its use as postposition. By this account, one can say that this is another characteristic as VO language. On the other hand, the NP can appear dislocated from its adposition, as shown in (73).

73. a) Të ëëts mëët ntinya' mëjä'ätyëjk.

tëë ëëts mëët n-tun-y=ja'a mëj-jä'äy-tëjk
BEFORE.NOW 1PL ASSOC 1A-make-DEP=DEM.D OLD-person-PL
'We can make it with the elders.' (Efa1H-2186).

b) Mëët tsyeptunta' jä'äy.

mëët y-tsep-tun-t=ja'a jä'äy
ASSOC 3S-fight-do-PL;DEP=DEP person
'They fight with those people.' (IsrH-324)

c) Ernestin ojts mëët tyany.

Ernestin ojts mëët y-tän-y
Ernestina PAST ASSOC 3S-stay-DEP
'She (my mom) stayed with Ernestina.' (NLA-822)

Verb and adpositional phrases. Related to the previous characteristic, adpositional phrases can appear before or after the verb. What is interesting in this case is that the ordering of the adpositional phrase with respect to the verb is related to the use of *mëët* as preposition (74a-b) or as postposition (74c).

74. a) Ëëts ojts nakyapxy mëëta' C. G.

ëëts ojts n-nay-käpx-y mëët=ja'a C.G
1PL PAST 1S-REFL-speak-DEP ASSOC=DEM.D
'We talked with C.G. (proper name).' (Efa1H-3507)

b) Ejtpa' tsyëën mëëta' mutsk mixyu'unk.

et+p=ja'a y-tsyëën mëët=ja'a mutsk mixyu-u'unk
always=DEM.D 3S-live[INCH.DEF] ASSOC=DEM.D little child-DIM
'He (the saint) always lived with little children.' (Sofa1L-772)

c) Te'ep te'n ëëts mët jyaty.

te'ep te'n ëëts mëët y-jät-y
REL M.DEM 1PL ASSOC 3S-know.how-DEP
'He (is the person) with whom we played.' (Sofa1L-840)

In the example (74c), unlike the free translation, it is a third person that is in agreement with the verb *jät* ‘to know how to do something’, while the personal pronoun *ěets* ‘we (exclusive)’ is the object of the postposition. Thus, when the *měēt* ‘associative’ is a preposition, usually the prepositional phrase occurs after the verb, but when it is a postposition, the postpositional phrase occurs before the verb. This correlation occurs only as a tendency, because it is also possible to find *měēt* used as preposition in initial position, before the verb, as in (75), although this is not very common.

75. *Měētēka' mutsk anā'äjku'unk jyētity.*

měēt=ək=ja'a *mutsk anā'āk-u'unk* *y-jētet-y*
 ASSOC=HEARSAY=DEM.D little young.people-DIM 3S-walk-DEP
 ‘He walked with the little children (it’s said).’ (Sofa1-748)

Additionally, the tendency holds mostly for elders. Since younger speakers do not use *měēt* as a postposition very often, it is more common to find a prepositional phrase before the verb.¹⁰

The example (75) is part of an enumeration of things that a saint did with children. So, several sentences begin with a prepositional phrase. When the adposition does not have an object (in which case it is always interpreted as having a third person object), it could go either after, as in (76a), or before the verb, as in (76b).

76. a) *Taa ojts jā'äy yēxta'aky mēēt.*

taa *ojts* *jā'äy* *y-ēxtā'āk-y* *mēēt*
 DEIC.M PAST person 3S-sit.down-DEP ASSOC
 ‘Then the people sat with him.’ (Sofa1L-335)

b) *Tēs mēēt nmaya'aky.*

tēē=ējts *mēēt* *n-matyā'āk-y*
 BEFORE.NOW=1SG ASSOC 1S-talk-DEP
 ‘I talked to him.’ (Efa1-736)

¹⁰ This is particularly true in the context of elicitation, even if the task involves looking at a video and reporting what happened. When the task involves translation of sentences, consultants usually reproduce the word order of the contact language (which is Spanish). For this reason, all the examples for word order come from natural speech (narratives or conversation), and examples from elicitation are not to be trusted on this particular issue.

9.4 Types of clauses and sentences

There could be different ways in which one can divide different types of clauses in a language. The first section of this chapter presented clauses that lack a verb as the main predicate, and in this respect that provides the basis of an initial classification of clauses. Within them, negative clauses played an important role in distinguishing the main predicate. The rest of the chapter has been devoted to clauses that do have a verb as the main predicate.

In this section, I will discuss two different issues. In the first subsection (§9.4.1), I will discuss negative clauses. In the rest of the chapter, I will deal with other types of clauses that require the discussion of other syntactic structures, and thus they will not be discussed here. Thus, for example, in dealing with the inverse system (§9.5), I will discuss some properties of monotransitive clauses. Also, when treating causatives (§9.6.2), and the benefactive apophony (§9.6.9), and the applicative prefix *ta-* (§9.6.10), I will discuss some properties of ditransitive clauses.

In the other parts of this section, I will deal with rather different types of sentences. In § 9.4.2 I will discuss polar questions and in §9.4.3 content questions. Even though this puts together types of sentences with types of clauses, there is no other appropriate part in this grammar to discuss questions.

9.4.1 Negative clauses

9.4.1.1 *Basic Negative clauses*

In Ayutla Mixe, negation is expressed using the negative particle *ka't*. As noted in several places, the negative particle obligatorily triggers the dependent marking on the verb. The negative particle always precedes the verb. In most cases, it goes at the

beginning of the sentence, as in (77a), although it can be placed in different places, either just before the verb (77b) or between two preverbal noun phrases (77c).

77. a) Ka't eëts xë'n ntunt.

ka't eëts xë'n n-tun-t
NEG 1PL how 1A-do-PL;DEP
'We did not do anything.' (AE-182)

b) Jëts jat'u'uk kääjp ka't nukexäjtn.

jëts ja+tu'uk kääjp ka't n-uk-ex-ät-n
and another town NEG 1A-PREF-see-VBLZ-PERF;DEP
'And other towns I do not know.' (AE-1347)

c) Kuu anä'ajk ka't tēj k texpääty...

kuu anä'ajk ka't tēj t-ex-pääty
CMPLZ young.people NEG house 3A-see-find-DEP
'(It is said) that the young people do not appreciate the house...' (NLA-206)

Usually, the placement of the negation in a position other than initial position indicates a modification in the information structure. Thus, (77a) has a rather neutral information structure, but in (77b) and (77c) the first NP is topicalized.

9.4.1.2 Other negative words

Ayutla Mixe forms negative words with the negative prefix *ni-*, which attaches to interrogative words (§6.9) to form negative words. This is exemplified below, where the *ni=* is attached to *pëen* 'who' to form 'no one' in (78a), to *tii* 'what' to form *nitii* 'nothing' in (78b), and to *mää* 'where' to form *nimää* 'nowhere' in (78c). All the interrogative words to which *ni-* is prefixed can be seen in §6.9.

78. a) Nipëen kyatany.

ni-pëen y-ka-tän-y
NEG-who 3S-NEG-stay-DEP
'No one stays' (Efa2- 874)

b) Nitii jä'äy tkamëët...

ni-tii jä'äy t-ka-mëët
NEG-what people 3A-NEG-ASSOC[INCH.DEP]
'The people did not have anything...'

- c) Nimääka' tkapät'n ja yu'unk.
 ni-mää=ék=ja'a t-ka-päät-n ja'a y-u'unk
 NEG-where=HEARYSAY=DEM.D 3A-NEG-find-PERF;DEP DEM.D 3POSS-child
 'They did not find their child anywhere.' (Ire-1882)

An obvious characteristic of the examples in (78) is that the negative word with the prefix *ni-* usually triggers the use of the negative prefix *ka-* in the verb. This topic will be treated in the next section.

In addition, the prefix *ni-* can appear with the numeral in order to form negative noun phrases, as in (79). In order to express negation, it could be enough to use the negative numeral with the prefix *ni-*, as in (79a), but it is possible to have, in addition, a negative prefix in the verb (see next section), as in (79b).

79. a) Nitu'uk mixy Juank'äjtp.
 ni-tu'uk mixy Juank-ät-p
 NEG-one boy [3s]Juan-VRBLZ-INDEP
 'No boy was called Juan.' (Aur2L-363)
- b) Kata G. nitu'uk ää tkaaktäány.
 ka't=ja'a G. ni-tu'uk ää t-ka-ak-tän-y
 NEG=DEM.D G. NEG-one word 3A-NEG-CAUS-stay\COMP-DEP
 'G. did not retain a single word.' (NL2-2104)

In addition to the negative morpheme *ni-*, which is prefixed to interrogative words and numerals, it is possible to have *ni* as a separate word. In this case the negative word *ni* modifies the whole sentence, without modifying a NP, as in the following examples, where this negative word is not part of a NP. Thus, in (80) *ni* appears directly modifying the verb. This is clearer in (80a) as *ni* is the only word, in addition to the verb, in that sentence.

80. a) Ni kyaëxpikya'...
 ni y-ka-ëxpëk-y=ja'a
 NEG 3S-NEG-study-DEP=DEM.D
 'And he did not study...' (Efa1-1165)

- b) Jëë, ni ka't ëjtsa' mpapa n'uktaotkujkäjtn...
 jëë ni ka't ëjts=ja'a m-papa n-uk-ta-jotkujk-ät-n
 AFF NEG NEG 1SG=DEM.D 2POSS-father 1A-PREF-APPL-happy-VRBLZ-PERF
 'Yes, not even your dad could cheer me up...' (NLA-428).

Especially in cases like this, when *ni* is a separate word, it seems suspiciously similar to the Spanish negative conjunction *ni* 'and not'. However, the Spanish conjunction cannot co-occur with the negative particle *no* 'not'. In contrast, as one can see in (80a), *ni* appears in combination with the negative prefix and in (80b) in addition to the negative particle *ka't*. Additionally, *ni* in AyMi does not have the same meaning as a coordinating conjunction that Spanish *ni* 'and not' does.¹¹

In other cases, it is not obvious that *ni* directly modifies the whole sentence and not a NP, as it appears before it, as exemplified in (81).

81. a) Ni tujnka tkajäw ku jä'äy tyujy.
 ni tujnk=ja'a t-ka-jäw ku jä'äy y-tuj-y
 NEG bullet=DEM.D 3A-NEG-feel[INCH.DEP] when people 3O-shoot-DEP
 'He does not even feel the bullet, when people shoot him.' (Efa1-771)
- b) Për nia wet jä'äy tkajëyy.
 për ni=ja'a wet jä'äy t-ka-jëy-y
 but NEG=DEM.D clothes people 3A-NEG-buy-DEP
 'But they didn't even buy clothes.' (Aur2L-120)
- c) Taa' nkäp Maneejl, nia' rosäary ojtsa' nkäp Maneejl tkaamyëtsy...
 taa=ja'a n-käp Maneejl ni=a' rosäary ojts=ja'a
 DEIC.M=DEM.D 1POSS-brother.in.law Manuel NEG=DEM.D rosary PAST=DEM.D
 n-käp Maneejl t-ka-jamyats-y
 1POSS-brother.in.law Manuel 3A-NEG-remember-DEP
 'And then my bother-in-law Manuel, my bother in law Manuel could not remember the rosary...' (NLA4-151)

In all the previous examples, *ni* appears before a noun phrase, but it modifies the whole predication. Even though solely based on the translation it is difficult to figure this

¹¹ It is necessary to point out, however, that Spanish *ni* also has the meaning of 'not even', expressing extremes in a set of possibilities. Wichmann (1995a) reconstructs **ni* as a particle in proto-Mixe, but it is hard to know whether all the instances of AyMi come historically from pM **ni* or rather there are some cases that are borrowings from Spanish *ni* (or it could even be both). In any case, as explained in the text, the syntactic properties of Spanish *ni* and AyMi *ni* are not entirely similar.

out, it is important to point out that in (81a-b) or in (80a) *ni* by itself triggers the dependency marking in the verb because it is not part of the noun phrase, but in (79a) the prefix *ni-* does not. As a reminder, the dependency in Ayutla Mixe is triggered when a non-nuclear element, i.e. a phrase or a word that is not an argumental noun phrase, is placed before the verb.

9.4.1.3 Negative prefix on the verb

In Ayutla Mixe it is possible to express clausal negation with the negative morpheme *ka-* prefixed to the verb, as shown in (82).

82. a) Ējts kapujtp.
 ějts ka-put-p
 1SG [1S]NEG-run-INDEP
 ‘I do/did not run.’
- b) Carlos kakaapy.
 Carlos ka-kay-p
 Carlos [3S]NEG-eat.corn-INDEP
 ‘Carlos does not eat.’

Since the negative prefix is part of the verb complex, it does not trigger dependent marking, as shown in (82).

There are several conditions that trigger or allow the negative prefix. First of all, the negative prefix must appear when there is another negative word, more particularly one of the negative words formed with the negative prefix *ni-* and an interrogative word (83a-f) or with the adverbial *kantem* ‘never’ (83g). This was pointed out in the previous section and it is fully exemplified in (83).

83. a) **Nipēna** kyamastutā’āny tāt Daniel.
 ni-pēn=ja’a y-ka-mastu’ut-ā’an-y tāt Daniel
 NEG-who=DEM.D 3S-NEG-release-DES-DEP father Daniel
 ‘No one wants to leave *don* Daniel alone.’ (Efa1H-374)

- b) **Nitii, nitii** tkaji'kxy.
 ni-tii ni-tii t-ka-jë'kx-y
 NEG-what NEG-what 3A-NEG-eat.vegetables-DEP
 'He didn't eat anything.' (NLA-109)
- c) **Nimää** tkapäätt.
 ni-mää t-ka-pää-t
 NEG-where 3A-NEG-find-PL;DEP
 'She was nowhere to be found (Lit. They did not find her anywhere).'
- d) **Nijuuns** tek nkatsu'utsy.
 ni-juun=ëjts tek n-ka-tsu'uts-y
 NEG-when=1SG lizard 1A-NEG-eat.meat-DEP
 'I have never eaten lizard.'
- e) **Nixë'na'** ayuujk tkapääty.
 ni-xë'n=ja'a ayuujk t-ka-pää-t-y
 NEG-how=DEM.D word 3A-NEG-find-DEP
 'He didn't find the right words.' (NLA-306)
- f) **Nimëte'eps** nka'ixy.
 ni-mëte'ep=ëjts n-ka-ex-y
 NEG-REL=1SG 1A-NEG-see-DEP
 'I didn't see anything.'
- g) **Nikantems** nkanijkxy.
 ni-kantem=ëjts n-ka-nëjcx-y
 NEG-never=1SG 1S-NEG-go-DEP
 'I will never go.' (I.e. 'I will go under no circumstance')

It is also possible to find the negative particle in addition to a negative word and the negative prefix on the verb, although less commonly. This is shown in the examples in (84), which are very similar to those in (83) except that there are three grammatical mechanisms that express negation: *ka't* as negative particle, *ni-* as prefix to the negative word, and *ka-* as a verbal prefix.

84. a) **Ka'ta' nipën kyatany.**
 ka't=ja'a ni-pëen y-ka-tän-y
 NEG=DEM.D NEG-who 3S-NEG-stay-DEP
 'No one stays.' (Efa1H- 3483)
- b) **Ka't niti nkajaty... letr.**
 ka't ni-tii n-ka-jät-y letr
 NEG NEG-what 1A-NEG-know.to.do-DEP letter
 'I do not know anything... the letter (to write).' (IsrH-1178)

- c) **Kä't, kä't** ojts **nikajuun nkaexaty**.
 ka't ka't ojts ni-ka+juun n-ka-ex-ät-y
 NEG NEG PRET NEG-when 1A-NEG-see-VRBLZ-DEP
 'No, I never knew him.' (TAMA-A-050)
- d) **Ka't nixë'n'ampy nkamëta'aky**.
 ka't ni-xë'n-ampy n-ka-mëtä'äk-y
 NEG NEG-how-SUFF 1A-NEG-achieve-DEP
 'I couldn't achieve that.' (IsrH-1041)
- e) **Ka'ta' G. nitu'uk ää tkaaktäány**.
 ka't=ja'a G. ni-tu'uk ää t-ka-ak-tän-y
 NEG=DEM.D G. NEG-one mouth 3A-NEG-CAUS-remain-DEP
 'G. didn't remember even a single word.' (NL1-2104)

At this point, it is not clear to me what the difference is between the cases in (83), with double negation, and those in (84), with triple negation. However, at least in the interrogative form, there is a difference in meaning when a sentence has the negative particle alone, as in (85b), or when instead it has the negative prefix on the verb, as in (85a).

85. a) ¿Mää mejts jä'äy xkapäaty?
 mää mejts jä'äy x-ka-päät-y
 where 2SG person 2A-NEG-find-DEP
 'Why didn't you find the person (anywhere)?' (IrL-121)
- b) %¿Mää ka't mejtsa' jä'äy xpäaty?
 mää ka't mejts=ja'a jä'äy x-päät-y
 where NEG 2SG=DEM.D people 2A-find-DEP
 Intended: 'Where is that you did not find that person?'

Additionally, it is possible to find the negative prefix on the verb without a negative word or an interrogative word, as in the first examples of this subsection in (82) or in the examples below in (86) and (87). However, in these cases the only constituent that can be present in the clause is the subject, as shown by the ungrammaticality of (86a) and (87a).

86. a) *Carlos tkakayyëtë më'ëky.
 Carlos t-ka-kay-y=jëtë më'ëky
 Carlos 3A-NEG-eat.corn-DEP=BEFORE.NOW tamale
 Intended: 'Carlos did not eat tamale (Mesoamerican dish).'

- b) Ka't Carlos tkayyētē mē'ēky.
 ka't Carlos t-kay-y=jētē mē'ēky
 NEG Carlos 3A-eat.corn-DEP=BEFORE.NOW tamale
 'Carlos did not eat tamale.'
- c) Carlos kakaapy.
 Carlos ka-kay-p
 Carlos [3S]NEG-eat.corn-INDEP
 'Carlos did not eat (corn-made food).'
87. a) *Carlos kanējkkxp kyāmetypy.
 Carlos ka-nējkk-p y-kām-ojt-py
 Carlos [3S]NEG-go-INDEP 3POSS-cornfield-INSIDE-LOC
 Intended: 'Carlos did not go to the cornfield.'
- b) Carlos kanējkkxp.
 Carlos ka-nējkk-p
 Carlos [3S]NEG-go-INDEP
 'Carlos did not go.'
- c) Ka't Carlos nyijkxy kyāmetypy.
 ka't Carlos y-nējkk-y y-kām-ojt-py
 NEG Carlos [3S]go-INDEP 3POSS-cornfield-INSIDE-LOC
 'Carlos did not go to the cornfield.'

In (86a) the verb does not allow an object if it has a negative prefix. In order to say this, the negation must appear as a particle, outside the verb (86b). The negative prefix appears only if the verb is intransitive, as in (86c). However, notice that it is not just a matter of transitivity, as in (87a) a locative phrase cannot appear with a motion verb such as *nējkk* 'to go', which is intransitive. Again, the only possibility for the negative verbal prefix to appear is if there is no adjunct (87b) or else the negative particle has to appear as an independent word (87c). As of this moment, I have no explanation as to why it is possible to have the negative verbal prefix with arguments but only if there is an interrogative word or a negative word, but the negative prefix otherwise blocks other constituents.

9.4.2 Polar questions

In Ayutla Mixe, polar questions are marked by the interrogative clitic =*a* at the end of an intonational unit, which usually coincides with a sentence, as shown in (88).

88. a) ζ Te'n ojts mjějtsi'ikya?
 te'n ojts m-jějts-ě'ěk-y=a
 M.DEM PAST 2S-grind-ascend-DEP=Q
 'Did you start making tortillas in that way?' (AE1-291)
- b) Pero ζ maxu'unk japa tměēta?
 pero maxu'unk jajp=ja'a t-měēt=a
 but baby DEIC.D=DEM.D 3A-ASSOC[INC.DEP]=Q
 'But, did she have the baby?' (NL1-490)
- c) ζ Jěts pětsěmp jam may muxa?
 jěts pětsěm-p jam may mux=a
 and [3S]exit-INDEP DEIC.D many mushroom=Q
 'And, do mushrooms grow there?' (AE1-234)
- d) Pěr ζ ojts jatukojk jyěmpity tixytyějka?
 pěr ojts jatukojk y-jěmpet-y tixytyějka=a
 but PAST again 3S-return-DEP woman=Q
 'But, did he (the shaman) transform himself into a woman again?' (NL1-522)
- e) ζ M'ukp mejtsa?
 m-uk-p mejts=a
 2S-drink-INDEP 2S=Q
 'Do you drink?' (NLA-582)
- f) ζ Xěkuupy mjajtypy nate'na?
 xějk-uupy m-jät-yp nate'n=a
 beans-amarillito 2A-know.how-INDEP;TR as.well=Q
 'Can you prepare beans in *amarillito* (a type of Oaxacan meal)?' (AE-1210)

Notice that the interrogative marker is cliticized to the last word regardless of its grammatical category. Thus in (88a-b) the sentence is verb final and the interrogative clitic is attached to the verb; in (88c-d) the clitic attaches to a noun (which is after the verb, in final position); in (88e) the question marker cliticizes to a pronoun; and finally in (88f) to an adverb.

The interrogative clitic occurs just before a pause. The pause can correspond to a sentence, as in all the examples in (88) or in (89a), but if there is a pause in the middle of the sentence, the interrogative clitic would go there too, as in (89b), where it goes attached to the past tense particle *ojts* and then to the last word as well, the verb *x'ex'aty* ‘you knew him’.

89. a) ζ Të yë' ventana xëkawä'ätsya, ës jatukojk xëkatikya?
 tëë yë'ë ventana x-ak-awä'äts-y=a
 BEFORE.NOW DEM.M window 2A-CAUS-open-DEP=Q
 jëts jatukojk x-ak-atuk-y=a
 and again 2A-CAUS-close-DEP=Q
 ‘Did you open the window and closed it again?’ (TAMA-A-61)
- b) ζ Ës ojtsa, mejtsa x'ex'atya?
 Jëts ojts=a mejts=ja'a x-ex-ät-y=a
 and PAST=Q 2SG=DEM.D 2A-see-VRBLZ-DEP=Q
 ‘and, did you meet him?’ (Efa1H-225)

Thus, even though (89a) could be analyzed as two polar questions, in (89b) the interrogative clitic occurs twice within a clause.

The interrogative marker can be cliticized to single words if they alone constitute an utterance, even if they do not form a complete sentence.

90. a) ζ Nay-tu'uk=a?
 REFL-one=Q
 ‘Alone?!’ (AE1-36)
- b) (One speaker is telling that they used to play with mud when they were kids. The other speaker rerplays)
 ζ Mo'nts=a?
 mud=Q
 ‘Mud?!’ (AE1-100)
- c) ζ Në-mäktäxk=a?
 ANIM-four=Q
 ‘Four?!’ (NL1-604)
- d) ζ Nayte'n=a?
 as.well=Q
 ‘(Did the same thing happen to them) too?’ (NL2-1550)

- e) ǰKa't=a?
 NEG=Q
 'No?' (IsrH-1298)

Not surprisingly, negative polar interrogations take the same interrogative clitic (perhaps due to the fact that they share the same meaning as affirmative interrogative sentences). As far as I understand, negative polar questions are used, as in English, when the speaker expected the opposite situation.

91. a) ǰKa't tutk tmatsya?
 ka't tutk t-mäts-y=a
 NEG chicken 3A-grab-DEP=Q
 'Didn't it (the coyote) take chicken?' (AE1-187)
- b) ǰKa't ttsekya?
 ka't t-tsoky=a
 NEG 3A-want-DEP=Q
 'Didn't he want (to do it)?' (IsrH-1466)
- c) ǰKa'ta' y'uukya?
 ka't=ja'a y-uuk-y=a
 NEG=DEM.D 3S-drink-DEP=Q
 'Didn't he drink' (NLA-748)

9.4.3 Content Questions

In Ayutla Mixe, content questions are introduced by any of the following interrogative words (see §6.9):

92. a) pëen 'who'
 b) tii 'what'
 c) juun 'when'
 d) mää 'where'
 e) xë'n 'how'
 f) (jë)nääk 'how many'
 g) (jë)në'n 'how much'
 h) jatii(ku) 'why'
 i) (më)te'ep 'which'

The content question phrase is placed in initial position:

93. a) Përë, ʔpëen kupëkp?
 përe pëen kupëk-p
 but who accept-INDEP
 ‘Who is going to accept?’ (EfaH2-214)
- b) ʔTii ity mtakyäjtëp ko mmutsk'ätt?
 tii ity m-ta-këyät-ë-p kuu m-mutsk-ät-t
 what IMPF 2A-APPL-play-INCH-INDEP when 2A-kid-VRBLZ-IRR;DEP
 ‘What did you play with when you were a kid?’ (EfaH2-320)
- c) ʔXë'n yë' ontsä'äyy y'ey?
 xë'n yë'ë on-tsä'äy-y y-ey
 how DEM.M grease-roast-D.ADJ 3S-good[INCH.DEP]
 ‘How did you prepare it fried?’ (AE1-268)

When the interrogative word is the subject of an intransitive predicate, person markers on the verb are the same as in any other case. Thus, if the verb is in neuter independent AM, there is no person prefix on the verb, as illustrated in (93a-b), but if the verb is in neuter dependent AM, the person prefix is *y-*, as in the examples (93c-d).

94. a) ʔPëen memp?
 pëen men-p
 who come-INDEP
 ‘Who is coming?’
- b) ʔPën mäap?
 pëen mä'ä-p
 who sleep-INDEP
 ‘Who is sleeping’ (Earg)
- c) ʔPën tēē yāā myä'äy?
 pëen tēē yāā y-mä'ä-y
 who BEFORE.NOW DEIC.P 3S-sleep-DEP
 Who slept here?
- d) ʔPën tēē y'ooky?
 pëen tēē y-ook-y
 who BEFORE.NOW 3S-die-DEP
 Who died?

With transitive verbs, when the verb is conjugated in neuter independent aspect, the person marker is not *y-*, as one might expect in any other transitive verb in neuter

independent aspect, but rather *t-*, as shown in the examples in (95). Additionally, the AM marker is only *-p*, not *-yp*, as normally transitive verbs are marked.

95. a) ζ Pëna' tmëmatä'äkp?
 pëën=ja'a t-më-mätä'äk-p
 who=DEM.D 3A-BEN-can-INDEP
 'Who can with it?' (NLA-606)
- b) ζ Pën yë' pu'uy jam tjë'tp?
 pëën yë'ë pu'uy jam t-jëët-p
 who DEM.M board DEIC.D 3A-saw-INDEP
 'Who is sawing the board?'

Since the AM marker is *-p*, and not *-yp* 'INDEP;TR', the question arises as to whether the verb is indeed transitive or intransitive. The answer is that it is transitive because the person prefix *t-* is used for a third person in a transitive verb. What happens is that the person prefix that is used normally in a verb marked as dependent is used on an independent verb. A similar phenomenon was described in the previous chapter (§8.2.4). A declarative sentence can be marked in the same way (with *t-* as person marker and *-p* as neuter independent transitive AM marker) when the arguments are not expressed or when the only expressed argument is a demonstrative, as in (96).

96. Yë'ë t'exp.
 yë'ë t-ex-p
 DEM.D 3A-see-INDEP
 'He saw it.'

For verbs marked as dependent, the person prefix is the same as in any other neuter dependent transitive verb, namely *t-*, as in (97).

97. ζ Pën ojts yë' tnëpety?
 pëën ojts yë'ë t-në+pat-y
 who PAST DEM.M 3A-baptise-DEP
 Who baptised it? (IrsH-2051)

When the content question is over the object of a transitive verb, the person inflection is the same as in declarative sentences regardless of whether the verb is marked as

dependent or as independent. Thus, in the independent form the verb takes the person prefix *m-* for the second person in (98a) and *y-* for the third person in (98b), and in both cases the verb has the AM suffix *-yp* signaling the transitive form. If the person marker *-yp* interacts with other morphemes (see §8.6), it might appear only as *-p*, as in (98c), where the plural marker *-të* cancels the palatal in *-yp*.

98. a) ζ Pën m'ixypy?
 pëen m-ex-yp
 who 2A-see-INDEP;TR
 'Who are you looking at?'
- b) ζ Tia m'itsy jam tsyäm tyimpy?
 tii=ja'a m-itsy jam tsyäm y-tun-yp
 who=DEM.D 2POSS-younger.sibling DEIC.D now 3A-do-INDEP;TR
 'What is your brother doing right now?' (TAMA)
- c) ζ Ti yëxkujtë'p?
 tii y-ëx-kuj-të-yp
 what 3A-BACKWARDS-throw-PL-INDEP;TR
 'What did they throw?' (AE-143)

When the interrogative word does not refer to a core argument, the verb has to take the corresponding person markers, as in any other sentence. Additionally, the interrogative word by itself triggers dependent marking even if there are no other adverbs, as in (100).

100. a) ζ Mää myä'äy?
 mää y-mä'ä-y
 where 3S-sleep-DEP
 'Where is he sleeping?'
- b) ζ Juun kyootsä'äny?
 juun y-koots-ä'än-y
 when 3S-get.dark-DES-DEP
 'When is it going to get dark?'
- c) ζ Jëts cafe, xë'na' xakeyë't?
 jëts cafe xë'n=ja'a x-ak-ey-ë-t
 and coffee how=DEM.D 2A-CAUS-good-INCH-PL;DEP
 'And the coffee, how did you prepare it?' (AE-126)

When the content word is the object of the adposition *mëët* ‘associative’, both of them move to initial position, i.e. there is no adposition stranding, as shown in (101). Notice that in this case the verb has to be marked as dependent, as a non-argument is placed before the verb (this is also the case in declarative sentences).

101. a) *¿Pën mëët m’etsy?*
 pëen mëët m-ats-y
 who ASSOC 2S-dance-DEP
 ‘Who are you dancing with?’

b) *¿Tii mëët xtapooty tejpxy?*
 tii mëët x-ta-poot-y tejpxy
 what ASSOC 2A-APPL-cut-DEP rope
 ‘What are you cutting the rope with?’

9.5 The inverse system

9.5.1 Inverse in Ayutla Mixe

As has been discussed in previous chapters (§6.3.1, §8.1 and §8.4), in Ayutla Mixe there is only one slot in the verbal morphology for cross-referencing core participants. Additionally, this mechanism is also the only way of signaling the grammatical relations of core arguments. When the verb is intransitive, this is not a problem, because the person prefix cross-references the single participant in the event, the S, as shown in the examples in (102).

102. a) *Ps te'nte'na yyo'ooy, te'nte'n ja'jyëtiity.*
 pës te'nte'n=ja'a y-yo'oy-y te'nte'n=ja'a y-jëten-y
 DISC M.DEM=DEM.D 3S-walk-DEP M.DEM=DEM.D 3S-move-DEP
 ‘He walks in that way, he moves in that way.’ (Aur2-195)

b) *Taka' nan jyëmpity.*
 taa=ëk=ja'a nan y-jëmpet-y
 then=HEARSAY=DEM.D woman 3S-return-DEP
 ‘Then the lady went back.’ (Vir-744)

c) Jajp te'n tsyäm tsyën.

jajp te'n tsyäm y-tsëen
 DEIC.D M.DEM now 3S-live[INCH.DEP]
 'He (the Saint) lives now there.' (Sofa1-712)

However, with monotransitive verbs, AyMi allows for the person prefix to cross-reference either the A or the O. The choice between A and O is not arbitrary, but rather depends on the grammatical, semantic and pragmatic characteristics of the arguments, which are organized hierarchically, as is presented some paragraphs below. So, for example, if a second person and a third person are involved in a transitive verb, it does not matter who acts upon whom, it is the second person that always has to be cross-referenced on the verb. Thus, in (103a) the A is second person and the O is third person, so the A has to be cross-referenced on the verb; but if the relations are reversed and the third person is the A and the second person is the O, as in (103b), it is still the second person that has to be marked on the verb with a person marker.

103. a) Te'n ʔojts yë'ë papa x'ejxatya?

te'n ojts yë'ë papa x-ex-ät-y=a
 M.DEM PAST DEM.M dad 2A-see-VRBZ-DEP=Q
 'Then did you meet papa?' (NLA-280)

b) Yää yë'ë jä'äy te'n m'ixy.

yää yë'ë jä'äy te'n m-ex-y
 DEIC.P DEM.M person M.DEM 2O[INV]-see-DEP
 'Here a person is looking at you (i.e. the person is cursing you).' (AE-665)

The choice of direct alignment over the inverse depends on the grammatical, semantic, and pragmatic characteristics of the participants. More particularly it depends on whether the A outranks the O on what I will call the participant hierarchy in (104), in which case there is direct alignment, or whether O outranks A on the same hierarchy, in which case there is inverse alignment.

105. a) M'ejxëp mejts yë'ë.

m-ex-ë-p mejts yë'ë
 2O-see-INV-INDEP 2SG DEM.M
 'He is looking at you.'

b) Ojts yë'ë m'ixyët.

ojts yë'ë m-ex-y-ë-t
 PAST DEM.M 2O-see-DEP-INV-PL
 'They saw you'

c) Ējts ntsekypy ku yë'ë mkojxët.

ējts n-tsok-yp kuu yë'ë m-kox-ë-t
 1SG 1A-want-INDEP;TR Cmplz DEM.M 2O-punch-INV-IRR;DEP
 'I want him to punch you.'

d) Jajp pyamajtsën.

jajp y-pa'-mats-ë-n
 DEIC.D 3O-NEXT-come-INV-PERF;DEP
 'They (the salvages) chased them (the woman and her son).' (Aur2-695)

Also as discussed in §8.4.1, the first person marker never occurs with the inverse morpheme, as in (106), even though the inverse relation is still signaled by the personal prefix *x-*, which encodes a first person O.

106. a) Mejts m'itsy xkoxämp.

mejts m-itsy x-kox-ä'än-p
 2SG 2POSS-younger.sibling 1O[INV]-punch-DES-INDEP
 'Your brother will punch me.' (C3p9)

b) Ojts yë täjk xwepy.

ojts yë'ë täjk x-wop-y
 PAST DEM.M guard 1O[INV]-hit-DEP
 'The guard hit me (with a stick).'

I will suggest that neither the personal prefixes nor the inverse morpheme alone constitutes the inverse in AyMi. Rather, the inverse is a grammatical condition manifested by just the person prefix or the inverse morpheme, or for both. In other words, a given conjugation has inverse if it has the inverse use of the personal prefixes, even if it lacks the inverse morpheme. Additionally, I will call it direct alignment when the A is

cross-referenced on the verb and inverse alignment when the O is cross-referenced on the verb and/or there is an inverse suffix.

Let us see how the hierarchy in (104) works in the following examples. In (107a) and (108a), the first person is acting on a second and third person, respectively, and thus the relation is treated as direct, but in the (b) examples, a person that is lower in the hierarchy is acting on a first person, and thus it is treated as inverse. In both cases, inverse is marked only by the first person prefix, which indicates that the first person is the O, not the A.

107. a) Direct: 1st person > 2nd person

Japom ějts mejts n'exa'ampy.
 japom ějts mejts n-ex-ä'an-yp
 tomorrow 1SG 2SG 1A-see-DES-INDEP;TR
 'Tomorrow, I will see you.'

b) Inverse: 2nd person > 1st person.

Meets tē ěētst xtsaant.
 meets tēē ěētst x-tsaan-t
 2PL BEFORE.NOW 1PL 1O[INV]-hug-PL;DEP
 'You (pl) hugged us.' (c3p40)

108. a) Direct: 1st person > 3rd person

Yē' tāt ějts n'ixypy.
 yē'ē tāt ějts n-ex-yp
 DEM.M man 1SG 1A-see-INDEP;TR
 'I see the man.' (c3p48)

b) Inverse: 3rd person > 1st person

Mejts m'itsy japom xpäätämp.
 mejts m-itsy japom x-päät-ä'an-p
 2SG POSS-younger.sibling tomorrow 1O[INV]-find-DES-INDEP
 'Your brother will find me.' (c3p18)

When a second person is acting on a third person, as in (109a), the relation is direct as the A is higher in the hierarchy than the O, but when the third person is acting on the second person, the relation has to be marked as inverse, as in (109b).

109. a) Direct: 2nd person > 3rd person

Meets yě' tu'uts tē xpu'ut.
 meets yě'ē tu'uts tēē x-pu'u-t
 2PL DEM.D pot BEFORE.NOW 2A-break-DEP;TR
 'You (pl.) broke that pot.' (c3p39)

b) Inverse: 3rd person > 2nd person

Yě'ē japom mpäätäjnēp.
 yě'ē japom m-pää-tä'än-ē-p
 DEM.M tomorrow 2O-find-DES-INV-INDEP
 'He will meet you tomorrow.' (c3p18)

In (107) through (109), the inverse is strictly related to the grammatical person of the participants involved in the eventuality. When two third persons are involved, their semantic and pragmatic properties come into play. First of all, if the A is a human and the O is not, the relation is marked as direct, as in (110a) and (111a); however, if the A is lower in semantic terms (i.e., it is an animate or an inanimate) and is acting on a human, the relation is treated as inverse, as in (110b) and (111b).

110. a) Direct: 3 Human > 3 animate

Yě' kiixy yě' yuk y'ixypy.
 yě'ē kiixy yě'ē y-uk y-ex-yp
 DEM.M girl DEM.M 3POSS-dog 3A-see-INDEP;TR
 'The girl sees the dog.'

b) Inverse: 3 inanimate > 3 animate

Ojts yě' uk yě' kiixy tsyu'utsy.
 ojts yě'ē uk yě'ē kiixy y-tsu'uts-y
 PRET DEM.M dog DEM.M girl 3O[INV]-eat.meat-DEP
 'The dog bit the girl.'

111. a) Direct: 3 human > 3 inanimate

Yě'ē tē mwet tkeepy.
 yě'ē tēē m-wet t-kaap-yp
 DEM.M BEFORE.NOW 2POSS-clothes 3A-cut.with.scissors-INDEP;TR
 'He is cutting your clothes (with scissors).' (c3p18)

b) Inverse: 3 inanimate > 3 human

Yě' xě'än tē yě' mixy tsyā'äy.
 yě'ē xě+än tēē yě'ē mixy y-tsä'äy-y
 DEM.M sun BEFORE.NOW DEM.M boy 3O[INV]-roast-DEP
 'The sun burned the boy (i.e. he got sunburn).' (c3p39)

Inverse alignment is also used for pragmatic effects. Usually, when there are two human arguments and the A is more topical than the O, then the relation is marked as direct, as in (112a). However, when the O is clearly the topic, or the speaker wants to maintain O as the topic, then the relation is marked as inverse, as in (112b). Typically, only the non-topical NP is overtly expressed, not the topical one, as in the examples. This is discussed further in §9.5.6.

112. a) Ja' tyixytyëjk ja' t'extaany.

ja'a y-tixytyëjk ja'a t-extä'äy-n
 DEM.D 3POSS-wife DEM.D 3A-look.for-PREF;DEP
 'He looked for his wife.' (Aur2-462)

b) Ja' salvajes pyäaty ojts.

ja'a salvajes y-päät-y ojts
 DEM.D savage 3O[INV]-find-DEP PAST
 'The savage [- topical] found her [+topical].' (Aur-422)

9.5.2 Inverse and ditransitive verbs in Ayutla Mixe

As stated in section 9.2, in Ayutla Mixe only core arguments (and obliques in some cases) can be cross-referenced with the person marker in the verb. With monotransitive verbs, the choice between A and O depends on whether there is direct alignment, in which case the A is cross-referenced in the person prefix, or whether there is inverse alignment, in which case it is O.

With ditransitive verbs, it is necessary to resolve the same problem but now with three arguments: the subject and two objects. As expressed in §6.3.3.4, Ayutla Mixe has only two lexically ditransitive verbs: *mo'oy* 'to give' and *kax* 'to send'. The first one, *mo'oy* 'to give', encodes semantically a giver or an A, whatever is given or a T and whoever receives the T or a R. Typically, though not always, the T (one of the objects) is lower in animacy than the A or the R (the other object), and so the choice for the person

prefix is between the A and the R. In (113a), the relation is direct and thus the A is cross-referenced in the person markers, but in (113b-c), the relation is inverse and thus the R (one of the objects) is cross-referenced in the verb.

113. a) Meets limosn xmo'oyä'an.

meets limosn x-mo'oy-ä'an
 2PL alms 2A-give-DES[DEP]
 'You (pl.) gave him alms.' (Isr-1410)

b) Akë'ëytsa' tu'uts Carlos tē xmo'oyy.

a+kë'ëy=ëjts=ja'a tu'uts Carlos tē x-mo'oy-y
 closed=1SG=DEM.D pot Carlos BEFORE.NOW 1O[INV]-give-DEP
 'Carlos gave me the pot closed.'

c) Ka'ts n'u'unk moojk xmo'oyy.

ka't=ëjts n-u'unk moojk x-mo'oy-y
 NEG=1SG 1POSS-child corn 1O[INV]-give-DEP
 'My son did not give me corn.' (VMA-679)

Something similar happens with *kax* 'to send' which encodes a sender or A, whoever is sent somewhere or a T, and the place to whom they are sent or the goal. As with *mo'oy* 'to give', the choice is between the A and the T, usually both human beings. The goal, as it is normally lower in the participant hierarchy, is automatically left out as a possible candidate to be cross-referenced. For example, in (114a) the A is higher than the T (one of the objects), and thus the sentence is marked as direct, but in (114b) the first person T (again, one of the objects) is higher than the third person sender (the A), and thus the relationship is marked as inverse.

114. a) Ojts yë' nän y'u'nk eskwel tkeexy.

ojts yë'ë nän y-u'nk eskwel t-kax-y
 PAST DEM.M woman 3POSS-child school 3A-send-PAST
 'The lady sent her son to school.'

b) Tēs nnän eskwel xkeexy.

Të=ëjts n-nän eskwel x-kax-y
 BEFORE.NOW=1SG 1POSS-mom school 1O[INV]-send-DEP
 'My mom sent me to school.'

The verb *kax* is also commonly used in another construction, also with three arguments but as a verb of manipulation where the third argument is a complement clause. It is relevant here just because, if the O is higher than the A, it also triggers inverse alignment, as in the following example.

115. Të Pedro ëjts xkeexy ku jä'äxy mpoot.
 Tëë Pedro ëjts x-kax-y kuu jä'äxy n-poot-t.
 before.now Pedro 1SG 1O[INV]-send-DEP Cmplz firewood 1A-cut-IRR;DEP
 'Pedro ordered me to cut firewood.'

There are other grammatical mechanisms to form three place verbs, such as causatives, the applicative apophony, and the pseudo-applicative morphemes, which are discussed in §9.6 (see also §§8.7 and 8.9).

Up to this point it would seem that Ayutla Mixe has a system that conflates the object of a monotransitive verb with the recipient of a ditransitive verb, at least with respect to inverse. In other words, in the inverse alignment both the object of a monotransitive verb and the recipient of a ditransitive verb are treated in the same way. This would suggest that Ayutla Mixe is a language with primary object, as treated in Dryer (1986, 2007c).

Nonetheless, that would be false for AyMi. In fact, in a ditransitive construction, AyMi treats both objects in the same way. It appears to treat the recipient in a ditransitive clause as the O of a monotransitive construction while the other object is left in a secondary position precisely because AyMi is sensitive to the animacy of all core arguments. In a verb that has as arguments two participants that refer to humans and one object whose referent is inanimate, the inanimate object will never outrank the human beings and therefore it will appear to have a secondary prominence as an object. In fact, it does have a secondary prominence, but only in virtue of its semantic properties, not grammatically.

Only when both objects refer to human beings can they be treated in the same way. This usually happens with causatives, where there is a causer that makes a causee do something (potentially to someone). Causative constructions are discussed in §9.6.2, so here I will limit the discussion to cases that involve inverse with causatives, which are exemplified in (116) with the first person as object and in (117) with the second person as object.

116. Ojts yë' An yë' mixy ëjts xtukmëkajpxy.
 ojts yë'ë An yë'ë mixy ëjts x-tuk-më-käjp̄x-y
 PAST DEM.M Ana DEM.M boy 1SG IO[INV]-CAUS-BEN-speak-DEP
 a) 'Ana made me talk to the young man.'
 b) 'Ana made the young man talk to me.'

117. Ojts mejts yë' Tuur yë' mixy mtuksiiiky.
 ojts mejts yë'ë Tuur yë'ë mixy m-tuk-tseek-y
 PAST 2SG DEM.M Arturo DEM.M boy 2O[INV]-CAUS-hit-DEP
 a) 'Arturo made you hit the young man.'
 b) 'Arturo made the young man hit you.'

In (116), the A, the causer, is a third person and is acting upon a first person. The sentence can be interpreted as the first person being the one who talks, in (116a), or the one the young man talks to, in (116b). Similarly, in (117), the second person can be interpreted as being the one who hits (117a) or the person that is hit (117b). In any case, even though only one participant can be cross-referenced in the verb and it always will be the highest in the participants hierarchy, when both objects refer to human beings, the person marker can refer to two different grammatical participants, both objects in a ditransitive sentence.

In a non-causative construction, the T can also be cross-referenced on the verb, but only if it is higher in the person hierarchy than the sender and the recipient. This happens with the derived verb *takëtëk*, which roughly means 'to give one's child in adoption'. In

(118) the person who is “adopted” is coded as the object because it is higher than the other two core participants.

118. Maadr ojts ëjts ntääk xtakëtëk.

maadr ojts ëjts n-tääk x-takë+tëk
 nun PAST 1SG 1POSS-mother IO[INV]-give.in.adoption[INCH.DEP]
 ‘My mom let me under the nuns’ care.’

This sentence shows that the T in a ditransitive construction can also be treated in the same way as the object of a monotransitive clause, i.e. it can be cross-referenced by the person prefix.

In sum, the inverse alignment makes it possible to show that in a ditransitive clause Ayutla Mixe has symmetrical objects (Bresnan & Moshi 1990).

9.5.3 Possession and inverse

In Ayutla Mixe, there is a context involving two third person participants where the use of inverse is obligatory.¹² In a possessive relation, the possessor can act upon the possessed or the other way around, as happens in (119).

119. a) Ja’ tät nyëëx y’ixpy.

ja’a tät y-nëëx y-ex-yp
 DEM.D man 3POSS-daughter 3A-see-INDEP;TR
 ‘The man is looking at her daughter.’

c) Ja’ tät nyëëx ejxëp.

Ja’a tät y-nëëx ex-ë-p
 DEM.D man 3POSS-daughter [3O]see-INV-INDEP
 ‘His daughter is looking at the man.’

In (119a) the man is looking at his daughter, i.e., the possessor is acting on the possessed.

In cases like this, the marking is direct. However, when the relation is the other way around, i.e. when the possessed is acting on the possessor, Ayutla Mixe uses inverse

¹² Following Aissen (1997, 1999), Zavala (2007) uses constructions like these to say that some Mesoeamerican languages, including languages of the Mixe branch, have an obviation system.

alignment. This happens in (119b) where the daughter is looking at her father, and the verb is marked with the inverse suffix *-ĕ* and there is no person prefix.

As a result, the examples in (120) cannot be interpreted as the possessor being the A; rather it has to be the O.

120. a) Ta nyän yanmä'äny ps ku...

taa	y-nän	y-anmä'än-y	pues	ku
DEIC.D	3POSS-mother	3O[INV]-say- DEP	DISC	CMPLZ

'Then his mother told him that...' (Aur2-558)
 *'Then he told his mother that...'

b) ¿Jëts ja'y nyän yaktsi'itsyëta?

jëts	ja'y	y-nän	y-ak-tsä'ëts-y-ĕ-t=a
and	only	3POSS-mother	3O-CAUS-suckle-DEP-INV-PL=Q

'And, did their mother (the female donkey) feed them (the newborn donkeys)?'
 (AE1-894)

As a reminder, whenever the O is cross-referenced on the verb, the clause has inverse alignment. Thus, in (120a) there is no explicit inverse suffix because it is conjugated in the neutral dependent AM (see §9.4), but since the O is marked on the verb, then it is possible to know that there is an inverse relation. In (120b), inverse is marked, additionally, by the inverse suffix *-ĕ*. Notice that the use of the inverse is obligatory even in cases where the other interpretation is not possible, as in (120b). Thus, the inverse alignment in this context is grammatical and not just a matter of avoiding potential ambiguity: when the possessor is the A the relation is direct and when the possessed is the A the relation is inverse.

9.5.4 Inverse and external possession

There are other cases in Ayutla Mixe where possession interacts with inverse, but here it is when there is external possession, as in (121).

121. a) Carlos ts yë' n'u'unk tē tkexy.
 Carlos=ts yë'ë n-u'unk tē t-kox-y
 Carlos=EV DEM.M 1POSS-child BEFORE.NOW 3A-punch-DEP
 'Carlos punched my son.'

b) Carlos n'u'unk tē xkojx.
 Carlos n-u'unk tē x-kojx
 Carlos 1POSS-child BEFORE.NOW 1O[INV]-punch\APPL[INCH.DEP]
 'Carlos punched my son.'

In (121a), the A is a third person and the O is a NP possessed by the first person. The person marking on the verb is just as it should be when there are two NPs involved: the A is cross-referenced in the personal prefix. There is no inverse here because there is no possessive relation between one NP and the other. However, in (121b) the first person possessor of the O noun phrase is coded as a core argument: it becomes an object too. It is possible to know that the first person possessor becomes a core argument precisely because it is cross-referenced with the person prefix. Since it becomes an object, and it is higher on the participant hierarchy than the A and the other object, it is necessary to use inverse alignment, marked also by the person prefix *x-*.

As explained below in §9.6.9, in order for the possessor to become an object, it is necessary to use the applicative apophony. So, the first person possessor becomes an object in (122a) and the second person becomes a possessor in (122b).

122. a) Carlos n'u'unk xkojxëp.
 Carlos n-u'unk x-kojx-ë-p
 Carlos 1POSS-child 1O[INV]-punch\APPL-INCH-INDEP
 'Carlos punches my son.'

b) Carlos yë' mu'unk makmejnëp.
 Carlos yë'ë m-u'unk m-ak-mejn-ë-ë-p
 Carlos M.DEM 2POSS-child 2O-CAUS-come\APPL-INCH-INV-INDEP
 'Carlos brings your son (here).'

Notice that, despite the fact that the possessor becomes a core argument, the noun phrase still has to be possessed (123a), as (123b), without the possession, is ungrammatical.

123. a) Carlos nu'u'unk xpääjtëp.
 Carlos n-u'unk x-pääjt-ë-p
 Carlos 1POSS-child 1O-find\APPL-INCH-INDEP
 'Carlos found my son.'
- b) *Carlos yë' u'unk xpääjtëp.
 Carlos yë'ë u'unk x-pääjt-ë-p
 Carlos DEM.M child 1O-find\APPL-INCH-INDEP
 Intended: 'Carlos found my son.'

9.5.5 Inverse verbs

In Ayutla Mixe, there are some intransitive verbs whose subject is an experiencer that in a way participates in the inverse system. What is interesting with these verbs is that even though they are grammatically one-place predicates, they do not behave as regular intransitive verbs, but rather they are conjugated as inverse verbs. In other words, in this case, the semantic relation expressed by the verb and the way in which grammatical relations are encoded in AyMi leads to an inverse conjugation. This is exemplified in (124).

124. a) Mejts mpëjkëp.
 mejts m-pëk-ë-p
 2SG 2S-be.sick-INV-INDEP
 'You are sick.' (ETAM07)
- b) Të yë' yamënyët.
 tëë yë'ë y-amëny-y-ë-t
 BEFORE.NOW DEM.M 3S-stop.talking-DEP-INV-PL
 'They shut up.'

In (124), all the examples have only one argument, and nonetheless the verb is conjugated as inverse. One possible explanation for this, loosely following Zavala's (2000, 2002c) proposal for Olutec, is that even though those verbs are syntactically

intransitive, semantically there is a cognate theme that is part of the semantic structure of the verb. In other words, a verb like *pĕk* ‘to be in pain, to be sick’ has only one syntactic participant, which is the person who feels the pain, but the pain itself is the other semantic argument that triggers the inverse system. One could think of this phenomenon as a case similar to ambitransitive verbs. In those verbs, there is usually one argument that is part of the semantic representation but that is often omitted from the syntactic structure. The only difference is that with intransitive inverse verbs, the theme is lower in the participant hierarchy than the experiencer, and thus it triggers the inverse alignment. For a full explanation, see Zavala (2000, 2002c).

It is worth pointing out that the list of monovalent verbs that take inverse conjugation is rather limited. In addition to *pĕk* ‘to be in pain, to be sick, to get sick’ and *amĕny* ‘to stop talking’, there are the following verbs: *ä’än* ‘to get sick’ *may* ‘to be able to lift’, *năx* ‘to be in agony’, *hotkuj* ‘to get nauseous and to want to vomit’ and *tsăäny* ‘to get wounded’. Thus, it does not seem to be a very productive strategy (at least compared to Olutec).

9.5.6 Inverse in discourse

In the participant hierarchy for inverse given in (104) (§9.5.1), topicality is one of the parameters. More specifically, the inverse is used when it is required to maintain the same participant as the topic of the conversation while introducing another participant. Consequently, since the other participant is specifically not established as topical, it is lower in the participant hierarchy and the use of the inverse alignment is necessary.

In order to explain this, it is necessary to see complete parts of a narration. In the following example, the narrator has been talking about a single person, a clothes seller,

and through (125a-e) the same participant is maintained as the pivot of the discourse. In (125e), however, another participant is introduced, who is in turn the actor of the following sentence, in (125f).

125. (The story goes about a guy who sells clothes. He goes from town to town selling clothes.)

- a. The guy_j goes like that (selling clothes). Time goes by, time goes by.
- b. There was no money, nothing.
- c. The he_j got sad.
- d. He_j got sad.
- e. Then he_j arrived where another person_k was.

f. Ta jä'äy yani'mxy “Ti mjotmaapy?”

taa jä'äy y-anë'mxy tii m-jojtmay-p
 DEIC.M person 3O[INV]-say-DEP what 2A-be.sad-INDEP

‘Then the person_k asked him_j «Why are you_j so sad».’ (Aur2-172)

- g. I_j sell clothes.
- h. I_j have no money.

The verb in (125f) is transitive, and therefore it is necessary to choose which participant will trigger the agreement in the verb. Since we have been talking about the clothes seller, who is the O, the inverse alignment is used in order to indicate that the same discourse pivot is still preserved, as he is still the main character in the subsequent sentences.

In the next example, something a little different happens. The narrator has been talking about a man and his wife, the latter of whom got lost. In (126a), they are the only two participants. But in (126b-c), the narrator uses the plural form and this indicates that there are more people involved in the search for the woman. The important fact here is that the woman is the O in all those cases. However, in (126d), a new participant, the savages, is introduced. Since they have not been introduced before and the narrator will still talk about what happened to the wife, the relation is marked as inverse.

126. a) He_j was looking for his wife_k.
 b) They_m (the people) were looking for their friend_k (the wife), they_m couldn't find her_k anywhere.
 c) They_m couldn't find her_k anywhere, they_m didn't see her_k anywhere.
- d) Ps ja'y te'n ojts nyějkn etety, yalnějkněn ja' jä'äy... ja'päjä'äy pēs.
 pēs ja'y te'n ojts y-nějkn-n et-ojt-py
 DISC only M.DEM PAST 3S-go-PERF;DEP place-INSIDE-LOC
 y-ak-nějkn-ë-n ja'a jä'äy ja'a päjä'äy pēs
 3O-CAUS-go-INV-PERF;DEP DEM.D person DEM.D savages DISC
 'She_k went into the forest, those people_n took her, the savages_n.' (Aur2L-475)

In this case the inverse is perhaps better seen not as preserving the topic, which has been changing between the woman and her husband, but rather as a way of backgrounding the other participant, the savages.

The inverse alignment is used in those cases only to maintain the same topic while changing momentarily the A, and not to indicate a change in the topic. In a different narrative, there is a passage in the story that goes across 153 utterances and there is not even one inverse change in order to maintain topicality, like those just described, in any of them. This does not mean that the narrator was talking about a single participant the whole time, or that there was no referent switch. We can see that in (127), which is part of that story.

127. a. Jëts yää jatëkojk tyixytyëjk tuktooky yää.
 jëts yää jatëkojk y-tixytyëjk t-uk-took-y yää
 and DEIC.P then 3POSS-wife 3A-caus-SELL-DEP DEIC.P
 'And he made his wife to come to sell it here.'
- b. Te'n japp tooky jëts te'n yää tooky.
 te'n japp t-took-y jët te'n yää t-took-y
 M.DEM DEIC.D 3A-sell-DEP and M.DEM DEIC.P 3A-sell-DEP
 'She sold there and here.'

In (127a), even though it is a causative of an already transitive predicate, the verb marks only one participant, the actor. In (127b), there is a switch to the previous undergoer as a new actor, and therefore we might expect an inverse alignment. However, since there is

no possible confusion about what the wife is selling (it is unlikely that she was selling *him!*), and since the participant is not kept as the topic in the subsequent discourse, then there is no need for inverse alignment.

9.6 Change of valence

In this section I will describe changes in the valency of the verb. First in §9.6.1, I will discuss cases where the semantics of the verb allows for two types of configuration, i.e. ambitransitive verbs will be discussed. Then in §9.6.2, I will discuss causatives, which add another participant to the verb. In the subsequent four subsections, I will discuss ways of reducing the number of participants: in §9.6.3 a passive construction, which will be compared to the inverse in § 9.6.4; in §9.6.5 reflexivity and the middle voice; and in §9.6.6 reciprocal constructions. Then in the rest of the section I will discuss other derivations that might involve increasing the number of core participants: in §9.6.7 the benefactive prefix *mě-*, in §9.6.8 the incorporation of the associative *měēt*, in §9.6.9 the benefactive apophony, in §9.6.10 the general applicative prefix *ta-*, and in §9.6.11 the benefactive prefix *taně-*.

9.6.1 Ambitransitive verbs

In this section, I will briefly mention ambitransitive verbs, verbs that can be used as intransitive verbs or as transitive verbs. Ambitransitive verbs were mentioned before, in §6.3.3. A pair of examples with the same verb is shown in (128).

128. a) Të Carlos kyay.

tëë	Carlos	y-kay-y
BEFORE.NOW	Carlos	3S-eat-DEP
'Carlos ate already.'		

- b) Ka't Carlos mē'ëky tkay.
 ka't Carlos mē'ëky t-kay-y
 NEG Carlos tamale 3A-eat-DEP
 'Carlos does not eat tamale.'

As one can expect from an ambitransitive verb, it allows an intransitive use as in (128a) and a transitive use, as in (128b). Unlike the other cases discussed in this section, such as causatives or pseudo-applicatives, ambitransitive verbs do not require further derivation to change valence; rather this possibility is part of the lexical properties of those verbs. This phenomenon is similar to verbs like *eat* in English, which can be used intransitively as in *Peter eats early in the morning* and transitively as in *Peter ate four hamburgers*.

In order to properly understand this, it is necessary to distinguish different albeit related concepts: syntactic structure (i.e. number of syntactic arguments), semantic structure (number of semantic arguments), and conceptual structure (the number of possible participants on the event).

This is particularly relevant for S=A ambitransitive verbs (Dixon & Aikhenvald 2000). In the example in (129), just as in (128a), the verb is intransitive, and the unique participant is the agent (or effector) of the event.

129. Memo wejtsë'kp. Intransitive
 Memo wets-ë'ëk-p
 Memo [3S]carry-ascend-INDEP
 'Memo lifts (sack-like things).'

Even though the verb in the previous example has one participant syntactically, one can argue that semantically there are two participants involved, since Memo has to lift something for the sentence to be true. In the example in (130) there are two syntactic arguments, as is reflected in the person prefixes as well as the neutral independent transitive AM suffix.

130. Memo wyejtsi'kypy keentsy. Transitive
 Memo y-wets-ë'ëk-yp keentsy
 Memo 3A-carry-ascend-INDEP;TR sack
 'Memo lifts sacks.'

Also with S=A ambitransitive verbs, depending on the meaning of the verb, the perfect entails a resultative state involving the syntactically non-expressed theme. Thus in (131), the perfect of *täj* 'to dig' entails that the dirt has been dug out, even if it is not spelled out.

131. Të Pedro tyäjn.
 Tëë Pedro y-täj-n
 before.now Pedro 3S-dig.out-PERF;DEP
 'Pedro dug out (dirt).' (*entails* 'Dirt was dug out.')

S=O ambitransitive verbs have a similar syntactic pattern. The verb *käj* 'to be stuck/to stick' is used intransitively in (132a), with *kipy* 'stick' as the only argument, but it is used transitively in (132b), with the *Carlos* as the other argument.

132. a) Të yë' kipy kyäjy.
 tëë yë'ë kipy y-käj-y
 FORMERLY DEM.M stick 3S-be.stuck-DEP
 'The stick got stuck.'
- b) Të Carlos tkäjy yë' kipy.
 tëë Carlos t-käj-y yë'ë kipy
 FORMERLY Carlos 3A-stick-DEP DEM.M stick
 'Carlos stuck the stick.'

In S=O ambitransitive verbs, very often it is the case that the event is expressed in such a way that the agent is omitted, even if it is rather likely that there is something, or someone, that causes the event. This is the case, for instance, in (133).

133. Tu'uk kiixy tkujl'iky tu'uk martillo, ës mäa platë'n jyä'äty ës pyu'uy.
 tu'uk kiixy t-kuj-ë'ëk-y tu'uk martillo jëts mäa=ja'a plat=ë'n
 one girl 3A-thow-ascend-DEP one hammer and where=DEM.D plate=ADJ
 y-jä'ät-y ëjts y-pu'u-y
 3S-arrive-DEP and 3S-break-DEP
 'A girl throws a hammer, it ends up where the plate is, and it gets broken.' (CausA-09)

In (133), there is no question that the girl's throwing the hammer caused the plate to be broken, and thus one could say that in fact the girl broke the plate (in addition to saying that the hammer broke the plate, which is also true). However, in (133) the verb *pu'u* 'to break' only has one semantic and syntactic participant even if the whole scene also involves an ultimate causer and an instrument. The fact that the effector is not coded at all is not a syntactic restriction, since it is always possible to express it as an A with S=O ambitransitive verbs. Rather, given the properties of the verb, one could choose to express it or not.

In this respect, in S=O ambitransitive the agent might or might not be part of the semantic structure. For this reason, S=O ambitransitive verbs are also used in cases rather similar to a facilitative middle voice (i.e. when the inherent characteristics of the notional P allow the event to take place or when it is understood that there is an agent but it is pragmatically deemphasized, see Kemmer (1993:147)), except that it is part of the semantics of the verb, not due to a grammatical construction. This is precisely what happens in (134).

134. Yë' tu'uts apettutp pe'kypy.
 yë'ë tu'uts a+pet-tu'ut-p pe'kypy
 DEM.Mpot [3S]wind-get.loose-INDEP quickly
 'The bottle opens easily.'

There are other cases in which conceptually there must be a second participant, as in the intransitive use of *xuuk* 'to smell' in (135).

135. Wenknaxy yë' amu'unky xyuuky.
 wenk-naxy yë'ë amu'unk y-xuuk-y
 different-INTENS DEM.D drunk 3S-smell-DEP
 'The drunk stinks.'

However, in order to avoid philosophical questions as to whether it is possible to say that something or someone stinks if there is not perceiver in (135), it is perhaps better to

say that the verb has semantically one argument even if conceptually or in the actual world there is usually someone who judges whether something stinks or not. A similar argument can be said of other verbs.

9.6.2 Causatives

Ayutla Mixe has two causative morphemes that increase the valency of the verb by adding a causer. In the most canonical cases, the causative *ak-* is used with intransitive verbs, as shown in the pair of examples in (136), and the causative *tuk-* is used with transitive verbs, as in (137).

136. a) ...ta atäm njëntsën yookyë'n.
 taa atäm n-jëntsën y-ook-yë'n
 DEIC.M 1PL.INCL 1POSS-chief 3S-die-INCL
 '...then our leader died.' (Efa1-499)

b) Ps **nak'**ookë'm yë' tsä'äny.
 pës n-**ak**-ook-ë'm yë'ë tsä'äny
 DISC 1A-CAUS-die-EX DEM.M sksnake
 'We have to kill the snake.' (Ire-275)

137. a) Tinya' jä'äy ttooky.
 tiny=ja'a jä'äy t-took-y
 only=DEM.D people 3A-sell-DEP
 'People just sold them (boards).' (NLAH-888)

b) Jëts yää jatëkojk tyixytyëjk **ttuk**tooky yää.
 jëts yää jatukojk y-tixytyëjk t-tuk-took-y yää
 and DEIC.P once 3POSS-woman 3A-CAUS-sell-DEP DEIC.P
 'And his wife make him sell it.' (NLAH-155)

In (136a), the only argument of the intransitive verb *ook* 'to die' is a patient. The verb *akook* 'to kill' in (136b) has two arguments, one is the patient of *ook* 'to die' and the other one is the agent introduced by the causative *ak-*. In (137a) the verb *took* 'to sell' is transitive and as such it has an agent and a theme. In (137b), the verb now contains, in addition, the causative *tuk-* which adds a causer. When the causative *ak-* is prefixed to the

intransitive verb, it introduces a causer as an A while the S of the intransitive verb is the O of the resulting transitive verb.

More examples of the causative *ak-* are given in (138).

138. a) Anëjm wa'n lus tēsakpi'itsy.

anëjm wa'n lus t-ēs-ak-pe'ets-y
tell DUB light 3A-MCP-CAUS-go.out-DEP
'Tell him to turn the light off.' (NLA3-307)

b) Nnän te'n eyeen yē' xējĵk takkē'ēy.

n-nän te'n eyeen yē'ē xējĵk t-ak-kē'ē-y
1POSS-mom M.DEM first DEM.M beans 3A-CAUS-be.cooked-DEP
'My mom cooks beans first.' (AE1-491)

c) ĵTii, te'n yē'ē uk xakkayya?

tii te'n yē'ē uk x-ak-kay-y=a
what M.DEM DEM.M dog 2A-CAUS-eat-DEP=Q
'So what, are you feeding the dog?' (NLA-177)

d) Ka'ta tät Daniel yajkmata'aky.

ka't=ja'a tät Daniel y-ak-matä'äk-y
NEG=DEM.D Mr. Daniel 3O-CAUS-win-DEP
'He didn't make Mr. Daniel win.' (Efa1-222)

e) Ta kamionk ojts takjä'äty.

taa kamionk ojts t-ak-jä'ät-y
DEIC.M bus PAST 3A-CAUS-arrive-DEP
'Then he brought the bus.' (Irs-1723)

Thus, in (138a) a third person, licensed by the causative, so to speak, causes the change of the state of the O argument, the light. Similarly, in (138b) the causative makes the verb *kē'ē* 'to get cooked' transitive, introducing a cause. In (138c), the A is acting upon an animate participant and in (138d) upon another person, not an inanimate object. In (138e), the causative is prefixed to the verb of change of location *jä'äts* 'to arrive'. The causative, then, can be prefixed to any intransitive verb regardless of the semantic content of the verb.

As for those verbs that are conjugated with the inchoative suffix *-ē*, they preserve the inchoative suffix when used causatively, as in the following examples in (139). Most of

these verbs are derived from nouns or adjectives, as in (139a), or are non-derived verbs that for historical reasons take the inchoative suffix, as in (139b).

139. a) Ku te'n ēēts tojkx nak'eyēt.
 kuu te'n ēēts tojkx n-ak-ey-ē-t
 Cmplz M.DEM 1Pl.Ex food 1A-CAUS-good-INCH-DEP;TR
 '(We played) that we prepared food.' (AE1-94)

b) Yakanu'kxinyäxp.
 y-ak-anu'kx-ē-näx-yp
 3A-CAUS-tired-INCH-INTENS-INDEP;TR
 'It (the hand grinder) makes one get very tired.' (AE1-333)

In (139a), the stem *ak'ey* 'to prepare, to make' has the adjective *ey* 'good', which must have the inchoative suffix *-ē* in order to be used as a verb. In (139b), the verb *anu'kx* 'to get tired' is not derived from an adjective but for historical reasons has the inchoative anyway and the causative form of the verb requires it as well.

Additionally, the causative *ak-* is also used as a permissive, i.e. an interpretation under which someone is allowed to do something, not necessarily obliged, as in the examples in (140).

140. a) Akats yē mixy.
 ak-ats yē'ē mixy
 CAUS-dance DEM.M boy
 'Let the young man dance.'

b) Jatiku yē' nēx ka't xaketsy.
 jatiku yē'ē nēx ka't x-ak-ats-y
 why DEM.M daughter NEG 2A-CAUS-dance-DEP
 'Why don't you let you daughter dance?'

c) Yaktimpy yē nan yē y'u'unk.
 y-ak-tun-yp yē'ē nan yē'ē y-u'unk
 3A-CAUS-work-INDEP;TR DEM.M woman DEM.M 3POSS-child
 'The woman allows her son to work.'

All the constructions in (140) are ambiguous between a more obligative interpretation ('make/have *x* do *y*') and a more permissive interpretation ('let *x* do *y*').

There are other cases in which, at first glance, the causative does not seem to introduce another participant. However, the causative form of a given verb might have an idiosyncratic meaning. Thus, in (141), the S=A ambitransitive verb *tun* ‘to work, to do’ would not seem to require a causative morpheme to express an agent. However, to express a meaning similar to ‘to use’, it is necessary to add the causative prefix.

141. Tu'uk sēmään yē'ē jā'äy taktunä'an.
 tu'uk sēmään yē'ē jā'äy t-ak-tun-ä'an
 one week DEM.M person 3A-CAUS-do-DES[DEP]
 ‘The person will be using it (the money) for one week.’ (NLA3-322)

As previously stated, the other causative affix, the prefix *tuk-*, is used with transitive verbs to create ditransitive verbs. Most verbs that express a transitive predicate are in fact S=A ambitransitive verbs, and then *tuk-* is very often prefixed to such verbs when used transitively, as in the following examples.

142. a) Ok ʔti yē' burr mtukjē'kxtēp?
 ok tii yē'ē burr m-tuk-jē'kx-tē-yp
 or what DEM.M donkey 2A-CAUS-eat.vegetables-PL-INDEP;PL
 ‘or, what did you (pl.) feed the donkey with?’ (AE1-897)
- c) Carlos ttukpujy wet Perla.
 Carlos t-tuk-puj-y wet Perla
 Carlos 3A-CAUS-wash-DEP clothes Perla
 ‘Carlos made Perla wash the clothes.’
- b) Ja'y kyē'ēm ttuk'ixy ku amwēny, amwēny y'ett.
 ja'y y-kē'ēm t-tuk-ex-y kuu amwēny amwēny y'et-t
 only 3POSS-hand 3A-CAUS-see-DEP CMPLZ quiet quiet 3S-exist-DEP
 ‘He shows him his hand so that it stays quiet.’ (FrogG-532)

In (142a) the causative *tuk-* is prefixed to the verb *jē'kx* ‘to eat’. The whole sentence has three participants, the causer (i.e., the people who feed the donkey), whatever they feed the donkey with, and the donkey. Since the verb *jē'kx* ‘to eat’ is used transitively, it is necessary to use the causative *tuk-* and not the other causative, *ak-*. Something similar happens in the example in (142a), where one person makes another do something else. In

(142c), since AyMi does not have ditransitive verbs like *show* in English, it is necessary to use a causative construction in order to add another participant to the transitive verb *ex* ‘to see’.

In ditransitive verbs, such as those in the previous examples, both the causee and the theme are objects (see brief discussion on this in §9.5.2). This can be seen because, if the causee is higher than A (the causer) in animacy, then the causee (one of the Os), and not A, is cross-referenced in the verbal person prefix. In such cases the sentence has to be construed as inverse, as discussed in §9.5.2. When one object is a human and the theme/patient is a non-human (and therefore the former higher in animacy than the latter), there is no question that the human has to be interpreted as the causee of the event. However, when both Os are humans, the sentence is ambiguous as to who is acting upon whom, even if there is a preferred reading, as in (143).

143. Akwan ojts yë mixy ja' jä'ätsyã'ány ëjts xtukixy.
 akwan ojts yë'ë mixy ja'a jä'äy-tsä'ány ëjts x-tuk-ex-y
 unwillingly PAST DEM.M boy DEM.D person-snake 1SG 1O-CAUS-see-DEP
 a) ‘The boy made me see the snake-person.’
 b) ‘The boy made the snake person look at me.’

In (143), the most likely interpretation is that there was a circus and the speaker does not want to see the show with the snake-person, so the boy made her see it, as in (143a). However, give the appropriate context, let us say that whoever was representing the snake-person was a relative of the speaker and was ashamed of seeing her there, it is always possible to obtain the interpretation in (143b).

As discussed in §9.5.2, thanks to cases like (143), one can say that the apparent asymmetry between objects is only a consequence of the grammaticalized animacy in Mixe-Zoque languages. When there is a clear semantic asymmetry, let us say a human and an object, AyMi seems to have asymmetric objects (more particularly primary and

secondary objects (Dryer 1986)), but when both objects are relatively similar in terms of animacy, then either one could be cross-referenced by the person prefix.

On the other hand, although less common than with the causative *ak-*, the causative *tuk-* can be used with a permissive meaning as well, as in (144).

144. *¿Xe'n ejtsa' meeny xtukaktiny?*
 xe'n ejts=ja'a meeny x-tuk-ak-tun-y
 how 1SG=DEM.D money 1O-CAUS-CAUS-do-DEP
 'How is it that they let me handle the money?' (NL1-590)

Since intransitive verb roots have to take the causative *ak-* in order to express a transitive meaning, if an external causer is required, the causative *tuk-* must be placed external to the causative *ak-*, as in (145).

145. a) Carlos xtukakawä'ätsy tēkää.
 Carlos x-tuk-ak-a+wä'äts-y tējk-ää
 Carlos 2O-CAUS-CAUS+be.open-DEP house-mouth
 'Carlos made me open the door.'
- b) Silvia xtukaakey yē' tojx.
 Silvia x-tuk-ak-ey yē'ē tojx
 Silvia 1O-CAUS-CAUS-good[INCH.DEP] DEM.M food
 'Silvia made me prepare the food.'
- c) Pedro mtukakjo'kxtēk yē' nēj.
 Pedro m-tuk-ak-jo'kx-t=ēk yē'ē nēj
 Pedro 2O-CAUS-CAUS-heat-PL;DEP=HEARSAY DEM.M water
 'Pedro made you (pl.) heat up the water.'

Additionally, when a verb is already ditransitive and one wants to add a causer, the use of *tuk-* is also required, not *ak-*, as one can see in (146).

146. a) Silvia xtujkwejtsnaxy yē' tu'ujts Pedro.
 Silvia x-tuk-wets-näx-y yē'ē tu'ujts Pedro
 Silvia 2O-CAUS-carry-pass-DEP DEM.M pot Pedro
 'Silvia made me give the pot to Pedro.'
- b) *Silvia xakwejtsnaxy yē' tu'ujts Pedro.
 Silvia x-ak-wets-näx-y yē'ē tu'ujts Pedro
 Silvia 2O-CAUS-carry-pass-DEP DEM.M pot Pedro
 Intended: 'Silvia made me give the pot to Pedro.'

Thus, in (146) the verb stem contains two verb roots, *wets* ‘to carry’ and *näx* ‘to pass’, forming a core serial verb construction. The serial construction already requires three participants, but when a causer is required, it is necessary to use *tuk-*. Thus the causative morpheme is used with both monotransitive and ditransitive verbs. In cases like this, it is not clear what the status of all the participants is. It might very well be that some one or more of the participants is actually a kind of oblique, or perhaps all three participants (the causee, the theme and the recipient) are objects.

There is another difference between the two causatives, now with respect to the possibility of incorporating the O. Only causatives with *ak-*, but not those with *tuk-*, allow noun incorporation. Thus, the (a) examples below have the O incorporated, *wet* ‘clothes’ in (147) and *tsäkäj* ‘bull’ in (148), but the almost identical (b) examples that have the causative *tuk-* are ungrammatical.

147. a) Perla ojts Carlos **tak**wetpujy.

Perla ojts Carlos t-ak-wet-puj-y
 Perla PAST Carlos 3A-CAUS-clothes-wash-DEP
 ‘Carlos made Perla wash the clothes.’

b) *Ojts Carlos **ttuk**wetpujy Perla

Perla ojts Carlos t-tuk-wet-puj-y
 Perla PAST Carlos 3A-CAUS-clothes-wash-DEP
 Intended: ‘Carlos made Perla wash the clothes.’

148. a) Carlos **xak**tsäkäj'exp.

Carlos x-ak-tsäkäj-ex-p
 Carlos 1O-CAUS-bull-see-INDEP
 ‘Carlos makes me look after the cattle.’

b) *Carlos **xtuk**tsäkäj'exp.

Carlos x-tuk-tsäkäj-ex-p
 Carlos 1O-CAUS-bull-see-INDEP
 Intended: ‘Carlos makes me look after the cattle.’

This is so because noun incorporation yields intransitive clauses, as explained in the previous chapter (§8.10). In the non-causative example in (149), the noun *wet*

‘cloth/clothes’ is incorporated into the verb. Notice that the verb is in the neuter independent AM, and but it is intransitive because it does not have a person prefix (as any other intransitive verb in this AM) and the AM suffix is *-p*, not the transitive suffix *-yp*.

149. Yë' kiixy wetpujp.

yë'ë kiixy wet-puj-p
 DEM.Mgirl [3S]clothes-wash-INDEP
 ‘The young lady washes clothes (i.e. for living).’

Since the verb with the incorporated object is intransitive, it behaves like any other intransitive verb and it has to take the causative prefix *ak-*.

9.6.3 The passive use of the causative prefix

In Ayutla Mixe, as well as in other Mixe-Zoque languages, the same morpheme that is used as causative, the prefix *ak-*, is used to reduce the number of participants. More specifically, it is also used as a type of morphological passive. The causative prefix is used as a passive when a verb is transitive in its basic form and it creates an agentless intransitive predicate, as illustrated by the pair in (150).

150. a) Të yujk x'ixy

tëë yujk x-ex-y
 BEFORE.NOW animal 2A-see-DEP
 ‘You saw the animals.’ (Vir-340)

b) Te'n yä'ät mëtu'uk... yak'ixy.

te'n yä'ät më-tu'uk y-ak-ex-y
 M.DEM DEM.P ORD-one 3S-CAUS-see-DEP
 ‘That is how the first one is seen.’ (FrogG-76)

The clause in (150a) is transitive, as the A is marked by the second person prefix *x-* and the O is the noun phrase *yujk* ‘animals’. The verb is in its basic form, as it does not have any derivational morphology. In contrast, the clause in (150b) is a passive construction. In this case, the verb has the causative prefix *ak-*, and the only participant is a notional O,

but it is cross-referenced by the third person prefix *y-*, which is used for an S in the dependent order.

When the causative adds a participant, the derived stem is always transitive, but when *ak-* is used as a passive, the construction is intransitive. In all the sentences in (151), the person markers correspond to an intransitive verb, not to a transitive one, and the AM suffix in (151b) also correspond to an intransitive predicate, not to a transitive one; otherwise the AM suffix would be *-yp*, not just *-p*.

151. a) Jëë, ku yakixy ku yaknajäw.

jëë kuu y-ak-ex-y kuu y-ak-najäw
 AFF CMLZ 3S-CAUS-see-DEP CMLZ 3S-CAUS-know[INCH.DEP]
 ‘Yes, as it was seen, as it is known.’ Efa1-1768

b) Jëtsa' moojk te'ep akwëjp, tëmta?

jëts=ja'a moojk te'ep ak-wëj-p tëmt=a
 and=DEM.D corn REL [3S]CAUS-throw-INDEP seed=Q
 ‘And the corn that is thrown away, is it (used as a) seed?’ (AE-688)

c) Ojts ëjts n'akixy ma'tsp.

ojts ëjts n-ak-ex-y maats-p
 PAST 1SG 1S-CAUS-see-DEP steal-INF
 ‘I was seen stealing.’

In (151a) the causative is prefixed to the transitive verbs *ex* ‘to see’ and *najäw* ‘to know’, and the person marker corresponds to an intransitive verb, as it is *y-* ‘3S’ and not *t-* ‘3A’.

In (151b), the independent form does not have a person marker, as it corresponds to an intransitive verb. However, as for the third person the person prefix is the same for intransitive verbs and verbs in the inverse form, the question may arise as to whether those forms are indeed intransitive and not inverse. However, in the first person the person prefix for the inverse form is *x-* ‘1O’, as the O participant, not the S, is marked on the verb in inverse alignment. However in (151c), the person marker is *n-* ‘1S’, which is indeed the one for an intransitive verb.

Notice that the causative used as passive not only takes transitive verb stems, but also intransitive bases. The example in (152) has a passive interpretation; there was a non-named agent that opened the door. The base is *awä'äts* 'to open (intransitive)' is an intransitive predicate. In order to express a transitive event, it is necessary to add the causative, however, in this case the morpheme *ak-* adds both a transitive and a passive meaning at the same time. The following example is not interpreted as a plain intransitive, but rather as the passive of a transitive, as the gloss suggests. Cases like this are passives of causatives. Thus, the meaning of *ak-* here is passive-causative.

152. Taa ojts yakawä'tsn.
 taa ojts y-ak-a+wä'äts-n
 DEIC.M PAST 3S-CAUS-open-PERF;DEP
 'Then it was opened.' (Sofa1-678)

Even though syntactically both the passive verb *akawä'äts* in (152) and the basic verb *awä'äts* are intransitive (i.e. there is only one syntactic argument), their contrast points out to a semantic difference. In the passive, but not in the basic intransitive, it is understood that there is an unknown or unmentioned agent.

Particularly in some passive constructions with verbs of perception or verbs of cognition, it is more or less clear that there is an agent as part of the semantic structure of the verb, but it is not expressed syntactically. Moreover, in the examples in (153) it is usually understood that the one who perceives or knows is the speaker, but it could be any other person given the appropriate context.

153. a) Te'n yakmëtey ku tyu'uy.
 te'n y-ak-mëtoo-y kuu y-tu'u-y
 M.DEM 3S-PASS-hear-DEP Cmplz 3S-rain-DEP
 'It is heard that it is raining.'

b) Ka't yaknāw tiitaa mēēt.

ka't y-ak-nāw tii=taa mēēt
 NEG 3S-CAUS-know[INCH.DEP] what=DUB ASSOC
 'It is not known with what (the eye was taken out).' (NLA3-165)

In the example (153b), the narrator is telling that someone got into a fight and lost an eye (another person took it out of the eye socket). The other participant in the dialog asks “with what?” and then the narrator says (153b). In this case, it is obvious that the narrator is the person who does not know the instrument.

It is also possible to form passives of ditransitive verbs using the causative *ak-*. In these cases, the passive is usually over the recipient, not over the theme, as exemplified in (154). In other words, in ditransitive constructions the passive has to be over the higher participant on the participant hierarchy discussed in §9.5.1.

154. a) Pēs yē'ē te'n dioskuyē'p yakmo'oyāmp nate'n.

pēs yē'ē te'n dioskuyē'p y-ak-mo'oy-ā'ān-p nate'n
 DISC DEM.M M.DEM thanks 3S-CAUS-give-DES-INDEP as.well
 'He should be given thanks as well.' (NLA-527)

b) Taa ojtsa' tyējku'nk yakmo'ony.

taa ojts=ja'a y-tējk-u'nk y-ak-mo'oy-n
 DEIC.M PAST=DEM.D 3POSS-house-DIM 3S-CAUS-give-PERF;DEP
 'Then he (the saint) was given his house.' (Sofa1-53)

In fact, it is even possible to form passives of ditransitive verbs that in turn are formed by the causative of a monotransitive verb. In other words, in a passive construction, it is possible to prefix the causative morpheme *ak-* to a verb stem that already has the causative *tuk-* prefixed to a transitive verb, as in (155).

155. a) Ojtsēka' ntāt yaktukixy ku...

ojts=ēk=ja'a n-tāt y-ak-tuk-ex-y kuu
 PAST=HEARSAY=DEM.D 1POSS-father 3S-CAUS-CAUS-see-DEP Cmplz
 'My dad was shown (that the pupil had been taken out)...' (NLA-274)

b) Mejts mtsejkypy ku atom xaktukumēto'on.

mejts m-tsok-yp kuu atom x-ak-tuk-kē+mētoo-ē'n
 2SG 2A-want-INDEP;TR Cmplz 1PL.INCL 1O-CAUS-CAUS-hear-INCL
 'You want us to be scolded.'

A passive of a ditransitive causative verb creates a transitive verb, not an intransitive one as in the case of the passive of a monotransitive verb. Thus, in the preceding examples, the verb is in fact in the inverse form. This is particularly clear for the first person in (155b), as the argument cross-referenced in the verb is the O, marked by the person prefix *x-* ‘1O’.

When comparing all the uses of both causative morphemes, it becomes clear that the use of *ak-* as passive is not random at all, as the causative or passive interpretation depends on the transitivity of verb they prefix to. More particularly, the causative *ak-* will receive an interpretation as causative when it is prefixed to intransitive verb stems. Since the causative morpheme adds another participant, the verb is conjugated transitively. However, if the causative *ak-* is prefixed to a verb stem that already subcategorizes two or even three arguments (i.e. to monotransitive or ditransitive verb stems), then the construction will receive a passive interpretation. Thus, the causative *ak-* will never add another participant to a verb that is already transitive. In order to do this, it is necessary to use the causative *tuk-*, as discussed in §9.6.2. All of this is summarized in Table 1.

Type of verb	Causative <i>ak-</i>	Causative <i>tuk-</i>
Intransitive	Transitive verb	Transitive verb (rarely attested)
Monotransitive	Passive construction	Ditransitive
Ditransitive	Passive construction	Tetratransitive? (cases with core serialization)

Table 1. Causative and passive uses of the causative morphemes.

There is only one case where the use of the *ak-* is not entirely dependent on the transitivity of the base it attaches to. This is when *ak-* is prefixed to intransitive bases but the verb is conjugated intransitively, creating a passive-causative, as in (152) above. Notice that the crucial point here is that the verb receives an intransitive conjugation, and

not a transitive one as it usually should. It is not even clear to me whether those cases are better treated as passives or as a special type of inverse alignment.

9.6.4 Passive and inverse

In discourse, when there are two third person notional participants similar in animacy, both the passive and inverse voice could have a similar effect. In both cases, the notional O is foregrounded (which corresponds to the O in the inverse and the S in the passive). The main difference is that passives are agentless intransitive predicates but inverse constructions are agentive transitive predicates. Despite this difference, however, both constructions might have a similar use in discourse. This can be appreciated in the following sequence in (156).

156. a) (Context: A woman_i went to the corn field.)

b) Ps jam ojts **yakpääty** mäa kyäm, kyämotp.

pēs jam ojts y-ak-päät-y mäa=ja'a
DISC DEIC.D PAST 3S-CAUS-find-DEP where=DEM.D

y-käm y-käm-ojt-p
3POSS-field 3POSS-field-INSIDE-LOC

'She was found where her cornfield, in the cornfield.'

c) Kyämotp ojts **yakpääty**.

y-käm-ojt-p ojts y-ak-päät-y
3POSS-field-INSIDE-LOC PAST 3S-CAUS-find-DEP

'In her cornfield she was found.'

d) Ja' salvajes pyäaty ojts.

ja'a salvajes y-päät-y ojts
DEM.D savage 3O[INV]-find-DEP PAST

'The savage found her.' (Aur-422)

In the previous sentences, the narrator tells that the woman went to the cornfield and that is all the information that has been provided. In (156b) and (156c) we learn that the woman was found in the cornfield, but there is no information as to who found her. Both sentences are in an agentless passive voice (marked by the causative *ak-*), and that is the

reason the agent cannot be identified. The only participant is the S (the notional P) in the intransitive verb. In contrast in (156d) the founder is introduced: the savage people took her. However, as she is the established topic, in the previous sentence and in the subsequent part of the dialog, there is no need on changing the topic. On the contrary, it is necessary to maintain the woman in foreground and the founder in background, and thus the inverse alignment is used.

The passive can be used when the notional A is not known, as in (156) above, or when one simply wants to ignore it, as in (157), which is the continuation of the previous narration.

157. a) Ps jam ojts yakwä'äke'eky.

pēs jam ojts y-ak-wä'äk+a'ak-y
 DISC DEIC.D PAST 3S-CAUS-take-DEP
 'She was taken there.'

b) Jam ojts yakwä'äkke'eky.

jam ojts y-ak-wä'äk+ka'ak-y
 DEIC.D PAST 3S-CAUS-take-DEP
 'She was taken there.'

c) Ja' pää'äy ojts wyä'äke'eky.

ja'a pää'äy ojts y-wä'äk+a'ak-y
 DEM.D savage PAST 3O[INV]-take-DEP
 'The savage people took her there.'

In (157a) and (157b), the hearer already knows who took the woman, but it is ignored. Again, the woman is maintained as the topic, and if the notional A has to be used, the inverse voice is chosen, as in (157c). In any case, the main difference is that while the passive changes the argument structure (because the notional O of a transitive sentence is coded as the S of an intransitive sentence), the inverse does not.

9.6.5 Reflexives

The use of reflexives is another way of reducing the number of participants, at least referentially. A reflexive predicate is still a two-place predicate at the semantic level, as it has both an actor and an undergoer. However, reflexive predicates are peculiar as both participants are co-referential.

In Ayutla Mixe, the reflexive is expressed with the prefix *nay-* on the verb, as shown in the following examples.

158. a) Tsok muku'uk xtam kě'm mnětsyekyě'm.
 tsok muku'uk xtam kě'm m-nay-tsok-y=ě'n
 want everybody as self 2S-REFL-want-DEP=ADJ
 'Love your neighbor as you love yourself.' (Efa1-2273)

b) María tē nyatsyiky.
 María tēē y-nay-tsuk-y
 María BEFORE.NOW 3S-REFL-cut-DEP
 'María cut herself.'

b) Juan tē nyawyepy.
 Juan tēē y-nay-wop-y
 Juan BEFORE.NOW 3S-REFL-whip-DEP
 'Juan whipped himself.'

Even though a reflexive has two participants, since they are coreferential, languages tend to encode reflexive predicates differently from regular transitive predicates. In fact, reflexives in Ayutla Mixe are intransitive. It is possible to see this in the person prefixes: (158a) has the intransitive second person prefix *m-* and (158b-c) have the intransitive third person prefix *y-*

However, reflexive sentences are not regular intransitive predicates. Rather, they are inverse intransitive predicates, as they take the inverse suffix *-ě*, as shown in (159). The examples in (158) do not have the inverse morpheme as they are in the neuter dependent AM, and the inverse morpheme never shows up in that aspect (see §8.4.1).

159. Yë'ë nayexëp mä yë' extë'n.

yë'ë nay-ex-ë-p mää yë'ë ex+t=ë'n
 DEM.M [3S]REFL-see-INV-INDEP where DEM.M mirror=ADJ
 'He is looking at himself in the mirror.'

Even though it is rather infrequent, it is possible to create reflexive predicates of ditransitive verbs, as shown in (160).

160. Ojts nnatyamayaty kë'm tu'uk tsapixynijan.

ojts n-nay-ta-mayät-y kë'm¹³ tu'uk tsapixynijan
 PAST 1S-REFL-APPL-give.as.gif-DEP self one sarape
 '(For my birthday,) I got myself a *sarape* (as a gift).'

On the other hand, in order to use the reflexive with a body part, it is necessary to use a pseudo-applicative, such as *ta-* in (161) (see §8.9 and §9.6.10).

161. Tës nkë'ë nnatyatsuk.

të=ëjts n-kë'ë n-nay-ta-tsuk
 BEFORE.NOW=1SG 1POSS-hand 1S-REFL-APPL-cut[INCH.DEP]
 'I cut my hand.'

A comment is in order here. As presented in §8.5, some derived verbs have an inchoative conjugation, that is to say, they are conjugated with the inchoative suffix *-ë*. This morpheme looks very similar to the inverse morpheme, but structurally it has a different position (which is evident only with the use of a core serial verb construction with the desiderative *ä'än* or the verb *këx* 'to finish'). When a verb takes the inchoative suffix and in addition is conjugated reflexively, as in (161), the dependent form lacks the inchoative, the inverse, and the AM suffixes. That is the reason why *natyatsuk* 'to cut oneself' in (161) does not have any suffix after the stem.

In addition to these more or less canonical uses of reflexives with transitive verbs, there are many other cases where the reflexive is used in predicates where it is not exactly clear that there is an agent performing an activity on herself. It is not possible to say that

¹³ The particle *kë'm* 'self' indicates that it was that participant by himself, and not someone else, who performed the action. This is more related to how unusual is to give a present to oneself than to the reflexive meaning.

there are two discrete uses of the reflexive, one in which there are two participants involved and another one with only one participant. Rather, there is a gradient that goes from cases where there are clearly two participants, even if coreferential, to cases in which it is not so clear whether there are two participants or one. Even though I will not elaborate too much on this, on this side of the scale, we are dealing with cases that could be treated as middles (see Kemmer 1993). Let us see some examples, and some semantic classes, in this continuum. In (162) there are two examples still very close to the regular use of the reflexive.

162. a) Mä kipyë'n tijy nyakyumatsy.

mää kipy=ë'n t-tej-y y-nay-ku-mäts-y
 where stick=ADJ 3A-think-DEP 3S-REFL-APEX-grab-DEP

'He thought he was grabbing himself where the sticks are.' (FrogMJ-338)

b) Ps taa yanä'an ps ku nyayu'utsët.

pës taa y-anä'an pës kuu y-nay-yu'uts-ë-t
 DISC DEIC.M 3S-tell DISC Cmplz 3S-REFL-hide-INV-IRR;DEP

'The he told her to hide.' (Aur2-1021)

In (162a) the reflexive suffix functions as a detransitivizer. The agent, a kid, is holding his weight by grabbing what seemed to be sticks (but were in fact the deer's antlers). There is no question that the agent is grabbing something; however he is not literally grabbing himself, but rather he is grabbing an object and by doing that he remains in the same place. Something similar happens in (162b), where just by performing the action the agent is also affected.

It is possible to identify some semantic domains that, cross-linguistically, are associated with the use of the reflexive.

One of them is the one for grooming verbs. Many verbs related to getting dressed are regular transitive verbs which encode the dresser as the agent and the piece of clothes as the object. Since usually those actions are performed on oneself, the person who dresses

b) Juan ka't nyawyääky.

Juan ka't y-nay-wääk-y
 Juan NEG 3S-REFL-comb-DEP
 'Juan didn't comb.' (E)

c) Carlos nakya'ajpëp.

Carlos nay-kaap-ë-p
 Carlos [3S]REFL-cut.with.razor-INV-INDEP
 'Carlos shaves.' (It could also mean that he gets a haircut).

The verbs in (165) are usually understood as transitive verbs, having an agent and a patient different than the agent. In order to be used reflexively, it is necessary to mark them as such with the reflexive prefix *nay-*.

Some verbs whose meaning indicate that the whole body changes position are treated just like grooming verbs, as they can be constructed as transitive verbs if the patient is different from the agent, as in (166a), but it is necessary to use the reflexive when used self-agentively, as in (166b).

166. a) Ojts yë' nan yu'unk tko'oky.

ojts yë'ë nan y-u'unk t-ko'ok-y
 PAST DEM.D woman 3POSS-child 3A-lay-DEP
 'The woman put her child to bed.'

b) Juunta nyakyo'oky.

Juun-ta y-nay-ko'ok-y
 when-DUB 3S-REFL-lay-DEP
 'Who knows when he is going to bed?' (NL1-1225)

There are other cases where it is not obvious that the verb requires two participants, even at the semantic level. This is the case of verbs of change of body posture (Kemmer 1993). In these verbs the whole body or a part of the body changes position. In Ayutla Mixe, these verbs can be constructed as regular intransitive verbs, as in the (a) examples in (167) to (169), or reflexively, as in the (b) examples. It is not clear to me at this point what the difference in meaning is, if any.

167. a) Carlos ojtsp.

Carlos ots-p
 Carlos [3S]bend.extremities-INDEP
 ‘Carlos bends his legs.’

b) Carlos nayojtsp.

Carlos nay-ots-ë-p
 Carlos [3S]REFL-bend.extremities-INV-INDEP
 ‘Carlos bends his legs.’ (J)

168. a) Të Carlos kyëxtan.

tëë Carlos y-këx+tan
 BEFORE.NOW Carlos 3S-kneel.down[INCH.DEP]
 ‘Carlos kneeled down.’

b) Të Carlos nyakyëxtan.

tëë Carlos y-nay-këx+tan
 BEFORE.NOW Carlos 3S-REFL-kneel.down[INCH.DEP]
 ‘Carlos kneeled down.’ (J)

169. a) Të Luis pyëti’iky.

tëë Luis y-pëtë’ëk-y
 BEFORE.NOW Luis 3S-stand.up-DEP
 ‘Luis stood up.’

b) Të Luis nyapyëti’iky.

tëë Luis y-nay-pëtë’ëk-y
 BEFORE.NOW Luis 3S-REFL-stand.up-DEP
 ‘Luis stood up.’ (J)

The verbs *ots* ‘to bend one’s extremities’, *këxtan* ‘to kneel down’ and *pëtë’ëk* ‘to get up’ are not otherwise transitive verbs. Rather, these examples show intransitive verbs with the reflexive prefix. However, one could always argue that conceptually it is possible to say that there is a volitional entity acting upon its own body, as Kemmer (1993:55) points out.

Additionally some positional verbs are also constructed reflexively, as in (170a-b). However, most positional verbs, such as *tsëen* ‘to sit’ cannot take the reflexive as in (170c).

170. a) Jam nyakyutsëniny, jam mää' xojë'n.
 jam y-nay-ku+tsënen-y jam mää ja'a xoj =ë'n
 DEIC.D 3S-REFL-hang-DEP DEIC.D where DEM.D tree=ADJ
 'There he remained hung there, there where the tree is.' (FrogMJ-415)
- b) Ka'ta' yää nyatyääny.
 ka't=ja'a yää y-nay-tän-y
 NEG=DEM.D DEIC.P 3A-REFL-stay-DEP
 'She did not stay here.' (Efa1-1138)
- c) *Carlos natsyëënëp.
 Carlos nay-tsëen-ë-ë-p
 Carlos [3S]REFL-sit-INCH-INV-INDEP
 Intended: 'Carlos sits down.'

Additionally, the reflexive is used in order to express self-induced change of state, as in the following example.

171. Xë'n ojts nyakyëmpityjuyujk... xë'n ojts nyëkyëmpity burro.
 xë'n ojts y-nay-ak-jëmpet-y juyujk
 how PAST 3S-REFL-CAUS-return-DEP animal
 xë'n ojts y-nay-ak-jëmpet-y burro
 how PAST 3S-REFL-CAUS-return-DEP donkey
 'How is it that they (the shamans) transform themselves into animals, transform themselves into donkeys.' (NL1-251)

In the previous example, the verb *jëmpet* 'to return' is an intransitive verb. What is interesting is that in order to be used reflexively it has to take the causative morpheme first. Notice that in (171) *jëmpet* is perhaps better translated as 'to become', as in this particular context it does not really encode a change of location (or get back to a previous location), but a change of state.

Additionally, in some cases, it is difficult to tell the difference between a spontaneous and a self-induced change of state, as one can see in the following example. If one wants to say that one just got better, without doing anything, then only (172b) is acceptable, but if the speaker was somehow involved in getting cured, then (172a) is appropriate. This does not mean, however, that the person healed herself.

172. a) Tës nnaktsyo'oky.

tëë=ëjts n-nay-ak-tso'ok-y
BEFORE.NOW=1SG 1S-REFL-CAUS-cure-DEP
'I got cured.' / 'I cured myself.'

b) Tës ntso'oky.

tëë=ëjts n-tso'ok-y
BEFORE.NOW=1SG 1S-cure-DEP
'I got better.'

However, not all the verbs of change of state have to take the causative in order to take the reflexive morpheme. There are some verbs that are intransitive and nonetheless take the reflexive prefix, such as those shown in (173).

173. a) Kata' yää nyayooky.

ka't=ja'a yää y-nay-ook-y
NEG=DEM.D DEIC.P 3S-REFL-die-DEP
'He didn't die there.' (Efa1-639)

b) Ta te'n jam ojts nyayeyy.

taa te'n jam ojts y-nay-ey-y
DEIC.M M.DEM DEIC.D PAST 3S-REFL-good-DEP
'He got well there (in Mexico City).' (Efa1-1045)

At this point, it would seem that those cases that require the causative in addition to the reflexive, such as those in (171) and (172a), express the idea that the agent was somehow involved in the change of state. In contrast, those verbs that take the reflexive without the causative express a change of state without control, as in (173). However, more study is needed in this respect.

Most verbs of transitional motion, i.e. verbs that indicate a change of location, do not accept the reflexive in AyMi. However, there are a few cases where the verb can take the reflexive, as in (174).

174. a) Wa'a tena' koots te'n nyapyëtsimyët neta' ta nyanyënjkyët mäa pa'a...

wa'a te'n=ja'a koots te'n y-nay-pëtsëm-y-ë-t
DUB M.DEM=DEM.D night M.DEM 3S-REFL-exit-DEP-INV-PL

nejt=ja'a taa y-nay-në-nëjky-y-ë-t mäa=ja'a wa'a
AFF=DEM.D DEIC.M 3S-REFL-ON-go-DEP-INV-PL where=DEM.D DUB
'They went out at night and went were...' (Efa1-1559)

a) Pës te'n te'n nyanyijkxy...

pës te'n te'n y-nay-nëjkx-y
 DISC M.DEM M.DEM 3S-REFL-go-DEP
 ‘He (a boy) went...’ (Efa1-1696)

Again, it is not entirely clear as to why the examples in (174) take the reflexive, but it would seem that the reflexive is used to express that the event happened against the expectations. However, this is just a hypothesis and more research is needed.

Another case that involves the reflexive and the causative prefixes, and it is when the causee is the reflexive. In these cases the meaning is that someone did something without authorization, as in (175). Thus, in (175a), for instance, it is not just that the person went into the house; the meaning is that he broke in.

175. a) Të Gildardo nyaktyëk ëjts ntëketypy.

tëë Gildardo y-nay-ak-tëk ëjts n-tëjk-ojt-py
 BEFORE.NOW Gildardo 3S-REFL-CAUS-enter[INCH.DEP] 1SG 1POSS-house-INSIDE-LOC
 ‘Gildardo let himself into the house.’

b) Të Gildardo nyakpyëtsimy puxtëketypy.

tëë Gildardo y-nay-ak-pëtsëm-y pux+tëk-ojt-py
 BEFORE.NOW Gildardo 3S-REFL-CAUS-exit-DEP prison-INSIDE-LOC
 ‘Gildardo escaped from prison.’

Finally, the reflexive is also used for spontaneous changes of state. This can be clearly seen in the following pair:

176. a) Të yë neky yatëjmiky.

tëë yë'ë neky y-atëjmuk-y
 BEFORE.NOW DEM.M paper 3S-bend-DEP
 ‘The paper is bent (i.e. somebody did it).’

b) Të yë neky nyatëjmikyët.

tëë yë'ë neky y-nay-tëjmik-y-ë-t
 BEFORE.NOW DEM.M paper 3S-REFL-bend-DEP-INV-PL
 ‘The papers got bent (for example, there was too much humidity).’

Notice that the verb *atëjmuk* in (176) expresses normally a transitive predicate, as its meaning is ‘to bend’, not ‘to be bent’. However, in (176a) it is used transitively and thus the S is interpreted as a patient while the actor is left out. However, the meaning it

conveys is that there is an unmentioned actor. In order to eliminate that interpretation it is necessary to add the reflexive prefix, as happens in (176b). Thus, in this case the sentence is interpreted as if the eventuality happened spontaneously or at least without attributable cause.

Many of the predicates presented so far could fall into what Kemmer (1993:15) calls a middle system, that is to say, the use of the reflexive for verbs that do not necessarily encode a transitive action or that do not necessarily require two participants.

9.6.6 Reciprocity

Even though reciprocal predicates are similar to reflexives, in the former there are two identical (and often simultaneous) events encoded in a single verb, and thus in a single clause, and the actor of one event is patient or theme of the other and vice versa (see Givón 2001). As presented in the previous chapter (§8.7.2.1), in Ayutla Mixe reciprocity is expressed using the reflexive marker. This can be seen in the following examples.

177. a) Ta te'na' mēēt nyapyētējkyēt.

taa te'n=ja'a mēēt y-nay-pētēk-y-ē-t
 DEIC.M M.DEM=DEM.D ASSOC 3S-REFL-help-DEP-INV-DEP
 'Then they helped each other.' (Efa1-181)

b) Ps ta te'na nyakyajpxyēt ku jajp nyapäätä'änēt.

pēs taa te'n=ja'a y-nay-kājpx-y-ē-t
 DISC DEIC.M M.DEM=DEM.D 3S-REFL-speak-DEP-INV-PL

kuu jajp y-nay-päät-ä'än-ē-t
 CMPLZ DEIC.M 3S-REFL-find-DES-INV-PL;DEP
 'Then they agreed that they would meet there.' (NL1-73)

In (177a), there are two participants in the eventuality and it is understood that one helps the other and vice versa. In (177b), the idea of agreeing is expressed by using a reciprocal predicate, in which the two participants speak to each other, and the same happens with

the idea of meeting. As one can see in the examples, the verb in a reciprocal predicate is formally identical to a reflexive predicate, because in addition to the reflexive prefix *nay-* the verb also has the inverse suffix *-ë*.

The main syntactic difference, illustrated in the examples in (178), is that in reciprocal constructions one of the participants is the S while the other is the object of the adposition *mëët*, and thus it is an oblique (§9.2).

178. a) Pës yë' don Juan te'na **mëët** nyakkooky ity myuku'uk.
 pës yë'ë don Juan te'n=ja'a mëët y-nay-ak-ook-y
 DISC DEM.M Mr. Juan M.DEM=DEM.D ASSOC 3S-REFL-CAUS-die-DEP
 ity y-muku'uk
 IMPF 3poss-mate
 'Mr. Juan and his mate killed each other.' (Efa1-1534)

b) Të ëjts nakyampiky **mëët** Pedro.
 tëë ëjts n-nay-ak-ampëk-y mëët Pedro
 BEFORE.NOW 1SG 1S-REFL-CAUS-be.angry-DEP ASSOC Pedro
 'Pedro and I got mad at each other.'

c) Taa **mëët** nyatsyiiky **mëët** nyakyexy.
 taa mëët y-nay-tseek-y mëët y-nay-kox-y
 DEIC.M ASSOC 3S-REFL-fight-DEP ASSOC 3S-REFL-punch-DEP
 'They had fought and punched each other' (NLA-102)

Another difference between the reflexive and the reciprocal is that in the latter the verb is often marked as plural, as in (177), but this need not be the case, as in (178). Since plurality is only optionally marked in AyMi, it is also common to find that the verb is not explicitly marked as plural.

Since in the reciprocal constructions one of the semantic arguments is presented as the subject while the other one is introduced in an adpositional phrase, it is perhaps common to find reciprocals with intransitive verbs in order to create something similar to a conjoined phrase. Again, both participants are semantic arguments, even though only one is a syntactic one. What is different from other cases is that conceptually there is no

transitive reciprocal event. The reciprocal of the intransitive is only a formal mechanism needed to present two participants as semantic arguments. This is shown in the examples in (179).

179. a) Ta mēēt nyaknyijkxy jama' jatsyu'u.
 taa mēēt y-nay-ak-nějky-y jam=ja'a jatsyu'u
 DEIC.M ASSOC 3-REFL-CAUS-go-DEP DEIC.D=DEM.D deer
 'Then he went with the deer.' (FrogA-467)

b) Mēēt yyā'p tē Gildardo nyaktsyoony.
 mēēt y-yā'p tēē Gildardo y-nay-ak-tsoon-y
 ASSOC 3POSS-compadre BEFORE.NOW Gildardo 3S-REFL-CAUS-go.away-DEP
 'Gildardo and his *compadre* (i.e. his buddy) went away.'

It is not entirely clear to me whether the previous example has to be analyzed as a type of reciprocal, because two people are going together, or as a type of middle use of the reflexive. Additionally, there are other cases in which a reciprocal is used to express the idea that two participants are involved in the same event, even if neither is strictly speaking acting upon the other one, as in (180).

180. a) Jēē, tsuja' nyakyetityēt.
 jēē tsuj=ja'a y-nay-ak-jetet-y-ē-t
 AFF pretty=DEM.M 3S-REFL-CAUS-move-DEP-INV-PL
 'Yes, they hung out well.' (Efa1-446)

b) Nes yē' te'n tyuknapyatityēt nēmajtsk.
 yē'ē te'n y-tuk-nay-patēt-y-ē-t nē-majtsk
 DEM.M M.DEM 3S-CAUS-REFL-drag-DEP-INV-PL ANIM-two
 'They hung out together.' (Efa1-1659)

9.6.7 Benefactive prefix

For the rest of the chapter, I will discuss derivational morphemes that modify the meaning of the verb stem and, concomitantly, oftentimes increase the valency of the verb. In §8.9 many of these morphemes were described as pseudo-applicatives, as they do not directly modify the argument structure of the verb, as applicatives in Bantu languages do (Alsina & Mchombo 1990, 1993; Dryer 1983), but rather, as will be shown throughout

these sections, the change in valency is a byproduct. However, for the sake of simplicity, I will refer to them only as APPLICATIVES.

In Ayutla Mixe there are perhaps only two underived verbs with three syntactic arguments: A, T and R. As argued before (§§9.2, 9,6,2), both the T and the R are objects (or O) in AyMi. However, there are several mechanisms for adding a non-A participant. As explained in §8.9, these mechanisms add a semantic participant, which might or might not be expressed syntactically. In some cases, the formal mechanism is applied to an intransitive verb, rendering a transitive one; in other cases, it is applied to a monotrative verb, rendering a ditransitive verb. However, in other cases the verb does not change in valency and remains intransitive or monontransitive, whichever the case is. In any case, the type of applicative is related to the semantic type of the participant (i.e. to its semantic role).

The first applicative to be discussed in this subsection is the benefactive prefix *më-*, previously discussed in §8.9 and exemplified in (181).

181. a) Ps taaka... ja tixytyëjk tmëkajpxy.

pës taa=ëk ja'a ja'a tixytyëjk t-më-kajpx-y
 DISC DEIC.D-HEARSAY DEM.D DEM.D woman 3A-BEN-speak-DEP
 ‘And then... he talked to the woman.’ (Aur2-951)

b) Akxonëk jëte'n tmëyã'äxy ja ntetyäjtëp.

akxon=ëk jëte'n t-më-yã'äx-y ja'a n-tetyäjtëp
 INTENS=HEARSAY M.DEM 3A-BEN-cry-DEP DEM.D 1POSS-saint
 ‘They cried a lot to our saint.’ (NL1-716)

In (181a) the verb *kajpx* ‘to speak’ is an intransitive verb, whose only participant is the person who speaks. In order to express the idea that there is a person who is the recipient of the act of speaking, it is necessary to add the benefactive prefix *më-* yielding the transitive verb *mëkajpx* ‘to speak’. Similarly, the verb *yã'äx* ‘to cry’ is an intransitive verb, but with the benefactive prefix it expresses a person to whom the clamors are

directed, the saint in the example. Thus, the applicative prefix *më-* introduces a semantic recipient/beneficiary. Notice that in the examples the theme (i.e. what is said) is not expressed; although it is possible to explicitly express it, it is rather uncommon.

The recipient/beneficiary is also not obligatorily expressed and in fact in most cases it is not. When the theme and the recipient/beneficiary are not expressed, the verb is conjugated intransitively, as shown in (182). Nonetheless, it is understood that there is a recipient/beneficiary of the action, even if it is totally unspecified.

182. a) Ja' jatsyu'u myëke'eky.

ja'a jatsyu'u y-më-ka'ak-y
DEM.D deer 3S-BEN-flee-DEP
'The deer ran away.' (FrogA-467)

b) Kua' tyät yää myëtäjkaty.

kuu=ja'a y-tät yää y-më-täjk-ät-y
when=DEM.D 3POSS-father DEIC.P 3S-BEN-staff-VRBLZ-DEP
'When his father was mayor.' (NL1-1858)

In the example in (182a) the verb is intransitive, as the only participant is the deer.

However, it is understood that the action affected someone, in the example the boy, who was riding the deer. Similarly, in (182b), the verb *täjkät* 'to rule, to be the authority' (derived from the noun *täjk* 'staff') takes the benefactive prefix *më-* and even though the whole verb theme is intransitive, it is understood that the ruling is in favor of other people. Perhaps it is necessary to point out that when a verb has the benefactive but is conjugated intransitively, it is not understood as lacking a participant. Its status as an intransitive verb is very likely similar to the intransitive uses of A=S ambitransitive verbs. Thus, one can say that the benefactive modifies the semantic structure of the verb even if it does not modify its syntactic structure, as the benefactive apophony does (see §9.6.9). Or another way to put it is to say that with the benefactive prefix *më-* an intransitive verb becomes S=A ambitransitive.

As in the initial examples of this section, the derived verb can be transitive as well, in which case both the agent and the recipient are part of the argument structure of the verb, as in (183).

183. Taa te'n nanä'än tmēmēta'aky, ta nēmajtsk tmēmēta'aky.
 taa te'n n-anä'än t-mē-mētä'äk-y taa nē-majtsk t-mē-mētä'äk-y
 DEIC.D M.DEM 1S-say[DEP] 3A-BEN-hurry-DEP DEIC.M ANIM-two 3A-BEN-hurry-DEP
 ‘Then we can say that he won, he won to both of them.’

Whenever the verb has two arguments, it is usually the recipient/beneficiary that is the one that is expressed as O, not the other participant. However, under the appropriate pragmatic context, it is also possible to have the other participant as the only O of a monotransitive verb, as in (184).

184. a) Ojts Silvia tmēpujy wet.
 ojts Silvia t-mē-puj-y wet
 PAST Silvia 3A-BEN-wash-DEP clothes
 ‘Silvia washed the clothes.’
- b) Ojts Silvia tmēkutiiy wet.
 ojts Silvia t-mē-ku+tii-y wet
 PAST Silvia 3A-BEN-hang-DEP clothes
 ‘Silvia hung the clothes.’

In both examples in (184), it is understood that there is a beneficiary of the action. However, the most likely interpretation is that the A is working for a salary, not just doing something for someone else’s benefit.

When the verb root is S=A ambitransitive, it possible to express all three semantic participants, the agent, the patient/theme, and the recipient/beneficiary, as shown in (185).

185. a) Tēē Silvia tmēkutiiy wet María.
 tēē Silvia t-mē-ku+tii-y wet María
 BEFORE.NOW Silvia 3A-BEN-hang-DEP clothes María
 ‘Silvia hung the clothes for María’s benefit.’

b) Tëë Beto tmëni'ipy xëjk Carlos.

tëë Beto t-më-ne'ep-y xëjk Carlos
 BEFORE.NOW Beto 3A-BEN-sow-DEP beans Carlos
 'Beto sowed beans for Carlos' benefit.'

A comment with respect to the word order is pertinent here. When there are three arguments, as in (185), the A precedes the verb, and both objects are after the verb, with the P preceding the recipient/beneficiary. It is very likely that this word order reflects an interference from the elicitation language. However, it seems that the P must always precede the recipient/beneficiary, as the reverse in (186) is ungrammatical.

186. *Të Silvia María tmëkuttiy wet.

tëë Silvia María t-më-ku+tii-y wet
 BEFORE.NOW Silvia María 3A-BEN-hang-DEP clothes
 Intended: 'Silvia hung the clothes for María's benefit.' (J)

When the verb is transitive, the object has the same properties as other objects. For example, in (187a) the P *wet* 'clothes' is incorporated into the verb and in (187b) when the R is higher than the A, the clause has inverse alignment.

187. a) Silvia mëwetpujp.

Silvia më-wet-puj-p
 Silvia BEN-clothes-wash-INDEP
 'Silvia washes (other people's) clothes.'

b) Ku ka't myëjëyy...

kuu ka't y-më-jëy-y
 when NEG 3O[INV]-pay-DEP
 'When he did not pay him...' (Efa1-1033)

There are also lexicalized uses of the benefactive prefix. In some cases, the resulting derived verb is not necessarily understood as having a beneficiary of the action expressed by the verb. In these cases, the derivation is even less transparent, as in (188).

188. Ps ojtsa jä'äy myëmëtey.

pës ojts ja'a jä'äy y-më-mëtoo-y
 DISC PAST DEM.D person 3O[INV]-BEN-hear-DEP
 'People obeyed him.' (Aur2-724)

In (188), the verb root is *mětoo* ‘to hear’. When the benefactive *mě-* is prefixed, the verb does not mean just ‘to hear in someone else’s favor’, but rather ‘to obey’. Even though it is possible to come up with a scenario that explains the semantic change, the fact remains that *mēmětoo* in (188) has acquired a more idiosyncratic meaning.

9.6.8 Incorporation of associative and benefactive prefix.

In explaining the origin of the benefactive prefix in Olutec, Zavala (2000, 2002b) treats the cognate of the benefactive *mě-* as a grammaticalized form of the associative adposition *měēt*. Historically, it would seem that one could adopt a similar position with respect to Ayutla Mixe, and treat *mě-* as somehow historically related to *měēt*. However, synchronically the meaning of the benefactive prefix *mě-* and the meaning of the associative is different, as the former indicates that the eventuality expressed by the verb is done in someone else’s favor (see previous subsection) while the latter expresses that there is a co-participant in the event.

On the other hand, in addition to the benefactive prefix *mě-* it is possible to find the associative *měēt* incorporated into the verb stem. In this case, just like the adpositional associative, the incorporated associative introduces a comitative. This is shown in (189).

189. a) Tē Pedro tmētuuky Juan.

tēē	Pedro	t-měēt-uuk-y	Juan
BEFORE.NOW	Pedro	3A-ASSOC-drink-DEP	Juan

‘Pedro was drinking with Juan.’

b) Taak tmitye'epy ojts t'extä'äyy.

Taa=ēk	t-měēt-yo'oy-yp	ojts	t-extä'äy-y
DEIC.M=HEARSAY	3A-ASSOC-walk-INDEP;TR	PAST	3A-find-DEP

‘Then he look for someone to walk with, they say.’ (NL1-633)

In (189a), the associative *měēt* appears incorporated into the verb stem with the verb *uuk* ‘to drink’. This makes the S=A ambitransitive verb become transitive and the comitative,

in the example *Juan*, becomes an object of the verb. This is known because the NP is not introduced by the adposition and also because the person marker in the verb is *t-*, used for a third person with transitive verbs. In (189b), the relevant verb is *tmitye'epy* ‘he walked with someone’, which is composed of the associative *mëët* and the verb *yo 'oy* ‘to walk’. Again, the comitative becomes the object and the verb is conjugated transitively, which is marked here by the third person prefix *t-* and by the independent transitive AM suffix *-yp*.

In the following examples, it is possible to compare the benefactive prefix *më-* (190a), the incorporated associative *mëët* (190b), and the associative *mëët* as an adposition (190c).

190. a) Ojts Pedro tmë'ëyy yë Carlos.

ojts	Pedro	t-më-jëy-y	yë'ë	Carlos
PRET	Pedro	3S-BEN-buy-DEP	DEM.M	Carlos

‘Carlos paid to Carlos.’

b) Ojts Pedro tmëtjëy yë Carlos.

ojts	Pedro	t-mëët-jëy-y	yë'ë	Carlos
PRET	Pedro	3A-ASSOC-buy-DEP	DEM.M	Carlos

‘Pedro went shopping with Carlos.’ (J)

c) Ojts Pedro jyëy mëëta' Carlos.

ojts	Pedro	y-jëy-y	mëët=ja'a	Carlos
PRET	Pedro	3S-buy-DEP	ASSOC=DEM.D	Carlos

‘Pedro went shopping with Carlos.’ (J)

The benefactive prefix *më-* introduces a beneficiary to the verb *jëy* ‘to buy’ in (190a).

Thus, the sentence is interpreted as *Carlos* being the person who received the money. On the other hand, in (190b) the associative *mëët* introduces a comitative, not a beneficiary, and thus, even though the verb root is the same, *jëy* ‘to buy’, the meaning of this example is that Pedro and Carlos went shopping together. When the associative is an adposition, the sentence has the same meaning as when it is incorporated, as shown by the lack of contrast between (190b) and (190c).

9.6.9 Benefactive applicative apophony

In addition to the benefactive prefix, there is another mechanism to add a beneficiary of the eventuality expressed by the verb stem. This is the benefactive apophony, as illustrated in (191), which is very often used for external possession, as explained below.

191. a) Tēs nan nnēēx xtsēējm.

tēē=ējts nan n-nēēx x-tsēējm
BEFORE.NOW=1SG mother 1POSS-daughter 1O[INV]-carry.on.back\BEN[INCH.DEP]
'My mom took my daughter on her back.'

b) Carlos n'u'unk xkojxēp.

Carlos n-u'unk x-kojx-ē-p
Carlos 1POSS-child 1O[INV]-punch\BEN-INCH-INDEP
'Carlos punches my son.'

c) Ējts n'itsy ojts neky xjääjy.

ējts n-itsy ojts neky x-jääjy
1SG 1POSS-younger.brother PAST paper 1O-write\BEN[INCH.DEP]
'My younger brother wrote a letter to me.' / 'My younger brother wrote a letter for me.'

In (191), the benefactive adds a human participant into the eventuality expressed by the verb. Thus, the verb *tsēm* 'to carry on the back' in (191a) or the verb *kox* 'to punch' in (191b) usually require an A and a P, but without the benefactive applicative they cannot have an external possessor as a third core argument, as in (192a). In the example in (191c) the third argument is not an external possessor because the noun phrase *neky* 'paper, letter' is not possessed; in external possession, the noun phrase is still possessed, as in (191a-b) (see also §9.5.4). However, in (191c) the recipient or beneficiary, depending on the interpretation, cannot be part of the argument structure the without the benefactive applicative, as the verb *jä'äy* 'to write' does not take three arguments by itself, as shown in (192b).

192. a) *Tēs nan nnēēx xtsimy.

tēē=ējts nan n-nēēx x-tsēm-y
BEFORE.NOW=1SG mother 1POSS-daughter 1O[INV]-carry.on.back-DEP
Intended: 'My mom took my daughter on her back.'

- c) *Ĕjts n'itsy ojts neky xjä'äy.
 Ĕjts n-itsy ojts neky x-jä'äy-y
 1SG 1POSS-younger.brother PAST paper 1O[INV]-write-DEP
 Intended: 'My younger brother wrote a letter to/for me.'

The applicative can have a benefactive interpretation, as in (191a) and (191c), or it can have a malefactive interpretation, as in (191b). As in the case of the benefactive prefix, the benefactive or malefactive interpretation depends on the verb and on world knowledge. So, if a person carries one's daughter on her back (which is the traditional way of carrying babies), that is usually understood as a favor, but punching someone's kid usually has a negative interpretation. From this it is possible to say that a more accurate description of the benefactive is that there is a person that is somehow affected by the eventuality described in the verb.

As explained in the previous chapter (§8.7.3), the applicative benefactive is not encoded by any affix but rather by a change in the shape of the verb stem. More particularly, the last syllable of the verb stem undergoes a change in the type of nucleus, creating usually a long or laryngeally complex nucleus. This can be seen in the examples in (191). Additionally, the verb requires the inchoative conjugation, which in independent AM takes the inchoative affix *-ĕ*, as shown in (193a), but in the dependent conjugation the inchoative suffix and the dependent AM suffix cancel each other, so to speak, and the verb stem appears lacking AM suffixes, as in (193b) (for more information on this, see §8.5).

193. a) Carlos Ĕjts ntĕjk xkaajmĕp.
 Carlos Ĕjts n-tĕjk x-kaajm-ĕ-p
 Carlos 1SG 1POSS-house 1O[INV]-fence\BEN-INCH-INDEP
 'Carlos is fencing my house.' (EVer08)

In (195a), all three arguments, the A, the P and the R are expressed. In (195b), on the other hand, only the A and the R are expressed, but not the P. The sentence is, nonetheless, grammatical. In (195c), however, it is not possible to leave out the R. Because of this, the benefactive applicative apophony really modifies the number of syntactic arguments and not only the number of semantic arguments, as the benefactive prefix *mě-* does. In fact, the benefactive apophony is the only type of applicative in AyMi that can be considered an applicative in the same sense as Bantu languages (Alsina & Mchombo 1990, 1993).

In some cases, it is actually ambiguous whether the human participant that is not the agent is the recipient or the source, as in (196).

196. Ojts Carlos Miguel xəjk tjējy.

ojts Carlos Miguel xəjk t-jējy

PAST Carlos Miguel beans 3A-buy\BEN[INCH.DEP]

‘Carlos bought beans from Miguel.’ / ‘Carlos bought beans for Miguel.’

The previous example can have two interpretations. In one, Miguel is the person who is selling beans, and Carlos bought the beans from him as a way of benefit him. In the other interpretation, the person who sells beans is not Miguel but someone else, and Carlos bought the beans in order to give them to Miguel.

A comment with respect to the possessive is in order. It is clear that a verb with the benefactive apophony has three arguments, the A, the P and the R. However, even though the possessor is marked in the verb, the P has still to be possessed. Thus, the possessor is redundantly marked both as internal possessor in the NP and as external possessor due to the applicative benefactive apophony, as in (197a). If the P is not possessed, the sentence is ungrammatical, as in (197a). Since the external possession is additionally interpreted as

the person affected by the eventuality, it is usually interpreted as the beneficiary/maleficiary too.

197. a) Ojts Beto Carlos jyä'äxy ttsëejm.

ojts Beto Carlos y-jä'äxy t-tsëejm
 PAST Beto Carlos 3POSS-firewood 3A-carry.on.back\BEN[INCH.DEP]
 'Beto carry Carlo's firewood.'

b) ?Ojts Beto Carlos jä'äxy tsëejm.

ojts Beto Carlos jä'äxy t-tsëejm
 PAST Beto Carlos firewood 3A-carry.on.back\BEN[INCH.DEP]
 Intended: 'Beto carry the firewood for Carlos.'

The question might arise as to whether the benefactive apophony is grammatically restricted to external possession. It would seem that the benefactive apophony involves external possession because it is pragmatically the most likely scenario. However, it is not always the case. As not all the uses of the benefactive apophony are instances of external possession, it is possible to have unpossessed Ps, as in (196) for instance, where the construction is not an instance of external possession.

9.6.10 The general applicative *ta-*

The less restrictive pseudo-applicative is the prefix *ta-*, exemplified in (198). It can be prefixed to almost all verbs, although depending on the base it can take a wide variety of meanings, sometimes clearly adding a participant, as in (198a), and sometimes it would seem at first sight that it is not really adding a participant, as in (198b).

198. a) Të Pedro ttanaxy yë' tēj̄k.

tëë Pedro t-ta-näx-y yë'ë tēj̄k
 BEFORE.NOW Pedro 3A-APPL-pass-DEP DEM house
 'Pedro went through the house.'

b) Të Carlos ttapoot yë kipy mëët machete.

tëë Carlos t-ta-poot yë'ë kipy mëët machete
 BEFORE.NOW Carlos 3A-APPL-cut[INCH.DEP] DEM.M stick ASSOC machete
 'Carlos cut the piece of wood with the machete.'

The verb *näx* is intransitive; it takes a theme as S and a locative phrase (§7.5), which is not a core argument. In (198a), however, the applicative *ta-* makes it possible for the locative *ja'a tējk* ‘the house’ to become a core argument. This use of the applicative *ta-* is discussed in §9.6.10.1. In contrast, in (198b) the applicative *ta-* does not add a core argument, since in the sentence *Carlos* is A, *yē'ē kipy* ‘the stick’ is P, and the instrumental is part of the adpositional phrase *mëët machete* ‘with a machete’; the same constituents could appear with the verb *poot* ‘to cut’ without the applicative. However, with the applicative it is understood that there is an instrument involved, even if it is also expressed by the adpositional phrase. This use of the applicative *ta-* is discussed in §§9.6.10.2-3.

9.6.10.1 Locative applicative

In Ayutla Mixe, a ground is usually part of a locative phrases, which have a part morpheme (see §6.16) and a locative suffix. The structure of locative phrases is explained in §7.5, but two examples appear in (199).

199. a) Tu'uk pelot tyemtsoony tēkxääjy.
 tu'uk pelota y-tem-tsoon-y tējk-ēx-ääjy
 one ball 3S-roll-go.away-DEP house-BASE-LOC
 ‘A ball went rolling to the base of the house.’ (CG-G-14)
- b) Tu'uk pelot tyēk pejkkemyetyty.
 tu'uk pelota y-tēk pejk-kemy-ojt-py
 one ball 3S-enter[INCH.DEP] round-fence-INSIDE-LOC
 ‘A ball entered the corral.’ (EE-G-G)

In both examples in (199), the ground phrase is expressed using a locative construction. Locative constructions are not core arguments as they are marked with a locative suffix. Thus, both *temtsoony* ‘to go rolling’ and *tēk* ‘to enter’ are intransitive verbs, and take the third person prefix *y-*, used for dependent constructions.

There is a way in which a locative can become a core argument, and this is with the applicative *ta-*, as in the examples in (200).

200. a) Të ttatëk carro.

tëë	t-ta-tëk	carro
BEFORE.NOW	3A-APPL-enter[INCH.DEP]	car

‘He entered the car.’

b) Luis të tyëjk ttapëtsimy.

Luis	tëë	y-tëjk	t-ta-pëtsëm-y
Luis	BEFORE.NOW	3POSS-house	3A-APPL-exit-DEP

‘Luis exited his house.’

Unlike (199b), in the example in (200a), which has the same verb root, *tëk* ‘to enter’, the goal is not part of a locative construction. In this case, the applicative *ta-* in *tatëk* ‘to enter (tr.)’ makes the verb transitive, and thus the verb takes the goal as an object. Notice that in this case the third person prefix is *t-*, which marks A in a transitive verb, and not *y-*, which refers to S in an intransitive verb, as in (199b). Something similar occurs in (200b): the verb *tapëtsëm* ‘to exit(tr.)’, composed of the root *pëtsëm* ‘to exit’, takes the NP *tyëjk* ‘his house’ as object.

The use of the applicative prefix *ta-* with locatives is different from its use with instrumentals (see next section), as the ground phrase cannot be part of a locative phrase if the verb has the applicative *ta-*. This is shown in (201). In the (a) example, the verb has the applicative and takes the NP *mesa* ‘table’ as object, but the (b) sentence is ungrammatical, as the locative term *-këxp* ‘on’ prevents the NP from being taken as a core argument.

201. a) Të Juan ttapety mesa.

tëë	Juan	t-ta-pat-y	mesa
BEFORE.NOW	Juan	3A-APPL-ascend-DEP	table

‘Juan stepped up on the table.’

b) *Të Juan ttapety meskëxp.

tëë Juan t-ta-pat-y mes-këx-p
 BEFORE.NOW Juan 3A-APPL-ascend-DEP table-SURFACE-LOC
 Intended: ‘Juan stepped up on the table.’

The interpretation of the applicative *ta-* as locative or instrumental depends on the verb base to which it is prefixed. For example, when it is attached to a verb such as *poot* ‘to cut’, as in (198b), the initial example in this section, it is interpreted as instrumental; if it goes with the verb *tëk* ‘to enter’, as in some previous examples in (200), it is interpreted as locative; and when it goes with a verb such as *nëjkx*, ‘to go’ it is interpreted as vehicle. This last option can be seen in (202).

202. a) Carlos të ttanijkxy burro.

Carlos tëë t-ta-nëjkx-y burro
 Carlos BEFORE.NOW 3A-APPL-go-DEP donkey
 ‘Carlos went by donkey.’

b) *Carlos të ttanijkxy escuela.

Carlos tëë t-ta-nëjkx-y escuela
 Carlos BEFORE.NOW 3A-APPL-go-DEP school
 Intended: ‘Carlos went to school.’

In (202a), the NP *burro* ‘donkey’, a Spanish loan, has to be interpreted as vehicle, not just because of its meaning, but also because the verb root *nëjkx* ‘to go’ does not allow a goal as argument when it has the applicative *ta-*, as the ungrammaticality of the example in (202b) shows. In order to express a goal, it is necessary to use a locative phrase. I am not sure as to why this difference in the interpretation of *ta-* arises, why *ta-* can be interpreted as a locative with some verbs of change of location or as a vehicle with others.

9.6.10.2 *As instrumental.*

In Ayutla Mixe, instrumentals are introduced by the adposition *mëët*, as in (203), where the verb is monotransitive and takes as arguments the A *Juan* and the O *Pedro*.

Since the instrumental is introduced by the adposition and it is not required by the verb, it is an adjunct.

203. Të Juan txetsy Pedro mëët tejpxy.

tëë	Juan	t-xots-y	Pedro	mëët	tejpxy	
BEFORE.NOW	Juan	3A-tie-DEP	Pedro	ASSOC	rope	

‘Juan tied Pedro with the rope.’ (EDerVerb)

However, it is also possible to use the applicative prefix *ta-* in order to introduce an instrument as part of the argument structure of the verb, as in (204). Notice that the verb, in addition to patient, also has the instrument as another object. It is possible to determine that the instrument is an argument in this sentence because it is not introduced by the adposition *mëët*, as in (203).

204. Tsyäms ko'on jemy tsujx ntatsiky.

tsyäm=ëjts	ko'on	jemy	tsujx	n-ta-tsuk-y
now=1SG	tomato	new	knife	1A-APPL-chop-DEP

‘I am chopping tomato with the new knife.’

However, a construction like the one in (204) is fairly rare, as most of the time the instrumental is not actually expressed syntactically but rather it is omitted, as in the (205).

205. a) Ku ëjts ntëk, wet ti itytyakë'ëtsë'p.

kuu	ëjts	n-tëk	wet	ti	ijty	y-ta-këëts-ë-yp
when	1SG	1S-enter[INCH.DEP]	cloth	IMPF	3A-APPL-tear-INCH-INDEP;TR	

‘When I entered, she was tearing the cloth.’ (CBA-1ex)

b) Yë' tat tyapo'ojtëp yë' kipy.

yë'ë	tät	y-ta-poot-ë-yp	yë'ë	kipy
DEM.M	man	3A-APPL-cut-INCH-INDEP;TR	DEM.M	stick

‘The man is cutting the branch.’ (CBA-3)

Here, both examples do not have an instrumental phrase, and the example is still grammatical. However, the examples still convey that there was an instrument involved in the process. This might seem a little odd sometimes because the lexical meaning of the verb itself might require an instrument, thus the applicative *ta-* does not seem to add any new meaning. For example, part of the lexical meaning of the verb *poot* ‘to cut’ in (205b)

is that the cutting was performed with an instrument that has a blade and that requires a long swing, such as a machete or an axe. Then, one might say that the verb only emphasizes the fact that there is an instrument involved. Actually, even in (204) it is emphasized the fact that the person is cutting with a new knife (and not any other). It is worth pointing out that some native speakers interpret the applicative in those circumstances as an intensifier (i.e. that the action is done with strength or thoroughly), as in (206), but it is not entirely clear to me whether this is a derived meaning or not.

206. Tapoot yë'ë jä'äxy.

ta-poot yë'ë jä'äxy
APPL-cut[imperative] DEM.M firewood.

'Cut the firewood (i.e. with strength, well).' (Adapted from Aguilar *Ms.*)

The notion that the verb implies something else is more or less clear with the derived verb *takay* 'to eat with tortilla', as in the following example.

207. Pero tsyäms ntakaapy tsë'ëpy.

pero tsyäm=ëjts n-ta-kay-yp tsë'ëpy
but now=1SG 1A-APPL-eat-INDEP;TR quelite

'But now I eat *quelites* (a type of leaf vegetable).' (AE1-1222)

The verb only has two syntactic arguments, the first person, marked by the prefix *n-* and the NP *tsë'ëpy* 'quelite', an type of edible plants, usually a type of amaranth. However, part of the meaning of the verb is that there is something made of corn that is consumed at the same time. Usually people use a tortilla in order to take the food from the plate, and then eat the food and the tortilla. However, if someone were to eat a meal made of *quelites* with cutlery, the use of the verb *takay* would not be appropriate, but rather *tojcx* 'to eat a prepared meal'. Thus, the derived verb *takay* 'to eat something with tortilla' indicates precisely that the tortilla (or tamale) is used to eat the food.

It was described in the previous paragraphs that the instrument is not necessarily required syntactically with the use of the applicative *ta-*, even though it is somehow

understood that there is an instrument involved. Additionally, when an instrument is overtly expressed, it can still be introduced by the associative adposition *mëët*, as in (208).

208. a) Tu'uk kipy ttatëj mëët kyë'ë.

tu'uk kipy t-ta-tëj mëët y-kë'ë
 one stick 3A-APPL-break[INCH.DEP] ASSOC 3POSS-hand
 'He broke the stick off with his hands.' (CBA-19)

b) Tu'uk kiixy meskëxp wa'a tu'uk plato ttapu'u mëët tu'uk martillo.

tu'uk kiixy mes-këx-p wa'a tu'uk plato
 one girl table-SURFACE-LOC DUB one plate
 t-ta-pu'u mëët tu'uk martillo
 3A-APPL-break[INCH.DEP] ASSOC one hammer
 'A girl broke a plate with a hammer on the table.' (CausA-3)

The adposition *mëët* introduces the instrumental *kyë'ë* 'his hands' in the example (208a), and the instrumental *tu'uk martillo* 'a hammer' in the example (208b), and yet in both cases the verb has the applicative *ta-*, as in *tatëj* 'to break' and *tapu'u* 'to break', respectively. Actually, it is possible to have all three possibilities in (209): the adposition without the applicative in (209a), the applicative without the adposition in (209b), and both of them in (209c).

209. a) Tsyämsa' nëxëy nxyy mëët xu'uny.

tsyäm=ejts=ja'a nëxëy n-xëy-y mëët xu'uny
 now=1SG=DEM.D shirt 1A-sew-DEP ASSOC needle
 'I am sewing the shirt with the needle.'

b) Tsyämsa' nëxëy ntaxëy xu'uny.

tsyäm=ejts=ja'a nëxëy n-ta-xëy xu'uny
 now=1SG=DEM.D shirt 1A-APPL-sew[INCH.DEP]needle
 'I am sewing the shirt with the needle.' (J-EFT07)

c) Tsyämsa' nëxëy ntaxëy mëët xu'uny.

tsyäm=ejts=ja'a nëxëy n-ta-xëy mëët xu'uny
 now=1SG=DEM.D shirt 1A-APPL-sew[INCH.DEP] ASSOC needle
 'I am sewing the shirt with the needle.' (J-EFT07)

In the example in (209a), one can see that the instrument is introduced by the adposition *mëët* and there is no applicative *ta-* in the verb. As stated before, in this case the

instrumental is an adjunct. In (209b), the instrument is not introduced by the adposition but it is part of the argument structure because the verb *taxëy* ‘to sew’ contains the applicative *ta-*. The example (209c) is just like the examples in (208), where the verb has both the adposition *mëët* introducing the instrumental and the applicative *ta-*. While there is no question that in (209b) the instrumental is an argument, it is not entirely clear what its syntactic status in (209c) is, but it fits the definition of oblique that I provided in §9.2, since it is syntactically not argumental (because it has the adposition) but it is part of the semantic structure of the verb.

Even though it is possible to use the adposition with the instrumental even when the verb has the applicative *ta-*, the converse is not true: if the verb does not have the applicative *ta-*, it is necessary to use the adposition to introduce the instrumental. Thus, the example (210a) is not grammatical precisely because neither the applicative nor the adposition introduce the instrumental, as in (210b-c).

210. a) *Ojts tu'uk kiixy tsujx ttsujk'ää tu'uk tse'e.

ojts	tu'uk	kiixy	tsujx	t-tsuk-ää		tu'uk	tse'e
PAST	one	girl	knife	3A-cut-half.way[INCH.DEP]		one	pumpkin

Intended: ‘A girl is cutting a pumpkin with a knife.’

b) Ojts tu'uk kiixy tsujx ttatsujk'ää tu'uk tse'e.

ojts	tu'uk	kiixy	tsujx	t-ta-tsuk-ää		tu'uk	tse'e
PAST	one	girl	knife	3A-APPL-cut-half.way[INCH.DEP]		one	pumpkin

‘A girl is cutting a pumpkin with a knife.’

c) Ojts tu'uk kiixy mëët tsujx ttsujk'ää tu'uk tse'e.

ojts	tu'uk	kiixy	mëët	tsujx	t-tsuk-ää		tu'uk	tse'e
PAST	one	girl	ASSOC	knife	3A-cut-half.way[INCH.DEP]		one	pumpkin

‘A girl cut a pumpkin with a knife.’ (C&BA-14)

Finally, a comment with respect to the question over an instrumental is in order. It has been reported in the literature that in other languages from the Mixe branch, in Olutec more specifically (Zavala 2000), the applicative is necessary in a question when an

instrument is questioned. In those cases, the construction obligatorily takes the instrumental applicative, cognate with AyMi *ta-*, and not the adposition. In Ayutla Mixe this is not the case, as the interrogative word *tii* ‘what’ is the object of the adposition *mëët* even, as one can see in (211a-b), the only restriction is that the associative has to follow the interrogative word, i.e. it has to be used as postposition.

211. a) *¿Tii mëët yě’ë kipy x-poot-y?*
 tii mëët yě’ë kipy x-poot-y
 what ASSOC DEM.M stick 2A-cut-DEP
 ‘What are you cutting that stick with?’
- b) *¿Ti mëët xtapooty tejpxy?*
 tii mëët x-ta-poot-y tejpxy
 what ASSOC 2A-cut-DEP rope
 ‘What are you cutting the rope with?’
- c) *¿Ti mtaxëëpy yě nëxëëy?*
 tii m-ta-xëy-yp yě’ë nëxëëy
 what 2A-APPL-sew-INDEP;TR DEM.M shirt
 ‘What are you sewing you shirt with?’

In this respect, the interrogative forms are just like the declarative ones, as the instrumental can be introduced by the adposition alone in (211a), by the adposition and the applicative in (211b), or by the applicative alone in (211c).

9.6.10.3 *Transitivizaer*

Finally, there are other cases more difficult to analyze in which the applicative *ta-* adds both a semantic and a syntactic participant but it is not an instrument (in a narrow sense) or a locative, as can be seen in (212). I will refer to this use as *transitivizer* as the only participant of the base, the S, becomes the A of the transitive verb after the applicative has been prefixed, while the other participant, the one introduced by *ta-*, is the O.

212. a) Ta ojts ttao'kn.

taa ojts t-ta-ook-n
 DEIC.M PAST 3A-APPL-die-PERF;DEP
 Then (the disease) killed it. (NL1-214)

b) Jëts ëëts mo'nts ntakëyätt...

jëts ëëts mo'nts n-ta-këyät-t
 and 1PL mud 1A-APPL-play-PL;DEP
 'We played with mud.' (AEC-80)

In (212a), *ta-* adds another participant to the verb. However, notice that, despite the translation, which is perhaps misleading, *ta-* is not a causative. In the example, the person who was killed is the A while the disease is the O. It is possible to know that because otherwise the verb would be conjugated as inverse. If *ta-* was a causative, the dead person would be the O and the disease the A. The second example is perhaps more transparent, as the verb *këyät* 'to play', without the applicative *ta-*, is intransitive. The applicative adds, renders the verb transitive by adding an O.

Notice, however, that this use of the applicative *ta-* could also be considered as an instrumental, but now in an extended sense of the term, because its meaning could be paraphrased as "by means of". In (212a) the person died by means of the disease and in (212b) the participants got amused by means of the mud.

9.6.11 Benefactive applicative *tanë-*

The applicative *ta-* has also a benefactive interpretation when it combines with the locative *në-*. The combination of both morphemes seems to have grammaticalized the function of introducing a recipient as core argument, and thus it is perhaps better to analyze it as a single morpheme synchronically. This prefix is exemplified in (213). Notice that the benefactive *tanë-* can be combined with a transitive verb in (213a) and (213c), or with an intransitive verb, in (213b).

213. a) Tu'uk kart ëjts ta **x**tanëjaapy.

tu'uk kart ëjts taa x-tanë-jä'äy-y
 one letter 1SG DEIC.M 2A-BEN-write-DEP
 'He (my brother) will write a letter to me.' (TAMAN-015)

b) Beto ojts Pedro ja' pu'uy **t**tanënjky.

Beto ojts Pedro ja'a pu'uy t-tanë-nëjky-y
 Beto PAST Pedro DEM.D board 3A-BEN-go-DEP
 'Beto brought the board to Pedro.'

c) Carlos **x**tanë'xyämp ayuujk.

Carlos x-tanë-ex-ë-ä'än-p ayuujk
 Carlos 1O-BEN-see-INCH-DES-INDEP Mixe
 'Carlos will teach me Mixe.'

In (213a), the verb *jä'äy* is a S=A ambitransitive verb, and by itself cannot take a recipient as a core argument, which is introduced by the benefactive applicative prefix. Something similar happens in (213c), except that here the derived verb has a rather idiosyncratic meaning, as 'to teach' (perhaps the meaning of the prefix *tanë-* is closer to a causative in this example). In (213b), meaning the prefix *tanë-* has in fact two components, a causative and a benefactive, since it makes the intransitive verb *nëjky* ditransitive: *tanënjky* 'to bring something to someone' takes an agent, a theme and a recipient as arguments.

In comparison, the causative prefix *ak-* only adds a cause to a verb of change of location, but it cannot add a recipient too. This is the case in (214a) with the verb *akmen* 'to bring', composed of the causative *ak-* and the verb *men* 'to come'. In contrast, *tanëmen* 'to bring something to' (214b), composed of the complex benefactive *tanë-* and the verb *men* 'to come', encodes a recipient in addition to the caused change of location.

214. a) Beto ojtsa tu'uts takminy.

Beto ojts=ja'a tu'uts t-ak-men-y
 Beto PAST=DEM.D pot 3A-CAUS-come-DEP
 'Beto brought the pot.'

b) Beto ojtsa' tu'uts Silvia tanëminy.

Beto ojts=ja'a tu'uts Silvia t-tanë-men-y
 Beto PAST=DEM.D pot Silvia 3A-BEN-come-DEP
 'Beto brought the pot to Silvia.'

9.7 Incorporation

As previously stated, Ayutla Mixe allows simple and complex verb stems (see §8.1). Simple verb stems have only a verb root while there are different types of complex verb stems, some of them having more than one lexical root. Here, I focus on complex verb stems that have non-verbal morphemes in addition to the verbal root. Cases like this are usually known as incorporation (Sapir 1911, Mithun 1984, 1986, Baker 1988, 1996, *inter alia*). In §8.10, this phenomenon was discussed with respect to the verbal morphology, whereas here the core of the analysis is the syntactic impact of noun incorporation. Additionally, even though noun incorporation could be seen as a mechanism for creating complex predicates (Baker 1996), it is different from the types of complex predicates treated in the following chapter.

There are two types of incorporation: nominal and non-nominal incorporation. As the name indicates, noun incorporation happens when a noun occurs as part of the verb stem, as discussed in §§9.7.1-3, and non-nominal when a non-nominal root, that is not a verb either, occurs in the verb stem, as discussed in §9.7.4.

9.7.1 Noun incorporation

Noun incorporation arises when a nominal root comes to be inside the verb stem. In many cases, the noun can be part of an independent noun phrase. For instance, in (215a) the noun *neky* 'letter' forms an independent NP, and the verb does not have any other root

in addition to the verb root. In (215b), the noun does not appear as an independent NP but rather as part of the verb stem.

215. a) Neki tsyäm jyaapy.

neky tsyäm y-jä'äy-yp
 paper now 3A-write-INDEP;TR
 'He was writing letters.' (TAMA-E-5)

b) Yë'ë nekyjyääp.

yë'ë neky-jä'äy-p
 DEM.D [3S]paper-write-INDEP
 'He wrote letters.' (TAM018-Neme)

A consequence of noun incorporation is that the P, the incorporated noun, is not a syntactic object anymore, and thus the verb reduces valence by one. In (215a), the non-incorporated version, there are two indications that the verb is transitive: the AM marker *-yp* and the person prefix *y-*, both of them for transitive direct sentences in incomplete aspect. On the other hand, in (215b) the AM marker is *-p* and there is no person prefix, used when the verb is not transitive. So, in some sense, noun incorporation could also be considered a mechanism for reducing the valence of the verb. However, it is clear that the number of semantic arguments remains the same, as the incorporated noun is still a semantic argument of the verb.

As Mithun (1986:34) points out, the referentiality of the incorporated noun is a “subtle issue.” In most cases, the incorporated noun is not referential, as in (216a); however, in other cases it is not clear that the noun is not referential, as in (216b). In fact, one could argue that most cases discussed in §9.7.3 where there is a body part incorporated are referential.

216. a) Pës japa wyetpujy...

pës jajp=ja'a y-wet-puj-y
 DISC DEIC.D=DEM.D 3S-clothes-wash-DEP
 'Then she was doing laundry...' (Ire-1939)

b) Jä'ämëk nkaféuukyë'n.

jääm=ëk n-kafe-uuk-yë'n
 go\INCL=HEARSAY 1S-coffee-drink-INCL
 'Let's go drink (this) coffee.' (c1p37)

However, it is also true that noun incorporation is very often used in order to express habitual actions, as in the examples in (217).

217. a) Ojts nmëä'äxytsyimy.

ojts n-më-jä'äxy-tsëm-y
 PAST 1S-BEN-firewood-carry-DEP
 'I carried firewood (as my job).' (Ben)

b) Sofia mëwejtpujp tyunk'ajtypy.

Sofia më-wet-puj-p y-tun-k-ät-yp
 Sofia [3S]BEN-clothes-wash-INDEP 3S-work-NMLZ-VRBLZ-INDEP;TR
 'Sofia washes clothes in order as a work'. (Templete)

Another issue with respect to noun incorporation is which participants can be incorporated. In the following section the incorporation of non-arguments will be discussed. Additionally, in Ayutla Mixe it is possible to have an incorporated noun even when it is notionally the only argument of the verb. This is shown in (218), where, even though the incorporated noun *něj* 'water' is a semantic participant, the verb does not really have any syntactic arguments. Cases like this, however, are extremely rare.

218. Kua... të nyëtëk, ku të nyëtëk.

ku=ja'a të y-něj-tëk ku të
 when=DEM.D BEFORE.NOW 3S-water-enter[INCH.DEP] when BEFORE.NOW
 y-něj-tëk
 3S-water-enter[INCH.DEP]
 'When the water entered, when the water entered.' (NL1-993)

In many cases, incorporation is an alternative to the construction where the noun appears outside the verb, in a noun phrase. There are, however, some constructions in which the incorporation of the P becomes obligatory. In §9.6.2, it was mentioned that in order to use a two-place predicate with the causative prefix *ak-*, instead of *tuk-*, the P had to be incorporated into the verb, as shown in (219a). If the object appears as a full NP,

and therefore the verb has three syntactic arguments, then the prefix *tuk-* has to be used, as in (219b).

219. a) Carlos *xaktsäkāj*'exp.
 Carlos *x-ak-tsäkāj-ex-p*
 Carlos 1O-CAUS-bull-see-INDEP
 'Carlos makes me look after the cattle.'

b) Carlos *ttukpujy wet* Perla.
 Carlos *t-tuk-puj-y* wet Perla
 Carlos 3A-CAUS-wash-DEP clothes Perla
 'Carlos made Perla wash the clothes.'

Another construction where the noun incorporation becomes obligatory is in certain types of cosubordinated complement clauses, to be discussed in the following chapter (§10.1). The important issue here is that in that construction the P has to be incorporated into the verb; it cannot appear as syntactically independent argument. For example, in (220a) the verb *puj* 'to wash' must have *wet* 'clothes' incorporated and in (220b) the verb *jä'äy* 'to write' must have *neky* 'paper' incorporated.

220. a) *Mwetpujp kyaxi'iky.*
m-wet-puj-p *y-kaxë'ëk-y*
 2S-clothes-wash-INDEP 3S-look.like-DEP
 'It seems that you are washing clothes.' (Comp07)

b) *Ëjts nakëxpikypy mejts nekyjyaapy.*
ëjts n-ak-ëxpëk-yp *mejts neky-jä'äy-p*
 1SG 1A-CAUS-study-INDEP;TR 2SG paper-write-INF
 'I thought you how to write letters.' (Comp07)

The last point to be treated in this section is when the main predication comes from the incorporated noun, not from the verb root. This happens particularly with the verb *tun* 'to do', which forms a complex predicate somewhat similar to a light verb construction in other languages (Jespersen 1964, Cattell 1984, Grimshaw & Mester 1988, Pelletier 1990, Di Sciullo & Rosen 1990, *inter alia*), as shown in (221).

221. a) Ja'as te'n jyamyajtstëpa' te'n xëtuntëp.
 ja'a=ts te'n y-jamyats-të-yp=ja'a te'n xëë-tun-të-p
 DEM.D=EV M.DEM 3A-remember-PL-INDEP;TR=DEM.D M.DEM [3S]party-do-INDEP
 'They remember and they celebrate (lit. make the party).'
- b) Ës tseptuntëp nate'n.
 jëts tsep-tun-të-p nate'n
 and [3S]war-do-PL-INDEP too
 'And they fought as well.' (Efa1-219)

In (221a), the main predication comes from the noun *xëë* 'day, party' and in (221b) it comes from the noun *tsep* 'war'. One could argue that the verb *tun* 'to do, to work' also contributes semantically, but mainly in order to indicate that the eventuality is an activity. Notice that semantically we obtain an equivalent construction when the noun is not incorporated, but rather it appears as a NP, as in (222). Examples like this are more similar to more familiar cases of light verb constructions, i.e. syntactically formed complex predicates (Butt & Geuder 2001).

222. Venganza ojts ttunt.
 venganza ojts t-tun-t
 revenge PAST 3A-do-PL;DEP
 'They take revenge.' (Efa1-207)

I wonder to what extent the verbalizer *-ät* (see §6.3.7.1) is the result of the grammaticalization of a construction that had an incorporated noun and a verb that is historically related with the modern AyMi *ät* 'to resent'.

9.7.2 Incorporation of non-arguments

In addition to the incorporation of the notional P, or even the S, as in (218) above, in AyMi it is also possible to incorporate nouns that are notionally adjuncts not arguments, as shown in the following examples, where (223a) presents noun incorporation and (223b) the non-incorporated equivalent.

- b) Te'ns nkajpxy tam to'oxyë'n.
 te'n=ëjts n-käjp-x-y tam to'oxy=ë'n
 M.DEM=1SG 1S-speak-DEP like woman=ADJ
 'I speak like a woman.'

The distinction drawn here cannot be strictly speaking between a P noun incorporation and locative noun incorporation, as due to some derivational processes some verbs can take locations as arguments. For instance, the example in (227a) might seem non-argument incorporation, but in fact *mētun* 'to work for a salary' could take *tsäjptëjk* 'church' as argument, as shown in (227b).

227. a) Te'na jä'äy jajp tsäjptëjkmëtiny.
 te'n=ja'a jä'äy jajp y-tsäjptëjk-më-tun-y
 M.DEM=DEM.D people DEIC.D 3S-church-BEN-work-DEP
 'People were working in church.' (NL1-41)

- b) Ku jajp tsäjptëjk tmëtiny, sacristank.
 ku jajp tsäjptëjk t-më-tun-y sacristank
 when DEIC.D church 3A-BEN-work-DEP sacristan
 'That they worked in the church, the sacristan.' (NL1-46)

9.7.3 Body parts, external possession and incorporation

There is a form of possessive raising when the incorporated noun is the possessum in a possessive relation, while the possessor is a verb argument. This is a type of external possession as the possessive relation is not marked within the noun phrase. For instance, in (228) the possessor is the O, Pedro, while the possessum, *kë'ë* 'hand', appears incorporated into the verb.

228. Ojts Juan Pedro tkëpottu'uty.
 ojts Juan Pedro t-kë'ë-poot-tu'ut-y
 PAST Juan Pedro 3A-hand-chop-release-DEP
 'John cut off Peter's hand.' (J)

This type of incorporation is particularly productive with body parts, not just with any type of possessive relation. For this reason, one could argue that strictly speaking it is not a possessive relation, but rather a meronymic relation (i.e., a part-whole relation).

In addition, it was shown that in other cases of noun incorporation, the noun could be expressed as an independent noun phrase or incorporated into the noun. When a body part is incorporated, the alternative construction usually is non-argument, but rather an adjunct, as shown in the pair in (229).

229. a) Të yë Pedro xpuuymyënap.

të yë'ë Pedro x-pu'uy-më-nap
BEFORE.NOW Pedro 1O[INV]-leg-BEN-kick[INCH.DEP]
'Pedro kicked me on my leg.'

b) Të yë Pedro mäs mpuuyën xnepy.

të yë'ë Pedro mä=ëjts m-pu'uy=ën x-nap-y
BEFORE.NOW DEM.M Pedro where=1SG 1POSS-leg=ADJ 1O[INV]-kick-DEP
'Pedro kicked me on my leg.' (Lit. 'Carlos punched me where my leg is.')

In most of the other examples of incorporation discussed so far, inverse was not an issue. However, when the incorporated noun is a body part, and the possessor is one of the verb arguments, inverse can arise. This is the case in example (230). The A is the donkey, which is lower in the participant hierarchy (§9.5.1) than the possessor, which is a first person, and thus there is inverse alignment.

230. Të yë burro xmatismënap.

të yë'ë burro x-maats-më-nap
BEFORE.NOW DEM.M donkey 1O[INV]-belly-BEN-kick[INCH.DEP]
'The donkey kicked me on my stomach.' (Eli08)

The inverse alignment arises even if there is not an A acting upon a P. Since the possessor will usually be higher in animacy than the A, and both of them are syntactic arguments, the relation has to be marked as inverse. For example, in (231a) the third person possessor (the O) is higher than the A *tukteny* 'everything' and in (231a) the first person possessor (also the O) is higher than the A *yë' mëknëj* 'mezcal'. However, if the predicate has only one syntactic argument, it is a regular intransitive verb, as in the example in (231c).

231. a) Kata ojts tukteny kyëpäjktäny.

ka't =ja'a ojts tukteny y-këpäjk-tän-y
 NEG=DEM.D PAST everything 3O[INV]-head-stay-DEP
 'He could not keep everything in his head.' (Lit. 'Everything did not stay in his head') (NL1-1994)

b) Të yë mëkněj xkëpäjkpiky.

të yë'ë mëkněj x-këpäjk-pëk-y
 BEFORE.NOW DEM.M mezcäl 1O[INV]-head-hurt-DEP
 'The mezcäl gave me a headache.'

c) Të kyë'ējäjäy.

të y-kë'ë-jäjä-y
 BEFORE.NOW 3S-hand-hurt-DEP
 'His hand hurts.'

9.7.4 Non-nominal incorporation

In addition to the noun, in Ayutla Mixe it is also possible it is also possible to have other non-verbal morphemes as part of the verb stem. In particular, it is possible to have adverbials forming compounds with a verb root, as shown in (232), where the adverbial *nëkoo* 'only' appears as part of the verb stem.

232. Ojts n'ixy, ka't **nnëkomëtya'**aky.

ojts n-ex-y ka't n-nëkoo-mëtyä'äk-y
 PAST 1A-see-DEP NEG 1A-only-talk-DEP
 'I (also) saw him, he didn't only talk.' (Efa1-1503)

Also, depictive adjectives, i.e. adjectives in secondary predication (see §10.3), are also found as part of the verb stem, as exemplified in (233).

233. a) Nëojtp yooky ku te'na ntetyäjtëp Santa Cruz tkajantsyjäw.

nëj-ojt-p y-ook-y ku te'n=ja'a n-teetyäjtëp Santa Cruz
 water-INSIDE-LOC 3S-die-DEP when M.DEM=DEM.M 1POSS-saint Santa Cruz

t-ka-jantsy-jäw

3A-NEG-true-feel[INCH.DEF]

'He died in the water when he did not believed (lit. felt true) in Santa Cruz' saint.'
 (NL1-579)

b) Timjyemtyëpyëjkp luz como timjyemjyätp.

timy-**jemy**-tepyëk-p luz como timy-**jemy**-jä'ät-p
 [3S]just-new-light-INC.IND light as [3S]just-new-arrive-INC.IND

'The light (which was new) was turned on, as we recently got it (electricity).'
 (Efa1-1573)

- c) ...ëjts wa'a kaeymëtyä'kp.
 ëjts wa'a ka-ey-mëtyä'äk-p
 1SG DUB [1S]NEG-good-tell-INDEP
 'I do not tell well.' (Aur2-388)

In (233a) the adjective *jantsy* 'true' forms a complex predicate with the verb *jäw* 'to feel', in (233b) the adjective *jemy* 'new' occurs with both the verb *tepyëk* 'to be on fire' and *jä'ät* 'to arrive', and in (233c) *ey* 'good' occurs with *mëtyä'äk* 'to talk'. As a reminder, in Ayutla Mixe adjectives cover a range of functions that are covered by adverbs in languages like in English (§6.10.3). This double function can be seen in (233b), in the first verb *jemy* 'new' has a function perhaps more similar to an adjective but in the second it is better translated as 'recently'. Similarly, in (233c) *ey* 'good' translates into English as 'well'.

The possibility of incorporating a depictive adjective is much more restricted than the construction with secondary predication. In (234a) the adjective *tsuxk* 'raw (lit. *grue*, i.e. green and blue)' can appear as secondary predication but it cannot appear incorporated into the verb, as shown by the ungrammaticality of (234b).

234. a) Tsuxk ja tutk të ntsu'utsy.
 tsuxk ja'a tutk të n-tsu'uts-y
 grue DEM.D chicken BEFORE.NOW 1A-eat.meat-DEP
 'I ate the chicken raw.'
- b) *Ja tutks të ntsuxktsu'utsy.
 ja'a tutk=ëjts të n-tsuxk-tsu'uk-y
 DEM.D chicken=1SG BEFORE.NOW 1A-grue-eat.meat-DEP
 'I ate the chicken raw.'

Chapter ten

Complex sentences and complex predication

In the last chapter of the dissertation, complex clauses and complex predicates are discussed. This means that all different types of subordinate clauses are discussed here (i.e. complement clauses, relative clauses, adverbial clauses), but also co-subordinate clauses (which are restricted to some types of complement clauses). However, two cases of monoclausal phenomena are also discussed here: secondary predication and core serialization.

The three main types of complex clauses are discussed in the three first sections of this chapter: complementation (§10.1), relative clauses (§10.2) and adverbial clauses (§10.3). The classification largely depends on the three main functions a subordinate clause can have: to be the complement of a verb, to refer to an entity (usually together with a noun), and to be part of the periphery of a matrix clause. However, as explained in the following sections, these functions can be achieved both by subordination and by co-subordination.

In §§10.4-6 I deal with different ways of forming other complex predicates, even if they are strictly speaking monoclausal. Thus, in §10.4 secondary predication is discussed, in §10.5 non-finite constructions and in §10.6 core serial verb constructions. In the last section of this chapter, in §10.7, I discuss a phenomenon that is not actually restricted to complex clauses or complex predicates, but rather one that affects all type of finite verbs: inflectional dependency. It is treated in this chapter in order to summarize all the contexts that trigger it and revise the description of this phenomenon in light of the syntactic analysis of complex clauses.

10.1 Complementation

Traditionally, complementation has been seen as a type of subordination. However, in Ayutla Mixe there are some constructions that cannot be considered subordinated. In the following subsections I argue that not all types of complement clauses should be considered subordinated. Some instantiate a different type of construction in which the complement clause is not embedded, but rather cosubordinate (Foley & Van Valin 1984, Van Valin 2005).

Based on their formal properties, I distinguish the types of complement structures discussed in the following paragraphs. Type 1 and Type 2 involve subordination, but Type 3, Type 4 and Type 5 are cosubordinate constructions. I outline some characteristics below and in the rest of the section discuss their characteristics in depth.

Type 1. Full subordinate complement sentences. This type of complement clauses has almost all the characteristics of an independent clause and is the only type of complement clause that is introduced by a complementizer such as *ku* in (1).

1. Myëtoopyë' [kuka jä'äy tsyapay, yyä'äxy].
 y-mëtoo-yp=yë' ku=ëk=ja'a jä'äy y-tsapää-y y-yä'äx-y
 3A-hear-INDEP;TR=DEM.M when=HEARSAY=DEM.D person 3S-cry-DEP 3S-cry-DEP
 'He heard that those people cried, wept.' (Aur2-686)

Type 2. Non-finite subordinate complement clauses. These clauses are characterized by a non-finite verb form and lack of an overt subject, as in (2).

2. Ja' jä'äy ojts kyexy yuup.
 ja'a jä'äy ojts y-kox-y yu'u-p
 DEM.D person PAST 3O[INV]-order-DEP plow-INF
 'That people ordered him to plow (the land).'

Type 3. Full cosubordinate complement clauses. In these clauses the arguments of the complement verb can appear separated from that verb, without clefting, as in (3).

3. (When I talked to him)
 Akxäjk nojty Carlos tsyejkypy tjë'kxt.
 akxäjk nojty Carlos y-tsok-yp t-jë'kx-t
 chayote IMPF Carlos 3A-want-INDEP;TR 3A-eat-IRR
 'Carlos wanted to eat *chayote*.'

Type 4. Finite cosubordinate complement clauses. These complement clauses have a finite verb that is located before the matrix verb (with or without its arguments), as shown in (4).

4. Ja' kipyu'unk myajtsypy kyaxi'iky.
 ja'a kipyu'unk y-mäts-yp y-kaxë'ëk-y
 DEM.D stick-DIM 3A-grab-INDEP;TR 3S-look.like-DEP
 'One can see that he is holding the stick.' (M&T-VA-257)

Type 5. Reduced cosubordinate complement clauses. In this case the complement verb appears in neutral AM, but without the arguments being overtly expressed, as shown in (5).

5. Matsämp ijty xjatseky.
 m-ats-ä'än-p ijty x-ja+tsok-y
 2S-dance-DES-INDEP INDEP 2A-want-DEP
 'You would like to dance.'

At first glance, all these constructions could be seen as instances of subordination, however as explained in the following subsections, not in all those cases is the complement verb embedded in the matrix clause.

In addition to the five types of complement clauses presented above, there are cases in which the complement clause is actually an oblique to the main clause. As discussed in subsection 10.1.7, in most verbs of speaking the complement clause is introduced by a complementizer but the matrix verb is intransitive, as in (6).

6. Te'n Pedro yanä'äny ku ka't myeetsy.
 te'n Pedro y-anä'an-y ku ka't y-mats-y
 M.DEM Pedro 3S-say-DEP CMLZ NEG 3S-rob-DEP
 'Pedro said that he did not steal.'

Strictly speaking, this strategy falls outside the narrow definition of complementation that is presented in the following subsection. I consider it not a strict case of complementation, but rather a complementation strategy (see Dixon 2006). In order to make these distinctions and to make it clear how I use the terminology in the present chapter, I comment on some basic notions in the following subsection. The subsequent subsections discuss each type of complementation in Ayutla Mixe.

10.1.1 Subordination and cosubordination in the study of complement clauses

As is well known, some predicates take a clause as one of their arguments instead of, or in addition to, a noun phrase, as in English *Carlos said **that he ate snake***, where the part in bold face can be considered the direct object of the verb *eat*. Predicates of this sort are called MATRIX PREDICATES and the clauses that function as arguments of the matrix predicate are COMPLEMENT CLAUSES. Even though the terms “matrix predicate” and “matrix clause” have been used mainly with reference to structures involving subordination, here they are used as cover terms in the study of the complementation,

regardless of whether they the construction in question involves subordination or cosubordination.

I use two main criteria to identify complementation in Ayutla Mixe. First, the complement clause has to be a semantic argument of the matrix clause. Additionally, for the most part, in a proper instance of complementation the complement clause (or at least the complement verb) has to be a syntactic argument of the matrix verb. For this reason, a proper instance of complementation in AyMi falls into the following two cases: a matrix intransitive verb whose unique argument is the complement clause and a matrix transitive verb (either monotransitive or ditransitive) whose object is a complement clause.

There are, however, instances in which the complement clause is a semantic argument of the matrix verb but cannot be regarded as a syntactic argument. I treat these as complementation strategies, even though these are not proper cases of complementation. I am referring to the verbs of speaking as exemplified in (6) above. Obviously, here there is a semantic-syntactic mismatch, as the number of semantic arguments does not correspond to the number of syntactic arguments. As discussed in subsection 1.7, this is not a peculiarity of AyMi as it has been reported previously in the literature for other verbs of speaking (cf. Munro 1982) and in general for Kutenai (Dryer, p.c.).

Two types of relations may be distinguished in the study of complementation: structural dependency and embedding (cf. Cristofaro 2003). I use the term ‘structural dependency’ to refer to the fact that complement clauses cannot appear as independent clauses with exactly the same form as they appear when used in complementation. I use the term ‘embedding’ to refer to instances in which the subordinate clause is a constituent

of the matrix clause; more particularly, when it forms a constituent that is a syntactic argument of the matrix clause.

Structural dependency, as defined in the previous paragraph, should not be confused with the inflectional dependency on the verb. As a reminder, inflectional dependency is marked by using two different sets of personal prefixes and two sets of AM suffixes, one for the independent order and another one for the dependent order. In this chapter, to avoid confusion with structural dependency, I use only the terms ‘independent inflection’ and ‘dependent inflection’.

For some years already, other authors have pointed out that there are some structures that link two clauses that do not properly qualify as cases of either subordination or coordination (Foley & Van Valin 1984, Van Valin & LaPolla 1997, Van Valin 2001, Givon 2001, Cristofaro 2003, Van Valin 2005, Guerrero 2006, *inter alia*). In many of these cases, the complement clause can share tense, aspect, polarity operators, and arguments with the matrix, and two verbs can even form a complex predicate and share all their arguments. I adopt the term ‘cosubordination’ (Olson 1981, Foley & Van Valin 1984, Van Valin & LaPolla 1997, Van Valin 2001, Van Valin 2005) to refer to those cases of complementation that do not seem to be entirely instances of either hypotactic or paratactic constructions, namely Types 3 to 5 as presented in the introduction to this section. In these cases, the complement clause is syntactically dependent on the matrix verb, but there is no embedding as the complement clause does not form a single constituent with the main clause. The notion of cosubordination comes mainly from Role and Reference Grammar (Foley & Van Valin 1984, Van Valin & LaPolla 1997, Van Valin 2005), but in this grammar it is used descriptively (Guerrero 2006, Good 2003).

In subordinate constructions, the matrix and the complement clause are separated by a well-defined boundary, while in the cosubordinate constructions the boundary between them becomes less clear. For example, in (7a) the full subordinate complement clause is introduced by the complementizer *ku* and the arguments of the complement clause have to be within the boundaries of the subordinate clause, i.e. to the left of the complementizer. In contrast, in (7b), with the full cosubordinate complement clauses, the O of the complement clause, *kaaky* ‘tortilla’, can appear “dislocated” from the subordinate verb, to the left of the matrix verb.

7. a) Ējts nnä'äp [ku Carlos tē yē' myiny]_{subordinate clause}
 ějts n-näw-ě-yp ku Carlos tēē yē'ě y-men-y
 1SG 1A-know-INV-INDEP;TR CMLPZ Carlos BEFORE.NOW DEM.M 3S-come-DEP
 ‘I know that Carlos came.’
- b) Ka't yē' kaaky ttseky majpxy tka'aty.
 ka't yē' kay+k t-tsok-y majpxy t-kay-t
 NEG DEM.M tortilla 3A-want-DEP thick 3A-eat-IRR;DEP
 ‘She didn’t like to eat tortillas thick.’ (AEC-320)

In this section, the occurrence of independent vs. dependent inflection serves as a clue for distinguishing subordination and co-dependency. In (7a), the matrix verb has independent inflection while the verb in the complement clause has dependent inflection (it always does, as is explained in §10.1.2), which indicates that inflectional dependency in one clause is not correlated to inflectional dependency in the other. In contrast, in an instance of cosubordination such as (7b), both the matrix and the complement verb are dependent-marked. In other words, the inflectional dependency in the two verbs is correlated. I elaborate on this in the discussion of each type of complementation.

In the study of complementation, it is also common to consider the syntactic complexity of the complement clause (e.g., Noonan 2007). This complexity can be used as a measure of the syntactic integration of the complement clause into the matrix clause.

The more complex the complement clause can be, the less integrated it will be, and vice versa. Thus, in a complement clause that is less integrated, it is possible to express all arguments syntactically. On the other hand, in a tightly integrated construction both verbs tend to share arguments and the complement verb usually cannot be independently modified. Another factor that has to be taken into consideration is the possibility of using tense-aspect-mood particles or negation in the complement. For example, if it is possible to negate the matrix verb and the complement verb independently of each other, there is less integration; conversely, to the extent that the two clauses obligatorily share operators, they are integrated more tightly. To exemplify all this, let us take again the full subordinate complement clause in (7a) and compare it to the reduced cosubordinate complement clauses in (8). In a complement clause like (7a), all the arguments are expressed as NPs, it can have TAM particles, such as *těě* ‘before now’, and the verb can be conjugated in different aspect-moods; in contrast, in (8) the complement clause (which is only the verb in initial position) cannot have its arguments as NPs. The notional object is incorporated into the verb. Additionally, the sentence cannot be negated or modified by TAM particles. Again, all of this is explained in the relevant sections.

8. Makxäjě'kxp xjënmay.
 M-akxäj-jě'kx-p x-jënmay-y
 2S-chayote-eat-INDEP 2A-think-DEP
 ‘You think of eating chayote.’

Even though co-dependent clauses are generally more integrated than subordinate clauses, integration is not a decisive factor for determining cosubordination. Among cosubordinate constructions there are some that have more integration than others.

10.1.2 Type 1. Full subordinate complement clause

Full subordinate complement sentences always occur with a complementizer. All types of verbs that can take a clause as a complement can take this type of subordinate complement clause. Additionally, they show the highest degree of syntactic independence, which means that except for the fact that they are embedded in another sentence, they have almost all the characteristics that one could find in an independent sentence. Thus, the matrix and the complement clause can both have TAM particles and the complement clause can be negated independently of the matrix clause. Declarative complement clauses may be distinguished from interrogative complement clauses.

10.1.2.1 Declarative complement clauses

Declarative subordinate complement clauses are introduced by the complementizer *ku*, as illustrated in the following example.

9. Per te'nēka' t'ixy [**ku** soldäätep myatst pues].

per te'n=ək=ja'a t-ex-y **ku** soldäätep y-mats-t pues
 but M.DEM=HEARSAY=DEM.D 3A-see-DEP Cmplz soldiers 3S-come-PL;DEP DISC
 'But he saw that the soldiers were coming.' (IrL-672)

As discussed in §9.2, when the verb is marked as dependent, it usually appears in final position while the object of a monotransitive verb usually precedes it. Clauses with verbs marked as independent have an inconsistent word order. However, declarative complement clauses always appear in final position, regardless of whether the matrix verb is marked as dependent, as in (9), or as independent, as in (10).

10. Myëtoopyë [kuka jä'äy tsyapay, yyä'äxy].

y-mëtoo-yp=yë' ku=ək=ja'a jä'äy y-tsapää-y y-yä'äx-y
 3A-hear-INDEP;TR=DEM.M when=HEARSAY=DEM.D person 3S-cry-DEP 3S-cry-DEP
 'He heard that those people cried, wept.' (Aur2-686)

Intransitive matrix verbs take complement clauses as well. In this case, the complement clause is the subject and likewise appears in final position, as illustrated in (11).

11. *Kaxë'kp ku tyu'uy*
kaxë'äk-p ku y-tu'u-y
 [3S]seem-INDEP CMPLZ 3S-rain-DEP
 'It seems that it's raining'

In declarative complements, the person markers are used just as they are in matrix clauses (which is not necessarily the case for other types of complement sentences). There are no general restrictions on AM marking in the complement: (9)-(11) illustrate the neutral AM; (12a) completive and (12b) irrealis AM. Even though the perfect does not belong to the same paradigm, it also appears in complement clauses, as illustrated in (12c).

12. a) *Te'nts nmëtey ku jajpa tät tyääny.*
te'n=ëjts n-mëtoo-y ku jajp=ja'a tät y-tään-y.
 M.DEM=1SG 1A-hear-DEP CMPLZ DEIC.D-DEM.D man 3S-stay\COM-DEP
 'I heard that the man stayed there.'
- b) *Ps ta jä'äy y'ani'mxy ku myëtu'nt.*
Pës taa jä'äy y-anë'mx-y ku y-më-tun-t
 pues DEIC.M people 3P[INV]-say-DEP CMPLZ 3S-BEN-work-IRR;DEP
 'Then people told him to get a job.' (Aur2-201)
- c) *Ta t'ext kua' mixy jyëmpejtn.*
ta t-ex-t ku=ja'a mixy y-jëmpet-n
 DEIC.M 3A-see-PL;DEP CMPLZ=DEM.D kid 3S-return-PERF;DEP
 'Then they saw that the kid had returned.' (FrogA)

In all these cases, however, the verb in the complement clause has to appear in dependent inflection triggered by the complementizer. Moreover, the matrix verb can restrict AM marking in the complement. For example, verbs that express desires take irrealis complements, as shown in (13). The same holds for verbs of negative propositional attitude.

13. Ntsejkypys ku Pedro mye'nt.

N-tsook-yp=ëjts ku Pedro y-men-t.
 1A-want-INDEP;TR=1SG Cmplz Pedro 3S-come-IRR;DEP
 'I want Pedro to come.'

In all the previous examples, one can see that the arguments of the complement verb can be expressed by full noun phrases. This is relevant because that is not the case with all types of complement clauses. It is possible to find TAM particles in the complement clauses, including the particle that expresses past tense, *ojts*.¹ In fact, in principle it is possible to find one TAM particle in the matrix clause and a different one in the complement clause. In (14), the temporal reference of the subordinate complement clause is independent of the temporal reference of the matrix clause.

14. Nä'äps ku **ojts** Pedro tkeexy Carlos.

n-näjäw-ë-yp=ëjts ku ojts Pedro t-kox-y Carlos
 1A-know-INCH-INDEP;TR=1SG Cmplz PAST Pedro 3A-punch-DEP Carlos
 'I know that Pedro punched Carlos.'

The complement clause can be affirmative, as in all the previous examples in this subsection, or it can be negative, in which case the negative particle *ka't* is used, as in (15).

15. Tukmëtey ku kata myänk mäa tukpätn.

T-tuk-mëtoo-y ku **ka't**=ja'a y-mänk mäa t-uk-päät-n
 3A-CAUS-hear-DEP Cmplz NEG=DEM.D 3POSS-son where 3A-PREF-find-PERF;DEP
 'He said that he didn't find her son anywhere.' (IRL-2217)

I would like to emphasize the fact that (14) and (15) show that the matrix verb and the complement clause do not share TAM or polarity operators. In each case, the scope of the negation or the temporal adverb is over their own clause, be it the matrix or the subordinate one.

¹ As a reminder, AM suffixes are verbal morphemes that express neutral aspect and irrealis mood (see §8.3). In contrast, TAM particles are independent words and not verbal affixes (§6.12). Aspectual particles express imperfective and perfective viewpoint aspect. One particle encodes, in addition to perfective aspect, past tense. Finally, one particle encodes hypothetical mood and another one dubitative mood.

10.1.2.2 *Embedded questions*

Interrogative complement clauses are classified as a type of full complement clause, but they require a separate subsection. In fact, this is the type of complement clause that shows the least syntactic integration.

As explained in the previous chapter (§9.4.2), polar questions are marked by the interrogative clitic =*a*, as shown in (16a). In contrast, content questions do not have the interrogative clitic, but are introduced by an interrogative word (§6.9), such as *xě'n* ‘how’ in (16b).

16. a) *¿Te'n ojts mjějtsi'ikya?*
 te'n ojts m-jějts-ě'ěk-y=a
 M.DEM PAST 2S-grind-up-DEP=Q
 ‘Did you start making tortillas in that way?’ (AE1-291)
- b) *¿Xě'n yě' ontsä'äyy y'ey?*
 xě'n yě'ě on-tsä'äy-y y-ey
 how DEM.M grease-roast-D.ADJ 3S-good[INCH.DEP]
 ‘How did you prepare it fried?’ (AE1-268)

Embedded polar questions, i.e. when they are complement clauses, do not carry the interrogative clitic =*a*, but are rather introduced by the complementizer *pěn* ‘whether’, as shown in (17a).² On the other hand, embedded complement content questions are introduced by the interrogative word, which in (17b) is also *xě'n* ‘how’.

17. a) *Ka'ts najäw pěn memp Pedro.*
 Ka't=ějts n-nasjäw pěn Ø-mem-p Pedro
 NEG=1SG 1A-know[inch.dep] whether 3S-vcome-INDEP PEDRO
 ‘I do not know whether Pedro will come.’
- b) *Kata' ttajaty xě'n yakyo'oty.*
 ka't=ja'a t-ta+jät-y xě'n y-ak-yo'oy-t
 NEG=DEM.D 3A-know.how-DEP how 3A-CAUS-walk-IRR;DEP
 ‘He does not know how to drive it (a car).’ (Efa1-159)

² The complementizer *pěn* is phonologically similar to the interrogative pronoun for people *pěën* ‘who’, but their syntax is clearly different.

Most of the characteristics presented for declarative full complement clauses hold for embedded interrogative clauses: they can appear with different AM suffixes, the verb can have all its arguments expressed by full NPs, and they can have TAM and polarity particles. However, there is a crucial difference with respect to declarative complement clauses: embedded interrogative clauses can have independent inflection, as in (17a), or dependent, as in (17b). The conditions that trigger the inflectional dependency are exactly the same to those that trigger dependency in the simple sentence. In (18a), the complement clause has independent inflection because there is nothing within it that triggers inflectional dependency, which does exist in (18b), namely the past tense particle *ojts*. In the examples (18c) and (18d) the conditions that trigger inflectional dependency are also similar to those that trigger inflectional dependency in the simple sentence: when the question is about an argument, the sentence has independent inflection, while when the question is about a non-argument, the interrogative word triggers dependency.

18. a) Ka'ts najäw pën Carlos tyejkxypy uupy.

Ka't=ëjts n-najäw pën Carlos y-tojkx-yp uupy
 NEG=1SG 1A-know[INCH.DEP] whether Carlos 3A-eat-INDEP;TR amarillito
 'I don't know whether Carlos is eating *amarillito* (traditional dish).' (J)

b. Ka'ts najäw pën Carlos ojts uupy ttejkxy.

Ka't=ëjts n-najäw pën Carlos ojts uupy y-tojkx-y
 NEG=1SG 1A-know[INCH.DEP] whether Carlos PAST amarillito 3A-eat-DEP
 'I don't know whether Carlos ate *amarillito*.' (J)

c. Ka'ts najäw tii Carlos tyejkxypy.

ka't=ëjts n-najäw tii Carlos y-tojkx-up
 NEG=1SG 1A-know[INCH.DEP] what Carlos 3A-eat-INDEP;TR
 'I don't know what Carlos is eating.'

d. Ka'ts najäw mäaa' Carlos tyejkxy.

Ka't=ëjts n-najäw mäaa=ja'a Carlos y-tojkx-y
 NEG=1SG 1A-know[INCH.DEP] where=DEM.D Carlos 3S-eat-DEP
 'I don't know where Carlos is eating.'

Even if the negative particle appears in the matrix clause, it does not have scope over the complement clause. In all the examples in (18) the matrix clause has dependent conjugation due to the negative particle; however, in (18a) and (18c) the embedded interrogative clauses have independent conjugation because there is nothing within them that triggers the conjugational dependency. Thus, with respect to the dependent/independent conjugation, complement interrogative clauses are just like independent clauses.

10.1.3 Type 2. Non-finite subordinate complement clauses.

The second type of subordinate complement clauses are restricted to complements of the desiderative verb *tsok* ‘to want’, the verb of manipulation *kax* ‘to order’, the causative verbs *tanë'ex* ‘to show’ and *akëxpëk* ‘to teach’, and the psych-action verb *jënmay* ‘to think’. As one can see, these verbs do not form a homogeneous group. With respect to its morphosyntactic characteristics, this type of complement clause does not have a complementizer, but rather the subordinate verb is in a non-finite form. Additionally, the complement verb cannot have syntactic arguments and it cannot have other TAM particles, negation or adjuncts modifying the verb.

In Ayutla Mixe, a non-finite verb is marked by the suffix *-p* ‘INF’ and it lacks person markers, as shown in (19a). The presence of a second person marker, which would be present in a finite verb conjugation, renders the example ungrammatical, as illustrated in (19b).

19. a) Mejts [**ukp**] mjënmaapy.
 mejts uuk-p m-jënmay-yp
 2SG drink-INF 2A-think-INDEP;TR
 ‘You think of drinking.’

- b) *Mejts [m'ukp] mjënmaapy.
 mejts m-uuk-p m-jënmay-yp
 2SG 2S-drink-INF 2A-think-INDEP;TR
 Intended: 'You think of drinking.'

As one can see in the example in (19), the suffix *-p* for the non-finite form is the same used for an intransitive verb in independent order. The main difference from a finite intransitive verb is the lack of person markers, and one can say that this is what characterizes this construction.

The finite verb is an argument of the matrix verb, more particularly the object, because the matrix verb is marked as transitive, signaled by the suffix *-py* in the example (19a). The subordinate verb cannot take arguments as full NPs, and this is the reason why the example in (20a) is ungrammatical. However, non-finite verbs can have their objects present only if they appear incorporated, as in (20b).

20. a) *Ka't Carlos [mëkněj ukp] ttseky.
 ka't Carlos mëkněj uuk-p t-tsok-y
 NEG Carlos mezcäl drink-INF 3A-want-DEP
 Intended meaning: 'Carlos does not want to drink *mezcäl*.'
- b) Sara kaakyjyëëpy yu'unk kyexypy.
 Sara kaaky-jëy-p y-u'unk t-kax-yp
 Sara tortilla-buy-INF 3POSS-child 3A-order-DEP
 'Sara sent her son to buy tortillas.'

Thus in the example (20a), the sentence is ungrammatical because the non-finite form of the verb *uuk* 'to drink' cannot take NP *mëkněj* 'mezcäl' as a direct object. Conversely, (20b) is grammatical because in this case the object *kaaky* 'tortilla' is incorporated into the verb.

In all the previous examples in this subsection, the matrix verb appears in final position, which contrasts with the word order of the first type of complement clauses (the full subordinated complement clauses). The complement clause, which consists of only

the verb, appears before the matrix verb, although it does not have to be immediately before it. This is indeed the most common word order for this construction, but it is not restricted to it. It is also possible to find the matrix before the complement clause, as shown in (21). There, the verb *kyexy* ‘(they) sent him’ is located before the complement *yuup* ‘to plow’.

21. Ja’ jä’äy ojts kyexy yuup.

ja’a jä’äy ojts y-kox-y yu’u-p
 DEM.D people PAST 3O[INV]-order-DEP plow-INF
 ‘Those people sent him to plow (the land).’ (Aur2-219)

Also, in (21) the subordinate verb cannot be modified by temporal particles. The temporal interpretation of the complement clause depends entirely on the temporality of the matrix verb. As one could expect from this, a non-finite verb cannot be negated by a negative particle. However, a difference with respect to other types of complement clauses that is discussed in the following sections is that a non-finite complement clause cannot take the negative prefix in the verb, as shown by the ungrammaticality of (22).

22. *Ejts kakaapy njënmaapy.

ëjts ka-kay-p n-jënmay-yp
 1SG NEG-eat-INF 1A-think-INDEP;TR
 Intended meaning: ‘I’m thinking on not eating.’

One might suspect at this point that the non-finite form is used as a nominalization. A good reason for this is that the suffix *-p* ‘INDEP’ is also used for nominalizations, as presented in Chapter 7 (§7.2.1.1). However, there are three arguments against this hypothesis. First of all, *yuup* ‘to plow’ in (21) cannot be a nominalization because the only way in which it could make sense in the same clause with the verb *kax* ‘to send’ is as a locative nominalization. This is because when *kax* ‘to send’ does not take a complement clause as one of its arguments, whichever the type, it takes an A and only one O, while the place to which the O is sent has to be a location. Thus, if *yuup* ‘to plow’

were a nominalization, it would require another suffix, the locative nominalizer *-täjk*, not to mention that in that case the NP would have to be part of a locative construction (§7.5).

On the other hand, the non-finite verb could also be confused with an agentive nominalization, which would have the same form. However, an agentive nominalization can be modified by a demonstrative, but not a non-finite verb. Thus, the only interpretation that the sentence in (23a) can have is as agentive nominalization, not as a non-finite verb. If one wants to express a meaning that requires a non-finite verb, it cannot have a determiner, as in (23b). Finally, the example in (21) cannot be mistaken for an eventive nominalization because, again, it would require a different suffix, the nominalizer *-k*, as presented in (23c).

23. a) *Ėjts ja' tump ntsejkypy.*

Ėjts ja'a tun-p n-tsok-yp
 1SG DEM.M work-NMZR 1A-want-INDEP;TR
 'I want the worker.' / *'I want (people) to work.'

b) *Ėjts tump ntsejkypy.*

Ėjts tun-p n-tsok-yp
 1SG work-INF 1A-want-INDEP;TR
 'I want (people) to work.' / 'I want a worker.' (Constructed)

c) *Ėjts ja' tunk ntsejkypy.*

Ėjts ja'a tun-k n-tsok-yp
 1SG DEM.M work-NMZR 1A-want-INDEP;TR
 'I want the work.'

Summarizing, a non-finite subordinate complement clause appears without arguments, at least as NPs, and it cannot be modified by the negative, the past tense particle or anything.

10.1.4 Type 3. Full cosubordinate complement clauses

In Ayutla Mixe, there is a construction typical of the desiderative verb *tsok* ‘to want’, some mental verbs (*nasäw* ‘to suppose’, *najäw* ‘to know’, *näw* ‘to know’, *jät* ‘to know how’), and verbs that take psych-action complements (Van Valin & Wilkins 1993:510) (such as *jänmay* ‘to think’, *atät* ‘to think’, *jamyats* ‘to remember’, *jatyëkey* ‘to forget’). In this construction there is no complementizer to introduce the complement clause, as shown in (24). In addition, the verb is in a finite form, in neuter independent AM in the example.

24. (When I talked to him,)

Akxäjk nojty Carlos tsyejkypy tjë’kxt.
 akxäjk nojty Carlos y-tsok-yp t-jë’kx-t
 chayote IMPF Carlos 3A-want-INDEP;TR 3A-eat.vegetables-IRR;DEP
 ‘Carlos wanted to eat chayote’

One might analyze this as a subordinate construction that does not take a complementizer, but it has several characteristics that are not found in subordinate complement clauses. Possibly the most important of them is the position of the object of the complement verb in (24), the noun *akxäjk* ‘chayote’, which is an argument of the verb *jë’kx* ‘to eat vegetables’ and not of the verb *tsok* ‘to want’. This nominal appears in initial position, while the complement verb is in final position. This is not a left dislocation, since that would require a special intonation with a pause between the first word and the rest of the sentence. I argue that the complement clause does not form a constituent by itself within the matrix clause in this case, and thus one of its arguments can appear separated from the complement verb.

Unlike non-finite sentences, which were analyzed in the previous section, in this case the complement verb takes person markers and its arguments are expressed by noun phrases. There exists, however, a restriction with respect to the type of AM markers the

complement verb can take. In most cases, the complement verb appears in irrealis, as in (24) above, or in neutral AM aspect but with the desiderative, as in (25).

25. Neki nasāw tsyām jyāyampy.
 neky n-nasāw tsyām y-jä'äy-ä'an-yp
 paper 1A-believe[INCH.DEP] now 3A-write-DES-INDEP;TR
 'I think that he will write a letter today.' (TAMA-E)

Let us consider the inflectional dependency in the complement verb. In full co-dependent complement clauses, the complement verb can take dependent inflection, as in (26a), or independent inflection, as in (26b).

26. a) ǰPën mnasä'äp menämp?
 pëen m-nasāw-ë-yp men-ä'an-p
 who 2A-believe-INCH-INDEP;TR [3S]come-DES-INDEP
 'Who do you think is coming?'
 b) ǰMää xnasāw kya'aty?
 mäa x-nasāw y-kay-t
 where 2A-believe[INCH.DEP] 3S-eat-IRR;DEP
 'Where do you think he eats?'

In the examples in (26), it would seem that being a complement verb is not enough for being marked with dependent inflection, as (26a) takes the AM suffix *-p* for independent AM.³ This clearly contrasts with the full subordinate complement questions, discussed in §10.1.2, where the complement clause always takes a dependent conjugation. Rather, in those two examples, the dependency on both verbs is correlated, as in (26a) both the matrix and the complement verb take independent conjugation, because there is nothing in the entire complex sentence that triggers the conjugational dependency. In contrast, in (26b) both take a dependent conjugation because the interrogative word, which is an interrogation of a non-argument, triggers the conjugational dependency. What is interesting here is that in (26b) the same word triggers the conjugational dependency in both matrix and complement verb, as if there are no clausal boundaries.

³ It is worth pointing out that the complement sentence could also be marked as dependent in this case.

Similarly, the negative particle will obligatorily trigger conjugational dependency in both the verbs, as in (27a). Furthermore, the negative particle can only appear in initial position modifying the matrix verb, as in the example. It can never appear in other positions modifying the complement sentence, as the example (27b) illustrates. The only way in which the complement clause can be negated is using the negative prefix *ka-* as in (27c).

27. a) **Ka'ts** kutypy njamyetsy Carlos tjë'ëty.
 Ka't=ëjts kutypy n-jamyats-y Carlos t-jëy-y
 NEG=1SG avocado 1A-remember-DEP Carlos 3A-buy-IRR;DEP
 'I did not remember that Carlos was going to buy avocados'
- b) *Kutypys njamyetsy **ka't** Carlos tjë'ëty.
 kutypy=ëjts n-jamyats-y ka't Carlos t-jëy-y
 avocado=1SG 1A-remember-DEP NEG Carlos 3A-buy-IRR;DEP
 Intended meaning: 'I remember that Carlos did not buy avocados.'
- c) Kutypy ëjts njamyetsypy Carlos **tkajë'**ëty.
 kutypy ëjts n-jamyats-y Carlos t-ka-jëy-y
 avocado 1SG 1A-remember-DEP Carlos 3A-NEG-buy-IRR;DEP
 'I remember that Carlos did not buy avocados.'

Closely related to the previous issue, there can be only one temporal particle *ojts* in the whole complex sentence, as shown in (28).

28. Ojts mä'ätsy Carlos tjënmay (*ojts) tkayä'änt.
 ojts mä'ätsy Carlos t-jënmay-y (*ojts) t-kay-ä'än-t
 PAST machucado Carlos 3A-think-DEP (PAST) 3A-eat-DES-IRR;TR
 'Carlos thought that he would eat *machucado* (a traditional dish).'

As said already several times, in cosubordinate clauses the evidence suggests that the boundaries of complement and matrix clause disappear because the interrogative word in (26a) or the negative particle in (27a) trigger the conjugational dependency in both the matrix and the complement verb. Further evidence is that the complement verb can appear in final position but its O appears before the matrix verb, and the fact that the complex sentence can accept only one negative or temporal particle. However, there is no

complete integration between the two clauses as the complement verb still can take arguments as NPs, it can be negated, even if it is only using the negative prefix, and the verb still can take different AM suffixes. The only condition with respect to the last point is that if the verb does not appear in irrealis, then it has to take the desiderative serialized verb. The next two types of cosubordinate complement clauses show more integration, which go in the direction of a clause union (Aissen 1987).

10.1.5 Type 4. Finite cosubordinate complement clauses

This type of complement clause is characteristic of the following complement-taking predicates: some verbs of perception (*kaxë'ëk* 'to look like, to appear', *ex* 'to see', *měttoo* 'to listen', *xuuk* 'to smell') and a verb of psych-action (*otät* 'to think'). It is common in this type of complementation that the verbs of perception are used as epistemic verbs.

Just like the previous type, this construction does not have a complementizer and the arguments of the complement verb can be expressed as full NPs. However, the complement verb must appear before the matrix verb, as shown in (29).

	Complement verb	Matrix verb
29. Ja' kipyu'unk	myajtsypy	kyaxi'iky.
ja'a kipy-u'unk	y-mäts-yp	y-kaxë'ëk-y
DEM.D stick-DIM	3A-grab-INDEP;TR	3S-look.like-DEP
'It looks like he is grabbing the stick.' (M&T-VA-257)		

In (29), the matrix verb is *kaxë'ëx* 'to appear, to look like', and it appears in final position. The complement verb, *mäts* 'to grab' is located before the matrix verb, and in turn object of the complement verb, the NP *ja' kipyu'unk* 'the little stick', appears in initial position. Thus, in these cases, in both the matrix and the complement verb, the order of the verb with respect to the object is OV. However, this is not the only possible word order for this type of complement clause. Rather, it is fairly common that the

arguments of the complement clause are not next to the complement verb, as shown in (30).

30. a) Mejts mta-poot-ë-yp=ëjts n-mëtoo-y yë'ë jä'äxy.
 2SG 2A-APPL-cut-INCH-INDEP;TR=1SG 1A-hear-DEP DEM.M firewood
 'I hear you cutting firewood.'
- b) Mta-poot-ë-yp=ëjts n-mëtoo-y mejts yë'ë jä'äxy.
 2A-APPL-cut-INCH-INDEP;TR=1SG 1A-hear-DEP 2SG DEM.M firewood
 'I hear that you cut firewood.'

In (30a) the subject of the complement verb *ta-poot* 'to cut' appears just in front of it, but its object appears at the end of the sentence, with the matrix verb *mëtoo* 'to hear' between the complement verb and its object. Additionally, in (30b) both the subject and the object of the complement verb appear separated from its nucleus, to the right of the matrix verb. Again, in none of these examples is there a cleft-like construction, as that would require a special intonation.

In the examples in (30), the complement verb appeared in neutral AM, and this is the only aspect the complement verb appears in. Unlike full cosubordinate complement clauses (§10.1.4), the verb cannot appear in irrealis AM. It cannot occur with the dubitative particle *wa'a*, which triggers the irrealis AM on the verb; this is shown by the ungrammaticality of (31).

31. *Wa'na jä'äxy tapootët Carlos t'ex-t.
 wa'n=ja'a jä'äxy t-ta-poot-ë-t Carlos t-ex-t
 DUB=DEM.D firewood 3A-APPL-cut-INCH-IRR;DEP Carlos 3A-see-IRR;DEP
 Intended reading: 'Who knows whether Carlos sees that he is cutting firewood.'

Additionally, the negative particle *ka't* and the temporal particle *ojts* have to appear in initial position and they have scope over both sentences, as in (32). It is not possible to place either of these particles between the complement verb and the matrix verb.

32. a) Ka't tsoony (*ka't) xmetey.
 ka't y-tsoon-y x-metoo-y
 NEG 3S-go.away-DEP 2A-hear-DEP
 'You did not hear that he went away.'
- b) Ojts moojk (*ojts) tni'ipys n'ixy.
 ojts moojk t-ne'ep-y=ëjts n-ex-y
 PAST corn 3A-sow-DEP=1SG 1A-see-DEP
 'I saw that you sowed corn.'

Let us consider the conjugational dependency on both the matrix and the complement verb. As one can see from the examples in this subsection, the complement verb can take independent conjugation, as in (29) and (30), or dependent conjugation, as in (32). In fact, the conditions that trigger the dependency in the complement verb seem to be the same as in any other case. If there is a non-argument before the verb, it triggers dependent conjugation, and if not, the verb appears in the independent conjugation. This can also be seen in (33), in which the adverbial locative demonstrative *jajp* 'there' triggers the dependent conjugation on the complement verb.

33. Jajpa mixy jä'äxy tapoots n'ixy.
 jajp=ja'a mixy jä'äxy t-ta-poot=s n-ex-y
 DEIC.D-DEM.D boy firewood 3A-APPL-cut[INCH.DEP]=1SG 1A-see-DEP
 'I see that the young man is cutting firewood.'

On the other hand, the matrix verb, which appears in final position, has to take the dependent conjugation, even if there is no adverb or particle that could trigger the dependency in the verb. In this respect, this type contrasts with the previous types, as there the marking of a matrix verb as dependent was not related to the complement structure. It would seem here as if the semantic main predicate were treated morphosyntactically as the dependent element. However, I believe that there is another explanation for this. Since the complement verb is not really embedded into the main clause, it triggers the dependent marking on the matrix verb as any other predicate

preceding the main verb would do, just as a secondary predicate triggers dependent marking on the matrix verb (§10.3). Following this clue, and similar to secondary predication, one could say that finite cosubordinate complement clauses are monoclausal too. However, here the “second” predicate is in fact a complement clause, with a finite verb that can take arguments, but not adjuncts. The fact that the complement clause appears obligatorily in the canonical position for an object when the verb takes dependent conjugation, i.e. before the verb, can be taken as a sign of more integration with respect to full cosubordinate complement clauses. Supporting the idea of a higher integration is the fact that the complement verb has to be in neutral AM.

10.1.6 Type 5. Reduced cosubordinate complement clauses

The last type of complement verb is very similar to the previous one, as the complement verb appears before the matrix verb, and the latter is obligatorily marked as dependent. However, unlike the previous type, the complement verb cannot have an object syntactically expressed. This construction is typical of *tsok* ‘to want’, *jënmay* ‘to think’, and some verbs of perception used as epistemic verbs.

The fact that the complement verb cannot take arguments makes this construction similar to the non-finite complement clause. However, the complement verb is in a finite form, as it takes person markers. In (34) it is possible to know that the verb is indeed finite form, as the second person marker *m-* appears prefixed to the verb.

34. Matsämp ijty xjatseky.

m-ats-ä’än-p	ijty	x-ja+tsok-y
2S-dance-DES-INDEP	IMPF	2A-want-DEP
‘You would like to dance.’		

Even if the verb involves two participants, the object in this construction cannot appear as an independent NP, as shown in (35a), but it can appear incorporated into the

verb, as in (35b). This does not mean, however, that the complement verb has to be intransitive, as it can indeed be marked as transitive, in (35c).

35. a) *Akxäj mji'kxypy xjënmay.
 akxäj k m-jë'kx-yp x-jënmay-y
 chayote 2A-eat.vegetables-INDEP;TR 2A-think-DEP
 Intended meaning: 'You are thinking on eating *chayote* (a type of vegetable).'
- b) Makxäjë'kxp xjënmay.
 M-akxäj-jë'kx-p x-jënmay-y
 2S-chayote-eat-INDEP 2A-think-DEP
 'You think to eat chayote.'
- c) Wyijtsypy tjënmay.
 y-wets-py t-jënmay-y
 3A-llevar-INDEP;TR 3A-pensar-DEP
 'He is thinking of taking it.'

From examples in (35), one can see that if the complement verb is transitive, the object cannot be expressed syntactically. Thus, in (35a) the sentence is not grammatical because the object *akxäj* 'chayote' appears as a NP, but it has to appear incorporated into the verb *jë'kx* 'to eat vegetables', as in (35b). However, the verb in (35c) is marked as transitive, since the person marker is the third person transitive prefix *y-* and the AM suffix *-yp* is the one for transitive verbs.

Additionally, the subject can be expressed syntactically if needed, as in (36), and it can appear at the beginning of the sentence or between the complement verb and the matrix verb.

36. (Yë' mixy) tso'omp yë' mixy jyënmay.
 (yë'ë mixy) tsoon-p yë'ë mixy y-jënmay-y
 (DEM.M boy) go.away-INDEP DEM.M boy 3A-think-DEP
 'I think that the boy is going away.'

As in all the types of cosubordinate constructions, it is possible to have only one temporal particle, and it has to appear between the subordinate and the matrix verb, as in (37). It cannot appear in initial position.

37. (*Ojts) tso'omp ojts xjënmay.
 (*ojts) tsoon-p ojts x-jënmay-y
 (PAST) [3S]go.away-INDEP PAST 2A-think-DEP
 'You thought he had gone away.'

Just as in the case of the finite cosubordinate complement clauses (§10.1.5), the word order is restricted, as the complement verb has to appear before the matrix verb, as shown in (38).

38. a) Mëxpëjkps n'aextiky.
 m-ëxpëk-p=ëjts n-a+ex-tëk-y
 2S-study-INDEP=1SG 1A-see-enter-DEP
 'I see that you are studying.'
- b) *Ëjts n'aextiky mëxpëjqp.
 ëjts n-a+ex-tëk-y m-ëxpëk-p
 1SG 1A-see-enter-DEP 2S-study-INDEP
 Intended reading: 'I see that you are studying.'

Also similarly to the finite cosubordinate complement clauses (§10.1.5), the matrix verb is obligatorily conjugated as dependent. For instance, in (39) the verb *jënmay* 'to think' has to take the dependent AM suffix *-y*.

39. Mtso'omp xjënmay / *mjënmaapy.
 m-tsoon-p x-jënmay-y /*m-jënmay-yp
 2S-irise-INDEP 2A-think-DEP 2A-think-INDEP;TR
 'You think of going.'

This is similar to the previous type of complement clause. However, unlike it, in reduced cosubordinate complement clauses the complement verb always appears in the independent conjugation. This might be related to the fact that the particles that could trigger conjugational dependency, such as the past tense particle *ojts*, must appear between the complement and the matrix verb. Thus, they could not trigger the structural dependency on the dependent verb.

There is another restriction with respect to the negation for this type of complement clauses, and it is that the clause cannot take the negative particle, no matter where its

position is, as shown in (40a). The only way in which it is possible to negate this type of complement clause is using the negative prefix *ka-*, as shown in (40b).

40. a) *Ka't mwetpujp (*ka't) xjënmay.
 ka't m-wet-puj-p (*ka't) x-jënmay-y
 NEG 2S-clothes-wash-INDEP (NEG) 2A-think-DEP
 Intended meaning: 'You do not think to what your clothing.'
- b) Mtsoomp xkatseky.
 m-tsoom-p x-ka-tsok-y
 2S-go-INDEP 2A-NEG-want-DEP
 'You do not want to go.'

It is not surprising that the complement verb cannot take the negative particle, as most of the types of complementation cannot. However, what is different in this construction is that the negative particle cannot be used at all, not even to negate the matrix verb.

10.1.7 Verbs of speaking

In all the previous sections I described all the cases of complement sentences that fall into the characterization provided in subsection 1.1 of this chapter. Namely, that the complement clause has to be a semantic argument and that it has to fulfill the syntactic valence of the matrix verb, i.e. it has to be the subject of an intransitive verb or the object of a transitive verb (there are no cases of complementation where the complement clause is the subject of a transitive verb). As pointed out in that initial subsection, this is complementation in a restricted sense. However, there are other cases in which an intransitive verb requires a complement clause as an oblique, that is to say, it is a semantic argument of the verb but it is not coded syntactically as an argument. There could be a number of complementation strategies that do not fall into the narrow sense of the term complementation (see Noonan 2007, Dixon 2006), but for Ayutla Mixe the

discussion is restricted to verbs of speaking, as these are the only cases that are not covered by the complement constructions discussed in sections 10.1.2-6.

Some verbs of speaking, however, are peculiar insofar as what is said is not realized as a syntactic argument, even though it clearly is a semantic argument. This can be seen in the following examples.

41. a) Te'n yanä'äny ku jajpa' meeny tpääjty.
 te'n y-anä'an-y ku jajp=ja'a meeny t-pää-t-y
 M.DEM 3S-say-DEP Cmplz DEIC.D=DEM.D money 3A-find-DEP
 'He said that he found the money there.' (EComp07)
- b) Te'n Pedro yanä'äny ku tē Carlos akxon pyity.
 te'n Pedro y-anä'an-y ku tēē Carlos akxon y-put-y
 M.DEM Pedro 3S-say-DEP Cmplz BEFORE.NOW Carlos INTS 3S-run-DEP
 'Pedro said the Carlos ran a lot.' (EComp07)

Thus, in (41) the verb *anä'an* 'to say' is conjugated intransitively, but still the matrix verb has a complement. Notice that the verb cannot be conjugated transitively; only intransitive marking (42a), not transitive marking (42b), is grammatical in this case.

42. a) Te'n Pedro yanä'äny ku Carlos tu'uk tējk tkojä'änn.
 te'n Pedro y-anä'an-y ku Carlos tu'uk tējk t-koj-ä'an-n
 M.DEM Pedro 3S-say-DEP when Carlos one house 3A-build-DES-PREF;DEP
 Intended: 'Pedro said that Carlos would build a house.'
- b) *Te'n Pedro t'anä'äny, ku Carlos tu'uk tējk tkojä'ännē.
 te'n Pedro t-anä'an-y ku Carlos tu'uk tējk t-koj-ä'an-n
 M.DEM Pedro 3A-say-DEP when Carlos one house 3A-build-DES-PREF;DEP
 Intended: 'Pedro said that Carlos would build a house.'

This is not possible with verbs whose complement is indeed required syntactically by the matrix verb. Thus, in (43a) the verb *ex* 'to see' is transitive, marked by the transitive second person prefix *x-*, while (43b) is ungrammatical because the verb is marked as intransitive by the prefix *m-*.

43. a) Ojts mejts x'ixy ku Pedro myeetsy.
 ojts mejts x-ex-y ku Pedro y-maats-y
 PAST 2SG 2A-see-DEP Cmplz Pedro 2S-steal-DEP
 'You saw that Pedro stole.'

- b) *Ojts mejts m'ixy ku Pedro myeetsy.
 ojts mejts m-ex-y ku Pedro y-maats-y
 PAST 2SG 2S-see-DEP CMPLZ Pedro 2S-steal-DEP
 Intended: 'You saw that Pedro stole.' (J)

Following other cases in which a constituent is a semantic argument of a verb but not a syntactic argument, I consider the complement clause an oblique in cases like those in (41). As it is not an argument, those cases do not qualify as proper cases of complementation but rather it is a complementation strategy.

Not all verbs of speaking are like that, though. Rather it depends on the lexical item. In the examples in (44), the verbs *nëmo'oy* 'to say' and *anëm* 'to say' are conjugated transitively and thus the construction is a full subordinate complement clause.

44. a) Te'n Carlos tnëmojy ku tē kyay.
 te'n Carlos t-nëmo'oy ku tē y-kay-y
 M.DEM Carlos 3A-say\COMP CMPLZ BEFORE.NOW 3S-eat-DEP
 'Carlos said that he already ate.'
- b) Te'n Pedro tanëjm ku tu'uk tējk tkojā'änn.
 te'n Pedro t-anëm ku tu'uk tējk t-koj-ä'än-n
 M.DEM Pedro 3a-say\BEN[INCH.DEP] CMPLZ one house 3a-build-DES-PERF;DEP
 'Pedro told him that he was going to build a house.'

Thus, for some verbs of speaking the complement is an argument while in other verbs it is not. Furthermore, in some cases the verb of speaking is in juxtaposition with respect to the clause that contains what was said, as in the examples in (45). In other words, the clause that expresses what is said and the verb of speaking appear next to each other without any complementizer and do not form a single constituent.

45. a) Pedro tu'uk tējk kyojampy, te'n nëjm.
 Pedro tu'uk tējk y-koj-ä'än-yp te'n nëm
 Pedro one house 3A-build-DES-INDEP;TR M.DEM say\BEN
 'Pedro will build a house, he told him so.'
- b) Pedro ojts kyay, nëmxy
 Pedro ojts y-kay-y nëmxy
 Pedro PAST 3S-eat-DEP say
 'Pedro ate, he said so.'

Strictly speaking, in (45) the verb *nēm* ‘to say’ and *nēmxy* do not form a complex sentence with the other sentence. Thus, it is not possible to say that the verb is embedded or even that the sentences are structurally dependent of each other. Similar structures have been pointed out for English (Diessel & Tomasello 2001, Thompson 2002, Boye & Harder 2007) or Popti’ (Craig 1977), and it has been argued that in these cases the “matrix predicate” (i.e. the verb of speaking in the examples), is rather a semantic operator.

In Ayutla Mixe, the verbs *nēm* ‘to say’ and *mēmxy* ‘to say’ are undergoing a grammaticalization process towards becoming a particle that expresses reported speech. Part of the evidence for this is the fact that, as pointed out above, they appear juxtaposed to the main sentence. Additionally, notice that in those cases the verb does not carry person prefixes or AM suffixes in such cases, even though the verb can take the applicative benefactive apophony (see §8.7.3), as in (45a). Finally, they present other syntactic restrictions. The verb of speaking can be modified by the temporal particle *ojts* (46a), but it cannot be negated (46b) by the particle *ka’t*.

46. a) Pedro tu’uk tējk kyojampy, **ojts** te’n nējm.
 Pedro tu’uk tējk y-koj-ä’än-yp ojts te’n nējm
 Pedro one house 3A-build-DES-INDEP;TR PAST M.DEM say\BEN
 ‘Pedro will built a house, he said.’

b) *Pedro tu’uk tējk kyojampy, **ka’t** te’n nējm.
 Pedro tu’uk tējk y-koj-ä’än-yp ka’t te’n nējm
 Pedro one house 3A-build-DES-INDEP;TR NEG M.DEM say\BEN
 Intended: ‘Pedro will build a house, he did not say (i.e. He did not say he would build a house).’

Summarizing, both the cases in which the verb of speaking is an oblique or the cases in which it is in juxtaposition are not consider proper cases of complementation.

However, with a broader perspective on complementation, they are complementation strategies (Dixon 2006).

10.2 Relative Clauses

For the purposes of describing Ayutla Mixe, I adopt a definition of relative clauses as follows: a relative clause is a type of subordinate clause that, together with a noun phrase or just by itself, refers to an entity. Additionally, the entity referred to has to have a semantic role within the relative clause. This definition goes along the lines of Dryer (2005a), and differs a little from other definitions of relative clauses as noun phrase modifiers, although, except for headless relative clauses, one could say that the relative clause restricts the reference of a noun phrase.⁴

Ayutla Mixe has adjoined relative clauses that, as argued in the following paragraphs, are not embedded in the main clause. A relative clause is introduced by the relativizer (*mě*)*te'ep*, which is shown in (47). In all the examples, whenever there is noun phrase containing a head noun, it appears in boldface and the relative clause between square brackets.

47. a) **Jětsa' moojk** [te'ep akwějp]_{RC}, ζtēm̄ta?,
 jěts=**ja'a** **moojk** [te'ep ak-wěj-p]_{RC} tēm̄t=a
 and=DEM.M corn REL [3S]CAUS-throw-INDEP seed=Q
 'And the corn that is for scattering, is that the seeds?' (AE-688)

⁴ In a headless relative clause, one can say that the relative clause does not restrict, but rather refers to the entity by itself. In other accounts, "a relative clause... is a subordinate clause which delimits the reference of a NP by specifying the role of the referent of that NP in the situation described by the R[relative] C[lause]" (Andrews 2007:206). In some accounts, relative clauses are defined by embedded noun modifiers that are embedded clauses (see, for example, Givón 2001). However, as will be presented below, embedding is not a condition in a cross-linguistic perspective (Andrews 2007), and in fact relative clauses are not embedded in Ayutla Mixe.

- b) Tia' ttejta', **¿ja' jëntsën** [te'p ojtsa' myiny]_{RC}?
 Tii=ja'a t-tej-t=ja'a
 what=DEM.D 3A-name-PL;DEP=DEM.D
ja' **jëntsën** [te'ep ojts=ja' y-men-y]_{RC}
 DEM.D chief REL PAST=DEM.D 3S-come-DEP
 How do they call him, the chief that came? (Efa1-150)
- c) (But we had got totally wet...)
Mëta' maxu'unk [te'ep ye'epy]_{RC}.
 mëët=**ja'a** **maxu'unk** [te'ep yo'oy-p]_{RC}
 ASSOC=DEM.D baby REL walk-INDEP
 'with the baby with whom he was walking.' (NL1-782)
- d) Ps ojtsa **mixy** jyënmä'impyäätü [te'p te'n Juankäjtp]_{RC}.
 pës ojts **ja'a** **mixy** y-jënmäy+ëmpyäät-y [te'ep te'n Juan-ät-p]_{RC}
 DISC PAST DEM.D boy 3S-ponder-DEP REL M.DEM Juan-VRBLZ-INDEP
 'Then the young man who is called Juan had thought.' (Aur2-1226)

Despite what might seem in (47a-c), relative clauses in Ayutla Mixe are not really embedded, as the example (47d) shows. In (47a), the relative clause restricts the reference of the NP *ja'a moojk* 'the corn', in (47b) the reference of *ja'a jëntsën* 'the chief', and in (47c) the reference of *ja'a maxu'unk* 'the baby'. In all these cases, the relative clauses occur not just after the noun but in final position, it is difficult to determine whether they are embedded or not. In the example (47d), on the other hand, the relative clause restricts the reference of the NP *ja' mixy* 'the young man', but in this case it is clear that the relative clause is not embedded as the verb *jënmäy'ëmpyäät* 'to have something in mind, to ponder' intervenes between the noun phrase and the relative clause. Thus, at least in (47d), it is clear that the relative clause is external to the noun phrase it restricts.

In fact, this is the most common situation in actual discourse. In many cases, as in (47d) or in (48), there is a noun in the matrix clause that can be considered the head noun of the relative clause.

48. a) Per huh-nuh, kata' **tu'u** jyëte'na [te'p yye'epy]_{RC}.
 Pero huh-nuh ka't=**ja'a** **tu'u** [y-jëte'n=ja'a te'ep y-yo'oy-yp]_{RC}
 but NEG NEG=DEM.D road 3S-M.DEM=DEM.D REL 3A-walk-INDEP;TR
 'But huh-huh, the road he walked on was not like that.' (NL1-1456)
- b) Kës tnäjawët mää' burr ojts nyijkxy, ojts **ja' jä'äy** tnëminy [mëte'ep ojts tjëy]_{RC}.
 Ku=ts t-najaw-ë-t mää=ja'a burr ojts y-nëjkx-y
 when=EV 3A-know-INCH-PL;DEP where=DEM.D donkey PAST 3S-go-DEP
 ojts **ja'a jä'äy** t-në-men-y [mëte'ep ojts t-jëy-y]_{RC}
 PAST DEM.D people 3A-ON-come-DEP REL PAST 3A-buy-DEP
 'When they learnt where the donkey went, those people who bought it came back for it.' (A&E-26j07-37)

In (48a) the head noun is *tu'u* 'road', but the modal adverbial demonstrative *jete'n*, which is the main predicate in this sentence, appears between it and the relative clause.

Similarly, in (48b) the verb *nëmen* 'to come for something' is between the noun phrase *ja' jä'äy* 'the people' and the relative clause.

In many of these cases, the relative clause has a different intonation even if there is not a pause, as in the examples presented in (48), but in other cases there is clearly a pause and thus one could argue that the relative clause is actually outside the main clause, as in (49).

49. a) Tyä ëjts **tu'uk cuento** nmätyä'äkä'an este [te'ep ojts nan tat xtu'kmëtey]_{RC}.
 tyäë ëjts **tu'uk cuento** n-matyä'äk-ä'an este [te'ep ojts
 DEIC.P 1SG one story 1A-tell-DES[DEP] DISC REL PAST
 nan tat x-tuk-mëtoo-y]_{RC}
 mother father 1O[INV]-CAUS-hear-DEP
 'I will tell you a story that my parents told me' (Am1-35)
- b) Kua **tu'u** t'exkapy, [te'ep te'n tyu'ajtypy]_{RC}.
 ku=**ja'a** **tu'u** t-exkäp-y [te'ep te'n y-tu'u-ät-yp]_{RC}
 when=DEM.D road 3A-indentify-DEP REL M.DEM 3A-road-VRBLZ-INDEP;TR
 'When he identified the road, the one the was his road' (NL2-1463)

It was argued with respect to (48) that the relative clause was not embedded in a noun phrase. However, in the two examples in (49), it becomes clearer that the relative clause

is outside the clausal level. Thus, one could argue that in all these cases relative clauses in Ayutla Mixe are in fact adjoined relative clauses.

When the relative clause is adjoined, it can be after the main clause, as in the (49), or it can precede the main clause, as in the example in (50).⁵

50. Ja' [te'ep jyityëjkäjtte'p]_{RC}, ojts te'na' tak'okkixy **tëkëëk**.

ja'a [te'ep y-jëtyëjk-ät-të-yp]_{RC} ojts te'n ja'a
DEM.D REL 3A-husband-VBLZ-PL-INDEP;TR PAST M.DEM DEM.D

t-ak-ook-këx-y **tëkëëk**
3A-CAUS-die-finish-DEP three

‘Those who were her husbands, she killed the three of them.’ (Aur2-1145)

Additionally, in some cases, such as in (48a) or (50), the relative clause is preceded by a demonstrative, which indicates that it is formally treated as a noun phrase.

So far I have shown cases in which the relative clause is next to a noun but in final position and cases in which the relative clause is obviously not embedded, where it is an adjoined relative clause. In many other cases, however, the relative clause does not restrict the reference of any noun phrase. In fact, there is no noun phrase that refers to the same entity as the relative clause does. Rather, the relative clause itself is the grammatical construction that refers to an entity. In this case, I am referring to headless relative clauses, which are in actual discourse perhaps more common than adjoined relative clauses. They are exemplified in (51).

51. a) Taa ëëts n'ësamtoot... [te'ep te'n pyatronkäjtte'p]_{RC}.

taa ëëts-t n-ës-amtoot-t [te'ep te'n y-patronk-ät-të-p]_{RC}
DEIC.M 1PL-PL 1A-MCP-ask-PL;DEP REL M.DEM 3S-patron.saint-VRBLZ-PL-INDEP
‘We were going to ask (something) to the one who is the patron saint.’ (NL1-2061)

⁵ In terms of the order of the relative clause with respect to the main clause, for Dryer (2005a, 2008) when the relative clause appears before the main clause, it is a correlative clause. However, Dryer (2005a) also defines correlative clauses as a subtype of internally headed relative clauses, and since in AyMi relative clauses are not internally headed but arguable headless, I will treat cases like (50) as preposed adjoined relative clauses.

- b) Jam, [te'ep jam tä'ämp mäa yë'ë T. jam y'ëxpikyë'n]_{RC}.
 jam [te'ep jam tän-p mäa yë'ë T jam y-ëxpëk-y=ë'n]_{RC}
 DEIC.D REL DEIC.D stay-IRR.INDEP where DEM.M T DEIC.D 3S-study-DEP=ADJ
 'There (he is), the one who stayed where T studied.' (NL2-1193)

In (51a), the relative clause refers to the person who is going to be asked. In (51b), the whole relative clause is the only reference that there is in that context, it identifies the person that becomes the topic in the following sentences in the narrative.

In addition to adjoined relative clauses, it is also possible to find embedded relative clauses, i.e. relative clauses that are inside a noun phrase, but only in the context of the elicitation with younger speakers. Some examples are presented in (52).

52. a) Nijuunsa' uk [te'ep pujtp]_{RC} nka'ixy.
 ni-juun=ëjts=ja'a uk [te'ep put-p]_{RC} n-ka-ex-y
 NEG-when=1SG=DEM.D dog REL run-INDEP 1A-NEG-see-DEP
 'I never saw the dog that runs.' (A&E-6b)
- b) Yë mixy [mëte'ep ajtsp nojtsy]_{RC} ojts tyeky tyëjy.
 yë'ë mixy [mëte'ep ats-p]_{RC} nojtsy ojts y-teky y-tëj-y
 DEM.M boy REL dance-INDEP IMPF PAST 3POSS-foot 3S-break-DEP
 'The boy that dances broke his foot.' (A&E-6b)
- c) Yë' tsëkäj [mëte'ep tuntëp]_{RC} ojkp nyëjkxt këë tyuunkëxt.
 yë'ë tsäkääj [mëte'ep tun-të-p]_{RC} ok-p y-nëjkx-t
 DEM.M bull REL work-PL-INDEP graze-INF 3S-go-PL;DEP
 ku y-tun-këx-t
 when 3S-work-finish-PL;DEP
 'The bulls that work go graze after working.' (A&E-93)

In all three examples in (52), the relative clause follows the head noun, just as in the examples in (47a-c) above, but the important fact here is that the relative clause appears between the head noun and the matrix verb. Since there is no pause and the relative clause seem to restrict the meaning one could assume that they are embedded. However, it is difficult to test whether the noun phrase containing the head noun and the relative clause form a single constituent as it is always possible to place the relative clause in final

position. It might be the case, thus, that it is an instance of a contiguous appositional relative clause.

As one can see in the following examples, it is possible to have an embedded relative clause (53a) and a non-embedded headless relative clause (53b) without apparent change in meaning.

53. a) **Yë' mixy** [mëte'ep jä'äxytyo'kp]_{RC} të jatëkojk kyëta'aky.
yë'ë mixy [mëte'ep jä'äxy-took-p]_{RC}
 DEM.N boy REL firewood-sell-INDEP
 tëë jatëkojk y-këtä'äk-y
 BEFORE.NOW again 3S-come.down-DEP
 'The boy that sells firewood came back again.' (ESub07)

b) Të **yë'e mixy** kyëta'aky jatukojk mëte'ep jä'äxytyo'kp.
 tëë **yë'ë mixy** y-këtä'äk-y jatukojk
 BEFORE.NOW DEM.D boy 3S-come.down-DEP again
 [mëte'ep jä'äxy-took-p]_{RC}
 REL firewood-sell-INDEP
 'The boy that sells firewood came back again'

Thus Ayutla Mixe has headless relative clauses and adjoined relative clauses and all of them having the same form. Furthermore, it is difficult to know whether some examples that might seem embedded are indeed such, since it is always possible to place an apparently embedded relative clause in an external position. For these reasons, one could argue that in fact in Ayutla Mixe all relative clauses are headless, and in those examples that seem to have a head noun, the relative clause is in fact in apposition to the noun phrase.⁶ This proposal would not be new, since a similar analysis has been proposed for other languages that have both headless and adjoined relative clauses (for example, Curnow's (1997) analysis of Awa Pit, a Barbacoan language spoken in Colombia).

The idea that the relative clause is in apposition to the noun phrase becomes more or less clear in the following example in (54). The matrix clause already has *ja'a tu'u* 'the

⁶ In a slightly different view, one could say that all relative clauses are adjoined, even when headless.

road' as the argument of the verb *exkáp* 'to identify'. However, the relative clause is a verbalization of the same noun, not really adding further specification.

54. Kua **tu'u** t'exkapy, [te'ep te'n tyu'ajtypy]_{RC}.

ku=ja'a tu'u t-exkáp-y te'ep te'n y-tu'u-ät-yp
 when=DEM.D road 3A-identify-DEP REL M.DEM 3A-road-VRBLZ-INDEP;TR
 'When he identified the road, the one the was his road' (NL2-1463)

So far, I have discussed the relation between the relative clause and the main clause, whether relative clauses are embedded, adjoined or headless. Let us focus now on the relativized element inside the relative clause. So far, in most of the examples, the relativized argument is the subject, however, in AyMi it is also possible to relativize the O, whether it is in a monotransitive clause, as in (55), or in a ditransitive clause, as in (56).⁷ Additionally, in (57) the relativized participant is the object of the adposition *mëët*. Notice that in (57) there is adposition is stranded inside the relative clause. I do not have examples of relativized possessors.

55. a) Ojts **yë ëxmäts** kyëëtsy [mëte'ep ojts njëy]_{RC}.

ojts yë'ë ëxmäts y-këëts-y mëte'ep ojts n-jëy-y
 PAST DEM.M pants 3S-tear-DEP REL PAST 1A-buy-DEP
 'The pants that I bought got torn.'

b) Ti te'na [te'ep tena myëtyakypy]_{RCA}.

tii te'n=ja'a te'ep te'n=ja'a y-mëtyä'äk-py=a
 what M.DEM=DEM.D REL M.DEM=DEM.D 3A-talk-INDEP;TR=Q
 'What is it that he was talking about?' (NL1-778)

c) Mëtu'uk mëmajtsk [te'ep te'na [HESITATION]... tyimpy]_{RC}, tia ntanä'äyë'n.

më-tu'uk më-majtsk te'ep te'n=ja'a y-tun-yp tii=ja'a
 ORD-one ORD-two REL M.DEM=DEM.D 3A-do-INDEP;TR what=DEM.D

n-tanä'äyë'n

1A-know-INCL

'The first or second (person), what he did, what do we know?' (NL1-468)

⁷ In the examples in (56), the relativized element is the recipient; unfortunately, I do not have examples where the relativized element is the theme.

56. a) **Ja' kiixy** të yä'äxy [mäte'epëtë tsyëëm xwëntä'ätsy]_{RC}.

ja'a kiixy tëë y-yä'äx-y mëte'ep=jëtë
DEM.D girl BEFORE.NOW 3S-cry-DEP REL=BEFORE.NOW

y-tseëm x-wëntä'äts-y
3POSS-wide.belt 2A-tie-DEP

'The girl to whom you tied the wide belt started crying.'

b) Të Carlos tkeexy **yë mixy** [mäte'pëtë xmo'oy yë meeny]_{RC}.

tëë Carlos t-kox-y yë'ë mixy mëte'ep=jëtë
BEFORE.NOW Carlos 3A-punch-DEP DEM.M boy REL=BEFORE.NOW

x-mo'oy-y yë'ë meeny
2A-give-DEP DEM.M money

'Carlos punched the boy to whom you gave the money'

57. **Ëjts ntsë'ë, ntsuknëxtsa'** [te'ep mëët tsyëën]_{RC}.

ëjts n-tsë'ë n-tnuknëx ëjts=ja'a te'ep mëët y-tseën
1SG 1POSS-cousin 1POSS-niece 1SG=DEM.D REL ASSOC 3S-live[INCH.DEF]

'My cousin, my niece, the one that she lived with' (NL2-1111)

As a final point in this chapter, in Ayutla Mixe it is also possible to use juxtaposed

clauses to express a meaning similar to a relative clause, as in (58).

58. a) Të yë' mixy kyëta'aky jatukojk, ta jä'äxy ttooky.

tëë yë'ë mixy y-këta'äk-y jatukojk taa jä'äxy t-took-y
BEFORE.NOW DEM.M boy 3S-come.down-DEP again DEIC.M firewood 3A-sell-DEP

'The boy came down, he sells firewood (i.e. The boy who sells firewood came down).'

b) Ojts Carlos yë' mixy tkeexy, ta jä'äxy ttooky.

ojts Carlos yë'ë mixy t-kox-y taa jä'äxy t-took-y
PAST Carlos DEM.M boy 3A-punch-DEP DEIC.M firewood 3A-sell-DEP

'Carlos punched the boy, he sells firewood (i.e. Carlos punched the boy who sells the firewood).'

Strictly speaking, this construction is not really a relative clause, as it does not have the relativizer (*më*)*te'ep*. However, it must have the locative adverbial demonstrative *taa* at the beginning. It might be possible that the adverbial demonstrative has been reanalyzed as a subordinating conjunction. This construction could also be described as a case of cosubordination (Foley & Van Valin 1984, Van Valin & LaPolla 1997, Van Valin 2005).

10.3 Adverbial clauses

As previously stated, we can say that there are three main types of non-matrix clauses: complement clauses, which function as an argument (Noonan 2007; Dixon 2006; *inter alia*); relative clauses, which together with a noun refers to an entity (Dryer 2005a); and adverbial clauses, which are adjuncts to the main clause and usually cover the function of an adverb (Thompson, Longacre & Hwang 2007). So far, I have discussed the first two types of clauses and now I turn to adverbial clauses.

Adverbial subordinate clauses are clauses that modify the whole matrix clause or a verb phrase. Normally adverbial clauses are defined as those that can serve an adverbial function, i.e. those that can be substituted by an adverbial (Payne 1997; Thompson, Longacre & Hwang 2007). In Ayutla Mixe adverbial subordinate clauses are those that refer to time, location and manner. In all these cases, the adverbial subordinate clause is an adjunct, i.e. it is not required semantically and syntactically (as complement clauses are).

Subordinate clauses are perhaps less subordinate than subordinate complement clauses (i.e. complement clauses that are introduced by the complementizer *ku*) in the sense that they are not usually considered embedded into the matrix clause, but rather they have a more peripheral position (Matthiessen & Thompson 1988, Dixon 2006). Nonetheless they are in a hypotactic relation with respect to the matrix clause, since they relate to the main clause as a whole.

10.3.1 Temporal subordinate adverbial clauses

Temporal subordinate clauses restrict the temporal reference of the matrix clause. In Ayutla Mixe, temporal clauses are introduced by the subordinating conjunction *ku*, as presented in the following examples in (59).

59. Tsetsäy äëts naktuntë'p [**ku** äëts njëtst näxkëëjxy]_{Temporal Clause-}
 tseets-ääy äëts n-ak-tun-të-yp ku äëts n-jëts-t
 coral.tree-leaf 1PL.EX 1A-CAUS-do-PL-INDEP;TR when 1PL.EX 1A-grind-PL;DEP
 nääjx-këx-y
 ground-SURFACE-LOC
 ‘We used coral tree leaves (to kneel down), when we used to grind (corn by hand) on the ground.’ (NLAH-561)

The temporal clause can appear after the main clause, as in the examples in (59), or before it, as in (60).

60. Kutsa' Puxtajämët pyitë'ëky, taa ojtsa' to'oky tpetmiky.
 ku=ojts=ja'a Puxtaja'm-ët y-pëtë'ëk-y taa ojts=ja'a
 when=PAST=DEM.D Yalalag-DEMONYM 3S-get.up-INDEP DEIC.M PAST=DEM.D
 to'oky t-pet-muk-y
 petate 3A-roll-put.together-INDEP
 ‘When the one from Yalalag (a Zapotec town) got up, the rolled his *petate* (a type of palm mat).’ (Sofa1-122)

Notice that the temporal subordinator *ku* ‘when’ is homophonous with the complementizer *ku* (see §10.1.2). Both of them can be seen in the example in (61). There, the first *ku* introduces temporal subordinate clause to the matrix clause. The second *ku* introduces a complement clause to the verb *anä'än* ‘to say’, which is in turn part of the temporal subordinate clause.

61. ¿Mä'ampyë te'na' tsoony **ku** te'n y'anä'äny **ku** tena' poj takminy?
 mäa-ampy=yë'ë te'na=ja'a y-tsoon-y **ku** te'n y-anä'än-y **ku**
 where-DIR=DEM.M M.DEM=DEM.D 3S-go-DEP when M.DEM 3S-say-DEP Cmplz
 te'n=ja'a poj t-ak-men-y
 M.DEM=DEM.D wind 3A-CAUS-come-DEP
 ‘Where did he come from when she says that the wind brought her?’ (NL2-275)

In (63a) the writing of the letters overlapped with the other person's waiting, in (63b) meeting the person occurred just before the coming, and in (63c) the doing (of something) would take place after the arriving. In all these examples, the subordinate clause is introduced by the conjunction *ku* 'when', which does not specify any temporal sequencing. In fact, AyMi lacks other temporal conjunctions that are more specific with respect to the sequence of the matrix clause with respect to the temporal clause, such as *before*, *while*, and *after* in English. Thus, there is no way to properly code the sequencing of the two events by conjunction and this task has to be done using temporal and aspectual markers in either clause. In the following subsections, I discuss the temporal relation between the main and the subordinate clause.

10.3.1.1 *Simultaneity*

The simplest relation to express is simultaneity: it is as simple as leave unspecified both clauses for tense or aspect, as shown in (64).

64. Pedro ajtsp ku Carlos ttakey yë *guitarr*.
 Pedro ats-p ku Carlos t-ta-koo-y yë'ë guitarr
 Pedro [3S]dance-INDEP when Carlos 3A-APPL-play.guitar-DEP DEM.M guitar
 'Pedro dances while Carlos plays guitar.'

Since there is no aspectual marking to help figuring out the order of events in (64), the most likely interpretation is that the two eventualities happened simultaneously. However, for the same reason, the lack of tense-aspect markers, the example could have any temporal or aspectual interpretation in the appropriate situation. Another way of overlapping occurs when the runtime of one eventuality is contained in the runtime of another eventuality. In order to describe such a configuration, it is necessary to have perfective aspect in the main clause and imperfective aspect in the subordinate clause, as in (65).

65. **Ojts** Pedro tsajptutktääk tmatsy ku Meche nyan **nojty** mëët myitya'aky.
 ojts Pedro tsajptutktää t-mäts-y ku Meche y-nan nojty
 PAST Pedro chicken 3A-grab-DEP when Meche 3POSS-mother IMPF
 mëët y-matyä'äk-y
 ASSOC 3S-talk-DEP
 'Pedro stole the chickens while Meche was talking to her mom.'

In (65) the perfective aspect in the main clause is marked by *ojts*, which codes both past tense and perfective aspect; the imperfective aspect in the subordinate clause is marked by the imperfective particle *nojty*.

In addition to proper inclusion, there are other cases where the runtime of one event occurs throughout the runtime of another event. In order to indicate this in AyMi, both clauses must have perfective aspect, which is obtained by using *ojts* in the main and in the subordinate clause, as shown in (66). In this example, the writing of the letter took place all the way while the other person was doing laundry.

66. **Ojts** Carlos tu'uk neky tjä'äyy ku Meche **ojts** wyetpujy.
 ojts Carlos tu'uk neky t-jä'äy-y ku Meche ojts y-wet-puj-y
 PAST Carlos one paper 3A-write-DEP when Meche PAST 3S-clothes-wash-DEP
 'Carlos wrote a letter while Meche did laundry.'

In some cases, the overlapping is not total but partial. In this case, the two events only coincide at the beginning or at the end. In these cases, a phase verb is used with one of the event descriptions while the other one is left unspecified. For example, in (67) the eventuality expressed in the main clause, the painting, ends during the runtime of the event expressed in the subordinate temporal clause. In this case, the phase verb used is *këx* 'to finish', which forms a core serial verb construction with the other verb root.

67. Ojts ëëts n'ukkiy yë' petsy ku mejts ja' kaaky xësjëyy.
 ojts ëëts n-uk-këx-y yë'ë petsy ku mejts ja'a kay+k
 PAST 1PL.EX 1A-paint-finish-DEP DEM.M wall when 2SG DEM.D tortilla
 x-ës-jëy-y
 2A-MCP-buy-DEP
 'We finished painting the walls while you went to buy tortillas.'

10.3.1.2 Posteriority

One way of expressing posteriority is with respect to the completion of one event. In this case both clauses must have perfective aspect and one has to have the phase verb *këx* ‘to finish’ (otherwise it would mean total overlapping), as shown in (68). There, the event described in the main clause, the going, happens after the event described in the subordinate clause, Carlos’ eating, took place.

68. **Ojts** *ëëts* *n-nëjkx-y* *ku* *Carlos* **ojts** *y-kay-këx-y*
 PAST 1PL.EX 1S-go-DEP when Carlos PAST 3S-eat-finish-DEP
 ‘We went when Carlos finished eating.’ / ‘We went after Carlos ate.’

Another way of expressing posteriority is when the runtime of the eventuality expressed by the main clause overlaps with the post-state of the subordinate clause. For this purpose, the main clause should have perfective aspect and, more importantly, the subordinate clause should have perfect aspect, as in (69).

69. **Të** *Carlos* *mya’ooky* *ku* *të* *ëjts* *n-käjp-x-n*
 BEFORE.NOW Carlos 3S-sleep-die-DEP when BEFORE.NOW 1SG 1S-speak-PERF;DEP
 ‘Carlos fell asleep after I had talked.’

In (69) the perfective aspect in the main clause is coded in the perfective particle *të*. On the other hand, the expression of the post-state in the subordinate clause is ensured by the combination of the perfective particle *të* and the perfect suffix *-në*, which is reduced to *-n* in neuter dependent AM (see §8.6).

10.3.1.3 Anteriority

The expression of anteriority is somewhat a mirror image of the expression of posteriority, as the aspectual mechanisms are reversed in the main and subordinate

clause. However, they are not entirely analogous, particularly because there is no grammatical mechanism to encode pre-state in Ayutla Mixe.

One way to indicate anteriority is to situate the eventuality expressed by the subordinate clause in the post-state of eventuality expressed by the main clause, as shown in (70).

70. **Të** Carlos kyaany ku ëëts njä'ätt.
 të Carlos y-kay-n ku ëëts n-jä'ät-t
 BEFORE.NOW Carlos 3S-eat-PERF;DEP when 1PL.EX 1S-arrive-DEP
 'Carlos had eaten already when we arrived.'

This way of conveying anteriority of the main clause with respect to the subordinate clause is in fact a way of expressing posteriority of the subordinate clause with respect to the main clause. In (70), the combination of the perfective particle *të* and the perfect suffix *-n* expresses a post-state, which is evaluated with respect to the event expressed in the subordinate clause, which is unspecified with respect to aspect. Example (70) has no temporal anchoring with respect to the utterance time, and thus, in principle, it could also have a future time interpretation.

Given the lack of temporal and aspectual specification in the subordinate clause, the sequenciality depends a great deal on the lexical aspect of the verb. In stative verbs, this creates ambiguity between anteriority with or without partial overlapping between the runtime of the eventualities on the main and subordinate clauses. Thus, for instance, example (71), which has the same aspect makers as (70), has two interpretations, one in which there is anteriority with partial inclusion (interpretation (71a)) and another when there there is anteriority without partial inclusion (intepretation (71b)).

71. **Të** (nojty) Carlos myään ku ëëts njä'äty.

të nojty Carlos y-mä'ä-n ku ëëts n-jä'ät-y
BEFORE.NOW IMPF Carlos 3S-sleep-PERF;DEP when 1PL.EX 1S-arrive-DEP

a) 'Carlos had fell asleep when we arrived.'

b) 'Carlos had slept when we arrived.'

As previously stated, the expression of anteriority requires that the main clause have perfect aspect. If it does not, it is still possible to obtain that interpretation by implicature in other cases. In (72), the imperfective particle *nojty* in the main clause while there is no aspectual marking on the subordinate clause induces the interpretation that the eventuality in the main clause is anterior to the eventuality in the subordinate clause, and so the getting up happened before than the working.

72. Tăn **nojty** pyëti'iky Carlos ku tyëk tump.

tăn nojty y-pëtë'ëk-y Carlos ku y-tëk tun-p
late IMPF 3S-get.up-DEP Carlos when 3S-enter[INCH.DEF] [3s]do-INDEP

'Carlos used to get up late before he started working.'

However, this implicature is easily cancelable. For example, the most likely interpretation of (73), which is almost identical to (72), except that it has the adverb *ejtp* 'always', is that whenever Carlos works, he gets up late.

73. Ejtp nojty Carlos tăn pyëti'iky ku tyëk tump.

ejtp tăn nojty y-pëtë'ëk-y Carlos ku y-tëk tun-p
always late IMPF 3S-get.up-DEP Carlos when 3S-enter[INCH.DEF] [3s]do-INDEP

'Carlos always gets up later when he starts working.'

10.3.1.4 Anteriority in co-subordination

As stated in the previous subsection, in temporal subordinate clauses the expression of anteriority requires the use of the perfect in the main clause. There is an alternative construction in Ayutla Mixe that does not involve the use of a subordinating conjunction. In this construction, there are two clauses in juxtaposition and neither one is subordinated to the other, but rather they appear at the same syntactic level. While the first clause should be affirmative, the second one should have *ka't nēm* 'not yet', as shown in (74).

74. Jayeen mnakyo'okë't ka't nēm nojty m-anë'kx.

jayeen m-nay-kook-ë-t ka't nēm nojty m-anë'kx
 first 2S-REFL-lie.down-INC-IRR;DEP NEG yet IMPF 2S-tired[INC.DEP]

‘Go to bed before you get tired.’ (Lit. ‘First you lie down, you are not tired yet.’)

As one can see in the previous example, the affirmative clause expresses the event whose runtime happens first, and the negative clause expresses the event whose runtime happens afterwards. Thus this construction literally means: ‘First X happens, Y has not happened yet.’ The adverb *jayeen* ‘first’, at the beginning of the first sentence, helps establish the ordering of events. However, it is by no means obligatory, as shown in (75), which lacks it.

75. Context: When you came to this place a year ago, did you know my brother?

Jëë, ojts npä'äty tu'ukoojk ka't nēms nojty njä'äty yää.

jëë ojts n-pä'ät-y tu'uk-oojk ka't nēm=ëjts nojty n-jä'ät-y yää
 AFFPRET 1A-find-DEP one-time NEG yet=1SG IMPF 1S-arrive-DEP DEIC.P

‘Yes, I met him once before coming here.’ (Lit. ‘I met him once, I had not arrived here yet.’) (TAMA-Ad-48)

In this construction, the two clauses involved have some restrictions with respect to temporal and aspectual adverbs. First of all it is possible to include the past tense particle *ojts* in the first clause, although it has to go before the temporal adverb *jayeen*, as shown in (76a). However, the second clause cannot be modified by any aspectual or temporal particle, as shown in (76).

76. a) Ojts jayeen Carlos xyitsy katnēm nyijkxy misojtp.

ojts jayeen Carlos y-xëts-y ka't nēm y-nëjkx-y mis-ojtp
 PAST first Carlos 3S-shower-DEP NEG yet 3S-go-DEP mass-INSIDE-LOC

‘Carlos took a shower before going to church.’

b) *Ojts jayeen Carlos xyitsy ka't nēms **ojts** nyijkxy misājtp.

ojts jayeen Carlos y-xëts-y ka't nēm ojts y-nëjkx-y mis-ojtp
 PAST first Carlos 3S-shower-DEP NEG yet PAST 3S-go-DEP mass-INSIDE-LOC

Intended: ‘Carlos took a shower before going to church.’

Additionally, the first sentence cannot be negated, as shown in (77).

77. *Jayeen ka't Carlos xyitsy kat nēm nyijkxy misojtp.
 jayeen ka't Carlos y-xëts-y ka't nēm y-nëjkx-y mis-ojtp
 first NEG Carlos 3S-shower-DEP NEG yet 3S-go-DEP mass-INSIDE-LOC
 Intended: 'Carlos did not shower before going to church.'

10.3.2 Locative subordinate clauses

Locative subordinate clauses in Ayutla Mixe are introduced by the subordinator *mää* 'where', as shown in (78). Also, locative clauses go after the main clause.

78. Tsuujk jajp pyëtsëmt mää' tsya'axyë'n.
 tsuujk jajp y-pëtsëm-t mää=ja'a y-tsa'ax=ë'n
 mouse DEIC.D 3S-exit-PL;DEP where=DEM.D 3S-barn=ADJ
 'Mice went out of the barn.' (VirL893)

The locative subordinator also occurs as an interrogative element in content questions, as discussed in §9.4.2 and illustrated in (79).

79. Ps mää te'n nyijkxy nëmëk.
 pës mää te'n y-nëjkx-y nëm-ëk
 DISC where M.DEM 3S-go-dep say=HEARSAY
 '«So, where did he go?» she said.' (VirL)

In addition to the subordination *mää* 'where' locative subordinate clauses must have the enclitic =ë'n at the end. This enclitic seems to indicate that the clause is an adjunct. Thompson, Longacre and Hwang (2007) point out that in many languages locative subordinate clauses have the form of relative clauses, and indeed one can think of the subordinator as a special kind of relativizer whose meaning is loosely 'place'. As mentioned in §6.9, *mää* also functions as an indefinite pronoun, as shown in (80).

80. Ps katëka kyup **mää** tukpätnët.
 pës ka't=ëk=ja'a y-kup mää t-uk-päät-në-t
 DISC NEG=HEARSAY=DEM.D 3POSS-hat where 3A-pref-find-PERF-PL;DEP
 'The hat was nowhere to be found.' (IreL-658)

Since the subordinating word in locative clauses also acts as indefinite pronoun, this might support the idea that locative clauses are indeed a type of relative clauses in AyMi. However, locative subordinate clauses, like manner clauses (§10.5.3), carry the adjunct

enclitic =*ë'n*, while relative clauses, as discussed in §10.2, do not. There are at least two ways of treating this. On the one hand, one can say that both locative and manner subordinate clauses are treated by the language similarly to one another, and different from relative clauses, due precisely to this clitic. On the other hand, one could say that since locative clauses are indeed relative clauses, they need to be especially flagged to indicate that they are adjuncts and thus the enclitic serves this function.⁸ In any case, the fact remains that locative subordinate clauses, as well as temporal and manner locative clauses, can be substituted by adverbial words, just as Thompson, Longacre and Hwang (2007) argue.

Some locative subordinate clauses are non-verbal predicative clauses, as in (81).

81. a) Tsuujk jajp pyëtsëmt mäa' tsya'axyë'n.
 tsuujk jajp y-pëtsëm-t mäa=ja'a y-tsa'ax=ë'n
 mouse DEIC.D 3S-exit-PL;DEP where=DEM.D 3S-barn=ADJ
 'Mice went out of the barn.' (Lit. 'Mice went out of where the barn is.')
- (VirL893)
- b) Ta ojts nyijkxy jam mäa' kyäjpë'n.
 taa ojts y-nëjkx-y jam mäa=ja'a y-käjp=ë'n
 DEIC.M PAST 3S-go-DEP DEIC.M where=DEM.D 3POSS-town=ADJ
 'He went to where his town is.' (Aur2-706)

There are some cases of locative clauses that do not have the final enclitic. I am not entirely sure about the conditions for not using the adjunct enclitic =*ë'n*, but all the cases lacking an enclitic are not at the end of the matrix clause, as shown in (82).

82. a) Ta te'na' tsyäm jajp mäa nëj jajp taxtujka txëatya' anëjm.
 taa te'n=ja'a tsyäm jajp mäa=ja'a nëj jajp taxtujk=ja'a
 DEIC.M M.DEM=DEM.D now DEIC.D where=DEM.D water DEIC.D nine=DEM.D
 t-xëë-ät-y=ja'a anëjm
 3A-day-VRBLZ-DEP=DEM.D say\BEN
 'And there, where the water is, it is called nine (rivers) now.' (IreL-247)

⁸ I would like to thank Matthew Dryer (p.c.) for pointing out this possibility.

- b) Jam te'n mää ity jam tsyëenët, jamëka okp pues.
 jam te'n mää=ja'a ity jam y-tsyëen-ë-t
 DEIC.D M.DEM where=DEM.D IMPF DEIC.D 3S-live-INCH-PL;DEP
 jam=ëk=ja'a ook-p pues
 DEIC.D=HEARSAY=DEM.D dead-NMLZ DISC
 'There where they lived, there were dead people there.' (IreL-1327)

However, there are a few instances where a non-final locative clause does have the enclitic, as shown in (83).

83. Japa mää' jä'äy tyëjkë'n jyä'äty.
 japp=ja'a mää=ja'a jä'äy y-tëjk=ë'n y-jä'ät-y
 DEIC.D=DEM.D where=DEM.D people 3POSS-house=ADJ 3S-arrive-DEP
 'There they arrive where people live.' (VirL-1590)

10.3.3 Manner subordinate clauses

In addition to temporal and locative subordinate clauses, the third type I want to mention here are manner subordinate clauses. In Ayutla Mixe, manner subordinate clauses are introduced by the conjunction *tam*. Additionally, just as locative subordinate clauses, manner subordinate clauses also take the adjunct enclitic =ë'n at the end, as shown in (84).

84. a) Te'n ëjtsa' njäw tam jëkeexy ëjtsa' examen jam naknäxä'änyë'n.
 te'n ëjts=ja'a n-jäw tam jëkeexy ëjts=ja'a examen
 M.DEM 1SG=DEM.D 1A-feel[INCH.DEP] as HYPO 1SG=DEM.D exam
 jam n-ak-näx-ä'än-y=ë'n
 DEIC.D 1A-CAUS-pass-DES-DEP=ADJ
 'I feel as if I were to take the exam.' (NLA-370)
- b) Jëë te'n te'n yë'ë tyääny tam ojts tpëta'akyë'n.
 jëë te'n te'n yë'ë y-tään-y tam ojts t-pëtä'äk-y=ë'n
 AFF M.DEM M.DEM DEM.M 3S-remain-DEP as PAST 3A-put-DEP=ADJ
 'Yes, it remains as he left it.' (NLA-824)

Also as locative subordinate clauses, many manners subordinate clauses lack an overt predication, just as in the examples below. So, in (85a) the clause only contains an NP and in (85b) an adverb.

85. a) Jëts ka't te'n=ja'a mmuku'uktëjk te'n mtimytsyokë't tama' nänë'n.
 jëts ka't te'n=ja'a m-muku'uk-tëjk te'n m-timy-tsook-ë-t
 and NEG M.DEM=DEM.D 2POSS-sibling-PL M.DEM 2O-just-want-INV-PL;DEP
 tam=ja'a nän=ë'n
 as=DEM.M mom=ADJ
 'And your siblings cannot love you as your mom does.'
- b) Jëts ka't jä'äy ti'ity te'n tee tyaky tam tsyämë'n.
 jëts ka't jä'äy ti'ity te'n tee t-yäk-y tam tsyäm=ë'n
 and NEG people IMPF M.DEM NEG 3A-give.away-DEP as now=ADJ
 'And people did not use to give so much things as they do now.' (NLA-602)

As in the case of the locative subordinate clauses, manner subordinate clauses

sometimes do not take the adjunct enclitic =ë'n, as shown in (86).

86. Për ¿nate'n yë' tixytyëëjk tpëtä'äkt wyet tam xäm këxpëta?
 pero nate'n yë'ë tixytyëjk t-pëktä'äk-t y-wet tam
 but AS.WELL DEM.M woman 3A-put-PL;DEP 3POSS-clothes as
 Xäämkëxp-ët=a?
 Tlahuitoltepec-DEMONYM=Q
 But, do the women also put their clothes on like (the women) from Tlahuitoltepec
 (another Mixe community)?

I suspect the enclitic might be actually optional in some circumstances that I have not been able to determine. When transcribing texts, native speaker consultants would sometimes say that it is possible to omit the clitic =ë'n, but that it sounds better with it. Other consultants would say that leaving out the clitic is just a mistake, and so if the storyteller did not include it, this was probably a mistake.

10.4 Secondary Predication

There are other cases of complex predicates that have to have two main predicates even though strictly speaking there is only one clause. In these cases there is a secondary predication or depictive predication in addition to the matrix verb, but the secondary predication does not form a subordinate clause by itself. Here I am referring to cases such as those exemplified in (87), where the secondary predication appears in italics.

87. a) Axëëy cafe *xiixy* n'uuky.
 axëëy cafe xux-y n-uuk-y
 yesterday coffee be.cold-D.ADJ 1A-drink-DEP
 'Yesterday, I drank the coffee cold.'
- b) Pero mas *jojkxy* jyäw mëët limon te'n.
 pero mas jojkxy y-jäw mëët limon te'n
 but more tasty 3S-feel[INCH.DEP] ASSOC lime M.DEM
 'But it (the food) tastes better with lime (Lit. It feels tasty like that with lime).'
 (AE-274)

In the previous examples the main predicate is the inflected verb, which is identifiable by the person prefixes and the AM suffixes. Thus, the main predicate is *n'uuky* 'I drink it' in (87a) and *jojkxy* 'tasty' in (87b). However, in addition to the main predicate the sentences have an adjective that makes another predication with respect to one of the participants. Thus, in (87a) the deverbal adjective *xiixy* 'cold' predicates with respect to the coffee, and in (87b) the adjective *jojkxy* 'tasty' with respect to the food.

Secondary predication has several characteristics in Ayutla Mixe, which are more or less consistent with what has been described for other languages (Schultze-Berndt & Himmelmann 2004, Zavala 2004). The first obvious characteristic is that there are two independent predicates, i.e. they do not form a compound, and in this respect they are different from core-serialization in Ayutla Mixe (see §8.11). Secondly, the secondary predicate (P2) is not an argument of the main predicate (P1). Third, P2 is controlled by the main predicate but does not form a single constituent with it. An important characteristic of secondary predication in Ayutla Mixe is that the secondary predication always appears before the main predicate. The final characteristic of secondary predication in Ayutla Mixe is that the P2 is not an inflected verb, even though it can be a deverbal adjective. I describe all the characteristics in more detail below.

As stated above, in secondary predication there are two predicates, the main predicate that takes the inflection and the uninflected P2. These two predicates, however, are two independent predicates, not a complex predicate as core serial verb construction are. As discussed in §8.11, in a serial verb construction there are two verb roots forming a complex verb stem, as in (88a), which is different from secondary predication in (88b).

88. a) Të mejts mpujtkiixy.
 tëë mejts m-put-këx-y
 BEFORE.NOW 2SG 2S-run-finish-DEP
 ‘You finished running.’
- b) Tiits *ooky* tyany.
 tii=ts ook-y y-tän-y
 what=EV die-D.ADJ 3S-stay-DEP
 ‘Just like that stayed dead.’ (NL2-294)

In (88b) both the main predicate and the secondary predicate are separate words, but in the core serial verb construction in (88a) the two verb roots form a single word. This is known because the inflectional morphology appears on either side of the single verb stem. Additionally, a crucial point is that in a secondary predication there are two independent predications with respect to one of the arguments, as in (88b) it says both that the person stayed in that place and that it was dead. It is commonly said that in a serial verb construction, as in (88a), the two verbs combine to form a single predicate (Aikhenvald 2006).

The secondary predication does not form a single constituent with any of the arguments. In the example in (89) the adjective *än* ‘hot’ is not directly modifying the noun phrase *kaaky* ‘tortillas’, and they do not form a single constituent as the AM particles *tëë* ‘BEFORE.NOW’ and *ijty* ‘IMPERFECTIVE’ appear in between.

89. Ku Elena myutskaty, *än* tää ijty kaaky ttseky.

ku Elen y-mutsk-ät-y än tää ijty kaaky t-tsok-y
 when Elena 3S-small-VRBLZ-DEP hot BEFORE.NOW IMPF tortilla 3A-want-DEP
 ‘When Elena was small, she wanted the tortillas hot.’ (Ar&E-e24j7-8)

The P2 is not part of an argument, as stated above, nor is it an argument by itself, as shown in the following examples in (90).

90. a) Pës *natyu'uk* ojts jajp jyä'äty.

pës natyu'uk ojts jajp y-jä'ät-y
 DISC alone PAST DEIC.D 3S-arrive-DEP
 ‘He arrived alone.’ (Aur2-875)

b) Ęjts *mutsk*[hesitation]... *mutskety*s nkëxkeny.

ëjts mutsk mutsk=ety=ëjts n-këx-kon-y
 1SG small small=DISTR=1SG 1A-SURFACE-put.small-DEP
 ‘I made them (the tortillas) small, small each.’ (AE-316)

In (90a), the adjective *natyu'uk* ‘alone’ is not the sole argument of *jä'ät* ‘to arrive’; rather, the argument is the unmentioned participant, a person that used to travel and sell clothes. Similarly, in (90b), *mutsk* ‘small’ refers to the tortillas, which are the object of the verb. In this case there is another clue that the adjective is not an argument, or part of a noun phrase, as after the hesitation the adjective has the distributive clitic =*ety* (see §6.7.5), which only cliticizes to predicative adjectives.

As Schultze-Berndt & Himmelmann (2004) and other scholars have long pointed out, the P2 expresses an eventuality with respect to one of the participants. This was already stated but it is exemplified here in (91).

91. a) Tës *axëëk* yë' mëëny njëy.

tëë=ëjts axëëk yë'ë mëëny n-jëy-y
 BEFORE.NOW=1SG dirty DEM.D potato 1A-buy-DEP
 ‘You bought the potatoes dirty.’

b) *Ānts* ja tojcx të nakminy.

än=ëjts ja'a tojcx tää n-ak-men-y
 hot=1SG DEM.M food BEFORE.NOW 1A-CAUS-come-DEP
 ‘I brought the food hot.’

In (91a) the predication *axëëk* ‘dirty’ is a predication with respect to the potatoes and in (91b) *än* ‘hot’ is a predication with respect to the food.

As stated before, in all the previous examples the P2 appears before the P1.

Additionally, in all the previous examples the P2 is an adjective, but, more interestingly, the P2 can also be a verb. This construction is to be differentiated from non-finite complex constructions with verbs because in secondary predication the verb does not take any AM marker but rather it appears as the bare root, as in (92a), while in non-finite complex constructions the verb takes the neutral AM marker *-p*, as in (92b), which is consistently glossed as ‘INF’ in this construction to avoid confusion with a finite conjugation. I discuss these constructions in the following section.

92. a) Taa *tsëën* ojts nyaswaats.
 taa tsëën ojts y-nas-waats
 DEIC.M sit.down PAST 3S-DIR-drag[INCH.DEP]
 ‘She dragged herself seated.’

b) Ajtsp ëjts të npääty.
 ats-p ëjts tëë n-pääty
 dance-INF 1SG BEFORE.NOW 1A-find-DEP
 ‘I found her dancing.’

Thus, in (92a), the verb root *tsëën* ‘to sit down’ appears without a person marker and, more importantly, without any AM suffix. In contrast, in (92b) the verb *ajtsp* ‘dancing’ has the AM suffix *-p*, glossed as ‘INF’ here. This construction is not available to all verbs, but rather restricted to only a few indicating a disposition or manner. Some of them are presented in (93).

93. a) Carlos *yats* të nyijkxy.
 Carlos yats tëë y-nëjkx-y
 Carlos crawl BEFORE.NOW 3S-go-DEP
 ‘Carlos went crawling.’

- b) *Tan tē myent.*
 tan tēē y-men-t
 stand BEFORE.NOW 3S-come-DEP;TR
 ‘They got here standing (on the bus, for example).’
- c) *Pe’ets yē estufa naktany.*
 pe’ets yē’ē estufa n-ak-tān-y
 turn.off DEM.M stove 1A-CAUS-stay-DEP
 ‘I left the stove turned off.’

10.5 Non-finite complex predication

There are other constructions in Ayutla Mixe that also involve two predicates, and some of them are very similar to some cases of secondary predication seen in the previous section, except that in this case the verb is in a non-finite form and, crucially, it takes the neutral AM, which has been glossed as ‘INF’ in these constructions to avoid confusion with a finite construction. Non-finite complex predication is exemplified in (94).

94. a) *Ojts mejts nyijkxy **poxtukp.***
 ojts mejts y-nējkx-y pox-tuk-p
 PAST 2SG 3S-go-DEP guava-pick-INF
 ‘You went to get guavas.’
- b) *Pujtpa Carlos tē **nyijkxy.***
 put-p=ja’a Carlos tēē y-nējkx-y
 run-INF=DEM.D Carlos BEFORE.NOW 3S-go-DEP
 ‘Carlos went away running.’
- c) *Ps ta **tyējkēn** jotmaapy yē’.*
 taa y-tēk-ē-n jotmay-p yē’ē
 DEIC.2 3S-enter-INCH-PERF;DEP be.sad-INDEP DEM.M
 ‘He got sad.’ (Aur2-169)

The sentences in (94) feature the main predicate, which appears in bold face, and another predicate in a non-finite form, which appears in italics. The main predicate is the one that is inflected, and thus appears with the person prefixes and the appropriate AM suffix. The non-finite predicate, on the other hand, does not take person markers, which becomes

more evident in the case of (94a), as the second person of an inflected verb must always take a person prefix, either *m-* or *x-* (see §8.2.1).

Another case of non-finite verb construction is discussed in section 10.1.3 above, namely the non-finite subordinate complement sentence. The main difference between those cases of complementation and the constructions at hand is that in the former the non-finite verb projection is an argument of the main verb, while in the latter it is not a syntactic argument (even if in many cases it becomes more or less clear that there is control between the main predicate and (Stiebels 2006)).

I divide the discussion of the non-finite constructions into two subsections. In the first, I deal with expressions of motion with purpose and associated manner, as formally the same construction is used for both cases. In the second subsection, I treat phase verbs that are used in their non-finite form.

10.5.1 Motion cum purpose and associated manner

There are several ways for expressing movement with purpose in Ayutla Mixe. One of them is using the motion cum purpose prefix *ēs-* as explained in Chapter 8 (§8.8.1). It is also possible to use a serial verb construction, which were also presented in chapter 8 (§8.11.1.3). The other form, which is perhaps the most common, is using a non-finite complex predication, as in (95). Again, the main verb is presented in bold face and the non-finite verb in italics.

95. a) Tēs **nnijkxy** *määp*.
 tēē=ējts n-nějcx-y mā'ä-p
 BEFORE.NOW=1SG 1S-go-DEP sleep-INF
 'I went to sleep.'

- b) Taka *yuup nyijkxy* te'n koots.
 taa=äk=ja'a yu'u-p y-nëjx-y te'n koots
 DEIC.M=HEARSAY=DEM.D plow-INF 3S-go-DEP M.DEM night
 'Then went to plow at night.' (IrL-1423)

The basic structure of this construction has already been discussed in the introduction to this section. Unlike secondary predication, the non-finite form of the verb may appear either following the main verb, as in (95a), or preceding it, as in (95b).

As with other forms of non-finite verbs (see §10.1.3), the non-finite predicate cannot take an object with the form of a noun phrase; the only way to do is with the noun incorporated, as in (96).

96. a) Të mejts **mminy** *kutypytyo 'kp*.
 tëë mejts m-men-y kutypy-took-p
 BEFORE.NOW 2SG 2S-come-DEP avocado-sell-INF
 'You came to sell avocados.'
- b) Taa tixtyëjk ojts **nyijkxy** *käm'exp*.
 taa tixtyëjk ojts y-nëjx-y käm-ex-p
 DEIC.M woman PAST 3S-go-DEP cornfield-see-INF
 'Then the woman went to keep an eye on her cornfield.' (Aur2-409)

Non finite constructions are also used to express associated manner, as presented in the following examples.

97. a) Carlos *yajtsp* të **nyijkxy**.
 Carlos yats-p tëë y-nëjx-y
 Carlos crawl-INF BEFORE.NOW 3s-go-DEP
 'Carlos went crawling.' (J)
- b) *Mäap* mejts **mjä'äty** yää Tikyo'm.
 mä'ä-p mejts m-jä'ät-y yää Tikyo'm
 sleep-INF 2SG 2S-arrive-DEP DEIC.P Ayutla
 'You arrived sleeping to Ayutla.'

As stated, structurally the construction that expresses movement with purpose and the one that expresses associated manner are exactly the same. The interpretation as to which is the case depends on the semantics of the verb and on world knowledge. While the interpretation as movement with purpose is restricted to verbs whose semantics indicate a

change of location, the interpretation as associated manner is not. Thus, in (98), the only available interpretation is associated manner, in this case that one of the participants was eating. Since eating and sleeping at the same time is not something that people commonly do, then the meaning is that the object was the person who was eating.

98. Carlos *tëë mkumä'äy kaapy*.

Carlos *tëë* m-ku+mä'ä-y kay-p
 Carlos BEFORE.NOW 2O[INV]-dream-DEP eat-INC
 'Carlos dreamed you eating.'

However, if the main verb is a verb of movement, then the construction is potentially ambiguous between movement with purpose and associated manner, although there is usually one interpretation that is more likely than the other, due to world knowledge. Thus, in (99), the most likely interpretation is that Carlos went somewhere in order to eat, as people usually do not displace themselves somewhere while eating, or at least not normally. However, under the right context, let's say that he was really in a hurry and grabbed a piece of bread, and ate that while traveling, it is possible to have the interpretation as associated manner.

99. *Kaapya* Carlos *të nyijkxy*.

kay-p=ja'a Carlos *tëë* y-nëjkx-y
 eat-INF=DEM.D Carlos BEFORE.NOW 3S-go-DEP
 'Carlos went to eat.' / Less likely: 'Carlos went eating.'

Additionally, the non-finite verb can be a core-serial verb construction, i.e. it can have more than one verb root, as in (100).

100. a) Taa ojts *nyijkxy to'okëtetp*.

Taa ojts y-nëjkx-y took-jëtet-p
 DEIC.M PAST 3S-go-DEP sell-walk-INF
 'Then he went to sell (clothes).' (Aur2-117)

b) *Të* Carlos *putnäxp nyijkxy määetpy*.

tëë Carlos put-näx-p y-nëjkx-y mää+etpy
 BEFORE.NOW Carlos run-pass-INF 3S-go-DEP market
 'Carlos went running to the market.'

In the previous two examples, the main verb is *nějx* ‘to go’. In (100a) the non-finite verb is composed by two verb roots, *took* ‘to sell’ and *jětet* ‘to walk’. Similarly, in (100b) the non-finite verb has two roots, *put* ‘to run’ and *näx* ‘to pass’.

10.5.2 Non-finite phase verb constructions

Another non-finite construction is used for phase verbs, as shown in the examples in (101).

101. a) Ntëk, ku **ntëk** *käjpxp*.

n-tëk	ku	ntëk	käjpx-p
1S-enter[INCH.DEP]	when	1S-enter[INCH.DEP]	speak-INF
‘I started, when I started talking.’ (Aur2-29)			

b) Ps ta **tyëjkën** *jotmaapy*.

pës	taa	y-tëk-ë-n	jotmay-p
DISC	DEIC.N	3S-enter-INCH-PERF;DEP	be.sad-INF
‘He got sad.’ (Aur2-169)			

Semantically, the main predicate is in fact the one expressed by the verb that is in the non-finite form. However, syntactically the main predicate is the phase verb, since it is the one that takes the inflectional morphology.

In Ayutla Mixe, the verb roots listed in (102) can be used as phase verbs (see §8.11.22). However, from that list only the first two, *tëk* ‘to start, begin’ (from ‘to enter’) and *tän* ‘to remain’ (from ‘to stay’), are used in a non-finite construction without further derivation, while all the rest must be used in a core-serial verb construction.

102. **tëk** ‘start, begin’ < ‘enter’
tän ‘remain’ < ‘stay’
 tsontä’äk ‘start, begin’
 këx ‘to finish’
 tsoon ‘start, begin’ < ‘go away’
 nëjx ‘keep’ < ‘go’
 jëmpet ‘to do X again’ < ‘return’

Additionally, it is possible to use *tsontä'äk* 'to start' and *këx* 'to finish' with a non-finite complement, but in this case the verb has to take the causative *ak-*, which does not happen with *tëk* 'to enter' and with *tän* 'to stay, to remain'. I do not know if this has to do with the fact that *tsontä'äk* 'to start' and *këx* 'to finish' have an aspectual meaning to begin with, but not the other verbs. In any case, these two verbs are exemplified in (103).

103. a) Të Carlos taktsona'aky ne'p
 Tëë Carlos t-ak-tsontä'äk-y ne'ep-p
 BEFORE.NOW Carlos 3A-CAUS-start-DEP sow-INF
 'Carlos started plating.'

b) Të Carlos takkixy ne'p.
 tëë Carlos t-ak-këx-y ne'ep-p
 BEFORE.NOW Carlos 3A-CAUS-finish-DEP sow-INF
 'Carlos finished planting.'(J)

Syntactically, phase non-finite constructions are different from other non-finite constructions. In the cases under discussion in this subsection, the non-finite verb can express its object syntactically, as in (104).

104. Të Carlos **tyëk** jaapy tu'uk neky.
 tëë Carlos y-tëk jä'äy-p tu'uk neky.
 BEFORE.NOW Carlos 3S-enter[INCH.DEP] write-INF one paper
 'Carlos started writing a letter.'

In the previous example, the verb *jä'äy* 'to write' appears in a non-finite form, and yet the object *tu'uk neky* 'a letter' is expressed syntactically by a noun phrase, and not incorporated as in (96), which exemplifies motion cum purpose.

Finally, in non-finite constructions the referent of the S of the matrix clause must have control over the event expressed by the non-finite complement. For example, in (105), the subject of *tëk* 'to enter, to start' cannot be a nominal describing an inanimate participant such as *kaaky* 'tortilla'.

105. *Yë kaaky tē'tsp tyëjkē'n.
 yë'ë kay+k tē'ëts-p y-tëk-ë'-n
 DEM.M tortilla dry-INF 3S-entrar-INCH-PERF
 Intended: 'The tortilla is starting to get dry.'

To express the intended meaning, a core serial verb construction would be used (see §8.11.2.2).

10.6 Serialization

Serial verb constructions were mentioned in a previous chapter in the context of the verbal morphology (see §8.11). However, core serialization is a way of forming complex predicates as two verbal roots form a single verb stem, as shown in (106).

106. Të yë tu'uts nwejtši'iky meskëxp.
 tëë yë'ë tu'uts n-wets-ë'ëk-y mes-këx-p
 BEFORE.NOW DEM.M pot 1A-carry-ascend-DEP table-SURFACE-LOC
 'I lift the pot from the table.'

For Ayutla Mixe, I would like to differentiate between serialization and compounding. At least conceptually, one could say that composition is a mechanism for creating new lexicon, while serialization is a type of grammatical construction for expressing a given meaning (manner, caused change of location, purpose, phase, etc). In this respect, composition is a relation between two specific lexical roots, while serialization is the relationship between series of roots that can fulfill the slots in the verbal morphology. To illustrate the point, in (107) are some examples of composition.

107. a) Ès ɿpën käjpxtä'kp?
 ës pëën käjpx-tä'äk-p
 and who speak-embroider-INDEP
 'And, who was praying?'
 b) Ojts ëjts axuuy tän nmä'ooky.
 ojts ëjts axuuy tän n-mä'ä-ook-y
 PAST 1SG yesterday late 1S-sleep-die-DEP
 'Yesterday, I fell asleep late.'

c) ...kum tēa' t'extänn.

komo tēë=ja'a t-ex-tän-n
as BEFORE.NOW=DEM.D 3A-see-stand-PERF;DEP

‘(The lady did not leave her husband), as she had gotten used to him.’

In the examples in (107), neither verb root in the compound can be substituted by any other verb root from the same semantic class to form another compound with a related meaning. In contrast, in (106) it is possible to substitute *wets* ‘carry’ for other similar verbs, such as *kon* ‘to carry small objects’ to form *konë’ëk* ‘to lift small objects’, *jaap* ‘to scoop (i.e. to carry with a scoop)’ to form *ja’apë’ëk* ‘to lift with a scoop’, among other verbs. Additionally, very often in the case of composition the resulting lexical item does not reflect (compositionally, in a semantic sense) the meaning of the individual lexical roots. This is clear in the examples in (107). In contrast, in serialization the meaning of the two verbs is more or less transparent.

These two mechanisms are not mutually exclusive, as composition and compounding can coexist in the same verb. In the example in (108), *ex* ‘see’ and *tän* ‘stand’ form the compound *extän* ‘to get used to’, and this combined with *näx* ‘to pass’ to express intensification.

108. Tēs ntimy'extännäxt kus te'n nmatsy ity.

tēë=ëjts n-timy-ex-tän-näx-t ku=ëjts
BEFORE.NOW=1SG 1A-just-see-stand-pass-IRR;DEP CMPLZ=1SG

te'n n-mäts-y ity
M.DEM 1A-grab-DEP IMPF

‘I got used to grab it like this.’ (Aur2-25)

Thus, even though oftentimes the dividing line between compounding and serialization can be rather thin, I think that in principle it is convenient not to treat serialization as compounding, but as a specific mechanism to create complex predicates that not only happens in a simple clause, as in the case of secondary predication, but also inside the verbal morphology.

In the following subsection, core serial verb constructions are divided into two main subclasses: those cases in which both lexical roots have lexical content, as in (109a), and those cases in which only one of them has lexical content and the other one has more of a grammatical function, as in (109b). When one of the serialized verbs has a grammatical function, it occurs after the verb that has lexical content, as in (109b).

109. a) Tu'uk pelot tyemtsoony...
 tu'uk pelot y-tem-tsoon-y
 one ball 3S-roll-come-DEP
 'A ball comes rolling.' (T04)

c) Të Carlos tkatyëk uupy.
 tëë Carlos t-kay-tëk-Ø uupy
 BEFORE.NOW Carlos 3A-eat-enter[INCH.DEP] amarillito
 'Carlos began eating *amarillito* (type of meal).'

10.6.1 Lexical serial verb constructions

10.6.1.1 *Manner with motion*

Core serial verb constructions are often used to express associated manner, as in the examples in (110). Serial verb constructions for manner with motion are an alternative to the non-finite verb construction discussed in §10.4.1.

110. a) Tu'uk pelot tyemminy.
 tu'uk pelot y-tem-men-y
 one ball 3S-roll-come-DEP
 'A ball comes rolling.' (MoV-G-FG03)

c) Pedro të pyujtsoony.
 Pedro tëë y-put-tsoon-y
 Pedro BEFORE.NOW 3S-run-go.away-DEP
 'Pedro went running.'

In these cases, the first verb (V1) in the core serial verb construction encodes manner while the second verb (V2) is usually a verb that expresses change of location. When both verb roots are intransitive, they share the co-reference with S.

Notice that when V1 is transitive and V2 is intransitive, A can be co-referent with V1, while the O is co-referent with both V1 and V2 (the motion verb).

111. Ojts t'exkëta'aky....
 ojts t-ex-këtä'äk-y...
 PAST 3A-see-come.down-DEP
 'He saw him coming down.' (NL1 1:44)

In (111), the person who sees does not move, while the person who is seen is the one that is, at the same time, coming down.

10.6.1.2 *Caused change of location*

Another common type of core serial verb constructions are those used to express caused change of location. In these cases, V1 is a verb of manipulation while V2 is very often a verb of change of location (although not exclusively), as the examples in (112) show.

112. a) Mario yë kanik Pedro twetsnaxy.
 Mario yë'ë kanik Pedro t-wets-näx-y
 Mario DEM.M marble Pedro 3A-carry-pass-DEP
 'Mario gave the marbles to Pedro (in a bag).'
- b) Mario yë kanik Pedro tkonaxy.
 Mario yë'ë kanik Pedro t-kon-näx-y
 Mario DEM.M marble Pedro 3A-carry.small-pass-DEP
 'Mario gave the marbles to Pedro (one by one).'

As many the verbs in V1 are classificatory-like verbs (see §6.3.5), the serial verb construction has also a classificatory effect. As one can see, in (112) both sentences have the same arguments. However, since V1 in (112b) is *kon* 'to carry small objects', it is understood that Mario gave the marbles one by one, while in (112a) it is understood that the bundle was moved, i.e. that Mario passed the marbles in a bag, because V1 is *wets* 'to carry non-small objects'.

Some verbs than can appear as V1 and as V2 in this type of serialization are listed in (113) and (114), respectively.

113. Some V1

- wejts*: to be/ to carry a big object.
- kon*: to be/ to carry a small object.
- nu'uk*: to carry stuff within hands.
- käp*: to carry sticks and stick-like objects.
- ja'ap*: to carry stuff by scooping it.
- kë'ëy*: to carry dishes and similar objects (but not pots!)
- tsaan*: To carry a baby (hugging her).
- jëtët*: To drag something along.
- mäts*: To carry something holding it in hands.

114. Some V2

- näx*: to pass.
- nëjkx*: to go.
- men*: to come
- jëmpet*: to return
- pëtsëm*: to exit
- ka'ak*: to flee, to go away
- tëkats*: to change
- muk*: to be together
- ey*: to be good

10.6.1.3 *Movement with purpose*

Less commonly, core serial verb constructions are also used to express movement with purpose. In this case, V1 is the root that expresses the purpose and V2 expresses the movement, as the examples in (115) show.

115. a) Tëtäma' y'expëtsimy.

tëë=täm=ja'a y-ex-pëtsëm-y
 BEFORE.NOW=EV=DEM.D 3S-see-exit-DEP
 'He leaned out.' (Lit. He exited to see) (FrogG-187)

b) Nyijkxy muum, jakam pues stee... To'okëtejtp.

y-nëjkx-y muum jakam pues este to'ok-jëtët-p
 3S-go-DEP some.where far.away hmm DISC [3S]sell-walk-INDEP
 'He went far away hmm... He went to sell.'

This construction has in common with the other two discussed in this subsection the fact that V2 expresses a type of motion. However, in this construction V2, does not have

to be a verb of change of location, as this can be obtained from other verb classes. This is the case in (115b), where the V2 is, strictly speaking a verb of manner.

10.6.2 Serial verbs with grammatical content

10.6.2.1 *Desiderative*

Another serial verb construction is the desiderative *ä'än*, which has been mentioned in several occasions in this grammar. The desiderative has to meaning: is can be used to express desire and it can be used to express future time reference. This serialized verb is exemplified in (116).

116. a) Jepy ëjts npëti'ikä'äny japom.

jepy	ëjts	n-pëtë'ëk- ä'än -y	japom
early	1SG	1S-get.up-DES-DEP	tomorrow

‘Tomorrow I want to weak up early.’
‘Tomorrow I will weak up early.’ (TAMA E-72)

b) ¿Xë'n mejts maxu'unk xpäätä'äny?

xë'n	mejts	m-maxu'unk	x-päät- ä'än -y
how	2SG	2POSS-baby	2A-find-DES-DEP

‘How is it that you are going to have your baby?’
‘How is it that you want to have a baby?’

Depending on the context, one the future interpretation can be more salient than the other. For example, although technically (116a) is ambiguous, the fact that it has the word *japom* ‘tomorrow’ more salient than the desiderative meaning.

There is an independent verb *wä'än* ‘to have an opinion’ that is historically related to the desiderative. It can be used as a volitive verb, but this meaning is restricted to a specific cosubordinate construction, a type of complementation (see §10.1.4), and it always appears as a negation, as shown in (117).

117. Ka'ts **nwä'än** nwetpujt.

ka't=ëjts	n- wä'än	n-wet-puj-t
NEG=1SG	1A- want	1S-clothes-clean-IRR;DEP

‘I am not looking forward to doing laundry.’

10.6.2.2 *Phase verbs*

Another type of core serial verb construction is used to express aspect. In this construction, V1 is the root with the lexical content and V2 is the root with the aspectual meaning, as shown in the examples in (118).

118. a) Yë' maxu'unk yäxnijkxy.
 Yë'ë maxu'unk y-yä'äx-nëj~~k~~x-y.
 DEM.M baby 3S-cry-go-DEP
 'The child kept crying.'

b) Të Carlos tkatyëk uupy.
 tëë Carlos t-kay-tëk uupy
 BEFORE.NOW Carlos 3A-eat-enter-[INCH.DEP] amarillito
 'Carlos began eating *amarillito* (a type of traditional meal).'

In both examples in (118), the aspectual meaning is provided by a verb that, in other circumstances, expresses translational motion.

The number of verbs, and therefore the meanings, used in phase serial verb constructions is bigger than the number of verbs used in non-finite aspectual constructions (see §10.4.2), because in this construction only *tëk* 'start' and *tän* 'to remain' can be used.⁹ The verbs used as phase verbs in core serial verb constructions are listed in (119).

119. Tëk 'start, begin' < 'enter'
 Tsoon 'start, begin' < 'go away'
 Tän 'remain' < 'stay'
 Nëjx 'keep' < 'go'
 Jëmpet 'to do X again' < 'return'
 Tsontä'äk 'start, begin'
 Këx 'to finish'

It is possible to hypothesize that this type of serial verb construction is historically derived from serial verb constructions with lexical content. Most of the verbs in V2 are, in their use as verbs with lexical content, verbs of change of location or position. Only

⁹ As discussed there (§10.4.2), *këx* 'to finish' and *tsontä'äk* 'to start' appear in that construction too but they need causative morphology.

tsontä'äk 'to start, to begin' and *këx* 'to finish' seem to have an aspectual meaning to begin with.

In addition, the serial verb *ää* 'halt' also expresses aspectual meaning, as shown in (120), but, as explained above, it does not appear as independent verb.

120. a) Carlos kyëtsä'äp yë wyet.

Carlos y-këëts-**ä'**ä-py yë'ë y-wet
 Carlos 3A-tear-halt-INDEP;TR DEM.M 3POSS-cloth
 'Carlos is tearing his cloth half way.'

b) Të Carlos tjëtää yë kipy.

tëë Carlos t-jëët-**ää** yë'ë kipy
 ANT Carlos 3A-saw-halt-[INCH.DEP] DEM.M stick
 'Carlos sawed the wood half way.'

It is worth pointing out that this serial verb is accepted only with verbs that express durative and telic events (i.e. what is traditionally called accomplishment in terms of aktionsart). Compare the examples in (120), with (121a), an activity, and (121b), an achievement.

121. a) *Ojts Carlos pyujtää.

ojts Carlos y-put-ää
 PAST Carlos 3S-run-halt[INCH.DEP]
 Intended: 'Carlos ran (half way?)'

b) *Të yë dinamita pyëjää.

tëë yë'ë dinamita y-pëj-ää
 BEFORE.NOW DEM.M dynamite 3S-explode-halt[INCH.DEP]
 Intended: 'The dynamite exploded (half way?).'

10.6.2.3 Telicity and plurality

The serialized verb *këx* 'to finish' is used to indicate that an event has reached the final point. This was already explained in the previous subsection but it is exemplified again in (122).

122. a) Të mejts mpujtkixy.

tëë mejts m-put-këx-y
 BEFORE.NOW 2SG 2S-run-finish-DEP
 'You stopped running.'

- b) Taa ojts kyaykyixy.
 taa ojts y-kay-këx-y
 DEIC.M PAST 3S-eat-finish-DEP
 ‘Then he finished eating.’

However, this verb is also used to indicate plurality of any argument, as in the following examples:

123. a) ȷTe'nts yë' pyëtë'kixy këtee?
 te'n=ts yë'ë y-pëtë'ëk-këx-y këtee
 M.DEM=EV DEM.M 3S-rise-finish-DEP truth
 ‘All is harvested, isn't it?’ (Lit. ‘It finished rising.’) (A&E-388)

- b) Ttapo'ojtikixy ja'a.
 t-ta-po'ot-ë-këx-y ja'a
 3A-APPL-break-inv-finish-DEP DEM.D
 ‘He broke all that.’ (Lit. ‘He finished breaking that.’) (NLA6-67)

When the serialized verb *këx* ‘to finish’ indicates plurality, though, this interpretation is semantically derived from the use of the verb as a phase verb.¹⁰

10.7 Inflectional dependency

This final section is devoted to a topic that is not so much restricted to complex clauses but rather has to do with all type of clauses. Inflectional dependency was treated already in a previous chapter (§6.3.2). However, a more thorough discussion requires the treatment of complex sentences too. I would like to discuss a little bit more this phenomenon here and present a summary of the contexts where independent and dependent inflection are used.

As explained in §6.3.2, and as the name suggests, inflectional dependency is part of the inflectional system in AyMi and divides both personal prefixes and aspect-mood suffixes into two sets, one for independent conjugation and another one for dependent

¹⁰ In Olutec, the cognate verb *küx* ‘to finish’ has been grammaticalized to encode plurality of a third person core argument.

conjugation. Also, it was mentioned that inflectional dependency is triggered when a constituent other than an argument is placed before the verb. This is explored at length and refined in this section.

Even though by now it has become clear that in Ayutla Mixe inflectional dependency is not directly related to structural dependency, because syntactically independent clauses can be conjugated dependently and vice versa, at first glance one might think that these two are related. Indeed, in the study of other Mixe-Zoque languages it has been largely assumed, either implicitly or explicitly, that inflectional dependency equals embedding. In the following subsection I discuss dependency in other Mixe-Zoque languages and similar phenomena in other languages. I then review all the words that trigger inflectional dependency in simple clauses and in complex clauses in Ayutla Mixe.

10.7.1 Dependency in Mixe-Zoque and other languages

Within the Mixe-Zoque family, all languages present what I called inflectional dependency. In fact, it is a characteristic that is believed goes back to ancient times, as the reconstructions of proto-Mixe-Zoque show dependency (Wichmann 1995a) and it is also found in Epi-Olmec writing, around 162 CE (Kauffman & Justeson 2001).

Different terminology, however, has been used to name this phenomenon:

- Non-conjunct vs conjunct (S. Lyon 1967; Dieterman 1995).
- Disjunct vs. conjunct (Hoogshagen 1974; 1984).
- Neutral vs. adverbial (Hoogshagen & Bartholomew 1993)
- Stage vs. event clauses (Schoenhals 1979).¹¹
- Independent vs. dependent (Clark 2004; Johnson 2000; Suslak 2005; Zavala 2000, 2002, 2007; *inter alia*).

¹¹ Actually, Schoenhals (1979) classifies Totontepec Mixe clauses into stage, event, volitive, imperative and equative (i.e. non-verbal predication). From these types of clauses, stage clauses would correspond to independent and event clauses to dependent.

Regardless of the terminology, there have been a number of characteristics associated with this phenomenon. First of all, many people agree that the dependent/independent distinction corresponds to different types of clauses (Johnson 2000; Suslak 2005; Zavala 2000; Schoenhals 1979). Furthermore, some people treat the dependent form (or the dependent type of clause, for them) as equivalent of embedding. To quote just one example, Zavala (2007:272) says that “Olutec exhibits two types of clauses, matrix or independent, and embedded or dependent.”

In addition, according to S. Lyon (1967:25), the non-conjunct/conjunct distinction falls into the category of mood in Tlahuitoltepec Mixe. As she points out, “The moods are differentiated on the basis of word ordering, elements in focus and verb structure.” Her treatment of non-conjunct/conjunct in terms of mood is very similar to the study of conjunct order in Algonquian languages. Even though I think the distinction between dependent and independent conjugation is somewhat similar to the distinction between conjunct and non-conjunct in Algonquian languages, I would not like to treat dependency as mood. The reason is that mood (i.e. realis vs. irrealis mood) is expressed through the AM suffixes and the irrealis suffix has both an independent and a dependent allomorph.

Many scholars have also noted that the choice of the dependent form (conjunct or adverbial) is related to the presence of some specific words in the clause, which I believe is the most important characteristic of the inflectional dependency. For example, S. Lyon (1967) points out that the uses of particles is a factor in the choice of conjunct mood; Dieterman says that the conjunct is triggered by a word preceding the verb; and Clark (1995) says that it is triggered by adverbs. Some other scholars have gone further: the adverbial form (dependent or conjunct) is treated as in agreement with an adverb or a

conjunction (Hoogshagen & Bartholomew 1993). In other languages, the dependent form is also a characteristic of auxiliary constructions, which involve manner, motion and aspectual verbs (Olutec: Zavala 2000; San Miguel Chimalapa Zoque: Johnson 2000).

Finally, dependency has also been related to foregrounding in discourse (Wichmann 1995b), following Hopper (1979), in an attempt to link this phenomenon to the inverse system.

Outside the Mixe-Zoque family, a similar phenomenon has been well attested in Algonquian languages. In these languages, there are usually two orders or inflectional systems: independent and conjunct (Valentine 2001; Richards 2004). Traditionally, it has been said that the independent is used in main (or independent) clauses, while the conjunct is used in subordinate clauses. However, the conjunct can be also associated to some specific words. For example, in Nishnaabemwin (Valentine 2001), the conjunct is associated to the predicative word *mii* ‘and’. Additionally, in Wampanoag (Richards 2004), conjunct order is also used with all embedded content questions (*I know what you said*) and with non-embedded *why* questions.

Summarizing, both in Mixe-Zoque and Algonquian languages dependency (or conjunct order, respectively) has been associated to embedded clauses. However, it can also be triggered by other words such as conjunctions (or words with similar functions), some type of questions, adverbs and particles.

10.7.2 Dependency in Ayutla Mixe

Particularly for Ayutla Mixe, my claim is that dependency does not classify types of clauses. Let me explain this. My claim for AyMi is that inflectional dependency is not related to matrix vs. subordinate clauses, or structurally independent vs. structurally

dependent clauses. More generally, inflectional dependency is not directly related to kinds of clauses: i.e. it is not the case that there are clauses type A and clauses type B in structural terms, and that inflectional dependency is the formal correlate to that. Rather, as is explained in the rest of this section, there are a number of contexts that trigger the inflectional dependency. Those contexts, though, have nothing to do with subordination.

The only aspect in which it seems that dependency distinguishes types of clauses is regarding word order (of V, A and O). As seen in §9.3.1, when the verb appears as independent the word order is more flexible than when it appears as dependent: while all six word order combinations are attested for independent verbs, only AVO, OAV, and AOV are found with dependent verbs. Now, if one takes into account that clauses that have a dependent verb also have a particle or adverb in, usually, initial position, one could suppose that the different word order is also related to the presence of those elements. In other words, both the inflectional dependency and the word order could be an effect of the presence of those words.

Also, unlike what has been said for other Mixe languages, dependency is not related to embedding or syntactic dependency (as mentioned in §10.1.1; see Cristofaro 2003), but rather, it is triggered by constituents other than arguments when placed before the verb. In some subordinate clauses it seems that inflectional dependency is directly linked to syntactic dependency because it just happens that many subordinate clauses are introduced by elements that trigger inflectional dependency.

In the following sections, I discuss cases of verbs with independent and dependent morphology in both simple and complex sentences. In complex sentences, the focus of discussion is on the non-matrix verb.

10.7.3 Dependency in the simple clause

There are five types of contexts that trigger conjugational dependency: temporal-aspectual and mood particles; the negative particle and negative words; and, adverbs and adverbials. In questions, when the interrogative word is not an argument, the verb must be marked as dependent. Finally, secondary predication behaves as other adverbial words (Zavala 2004c) and it triggers inflectional dependency.

In the case of temporal-aspectual particles (§6.12.1), the dependent conjugation is triggered by perfective *tëë* ‘before.now’ and the past tense and perfective particle *ojts*, as shown in (124).

124. a) Independent

Yë’ neky jyaapy.
 yë’ë neky y-jä’äy-yp
 DEM.M paper 3A-write-INDEP;TR
 ‘He was writing letters.’ (TAMA-A-009)

b) Dependent

Tëë yë’ neky tjä’äy.
 tëë yë’ë neky y-jä’äy-y.
 BEFORE.NOW DEM.M paper 3A-write-DEP
 ‘He wrote letters already.’

c) Tu’uk neky ojts tjä’äyy.

tu’uk neky ojts t-jä’äy-y
 one paper PAST 3A-write-DEP
 ‘He wrote one letter.’ (TAMA-A-021)

In (124a), there is constituent before the verb, but it is an argument, and thus the verb is conjugated as independent; in contrast (124b) has the perfective particle *tëë* and (124c) the past tense and perfective particle *ojts* and so they are conjugated as dependent.

Modal particles (§6.12.2) also trigger dependency. As shown in (125), the dubitative particle *wa’n* triggers dependency on the verb.

125. Uk wa'n tkanëkäjpxt.
 uk wa'n t-ka-në+käjpx-t
 or DUB 3A-NEG-say-IRR;DEP
 'Or perhaps he won't tell.' (Efa1-1494)

As explained in other parts of this dissertation (§9.1, §9.4.1), the negative particle *ka't* triggers inflectional dependency. This is shown in the two examples in (126).

126. a) Ka'ta tsyu'utsy.
 ka't=ja'a y-tsu'uts-y
 NEG=DEM.D 3S-bite-DEP
 'He does not bite.' (Vir1L-153)

- b) Ka't mëj xjäwët.
 ka't mëj x-jäw-ë-t
 NEG big 2A-feel-INCH-IRR;DEP
 'Do not take it bad.' (Lit: 'Do not feel it bigly.')

In addition to the negative particle *ka't*, other negative words also trigger dependency.

As explain in (§6.9), interrogative words can form a negative word in combination with the negative prefix *ni-*. In these cases the negative word triggers dependency, as shown in (127).

127. Nipën kyaminy.
 ni-pëën y-ka-men-y
 NEG-how 3S-NEG-come-DEP
 'No one came.'

However, it is not the case that there is a lexical item or affix with negative meaning which *per se* triggers the dependency. As explained in §9.4.1.3, the negative affix *ka-* does not trigger conjugational dependency, since it is part of the verb stem and not an independent word, as shown in (128).

128. Ęjts nkaamyëjtsypy...
 ëjts n-ka-jamyats-yp
 1SG 1A-NEG-remember-INDEP;TR
 'I don't remember (what was the town's name)...'

Similarly, if the negative prefix *ni-* is prefixed to a numeral that is part of an argument noun phrase, it does not trigger dependent conjugation on the verb, as shown in (129).

Again, the reason is that there is no actual negative adverb or particle that can be considered a non-argument.

129. Nitu'uk mixy Juank'äjtp.

ni-tu'uk mixy Juank-ät-p
 NEG-one boy [3s]Juan-VRBLZ-INDEP
 'No boy was called Juan.' (Aur2L-363)

These last two examples suggest that dependent marking is syntactically, not semantically, triggered.

In addition to particles, locative words usually trigger dependency. Among them, adverbial locative demonstratives trigger inflectional dependency. In the examples below, (130a) does not have an adverbial locative demonstrative and thus there the verb has independent conjugation. (130b) is almost identical to (130a), except for the adverbial demonstrative *xem*, which triggers dependent conjugation.

130. a) Independent

Carlos yäjks kyaapy.
 Carlos yäjks y-kay-py
 Carlos *memela* 3A-eat.corn-INDEP;TR
 'Carlos eats *memelas* (a thick tortilla).'

b. Dependent

Xem Karlos yäjks tkayy.
 xem Karlos yäjks t-kay-y
 DEIC.M Carlos *memela* 3A-eat.corn-DEP
 'Carlos eats *memelas* there'.

Temporal expressions usually trigger dependency, except for the cases discussed in the following subsection (§10.6.3.1). For example, the adverb *tsojk* 'early' in (131a) and the expression *jětujk xëep* 'days ago' in (131b) trigger inflectional dependency.

131. a) Tsojk junt kyixy.

tsojk junt y-këx-y
 early meeting 3S-finish-DEP
 'The meeting ends early.' (Efa1-2213)

- b) Ja jëxtujk xëëp jyaty.
 ja'a jëxtujk xëë-ëp y-jat-y
 DEM.D seven day-ago 3S-happen-DEP
 'That happened seven days ago.'

Interrogative sentences behave just like declarative sentences. When the interrogative word is an argument, it does not trigger dependency, as in the examples in (132); but when the interrogative word is not an argument, the verb has to be conjugated as dependent, as shown in (133).

132. a) ¿Pëen mäap?

pën mäa-p
 who sleep-INDEP
 'Who is sleeping?'

- b) Uk, ¿mëte'ep tyu'mp?

uk mëte'ep y-tun-p
 or REL 3S-work-IRR;INDEP
 'Or which one will work?' (Aur2L-260)

- c) ¿Pën mäjtsp yë' tutk?

pën mäts-p yë'ë tutk
 who [3S]grab-INDEP DEM.M chicken
 'Who is going to get the chicken?'

- d) ¿Tiis n'ata'amp?

tii=ëjts n-a-tam-p
 what=1SG 1A-IN-pour-IRR.INDEP
 'What should I pour?'

133. a) ¿Mää myä'äy?

mää y-mä'ä-y
 where 3S-sleep-DEP
 'Where is s/he sleeping?'

- b) ¿Juun kyoots?

juun y-koots
 where 3S-dark[NCH;DEP]
 'When is it getting dark?'

- c) ¿Në'n xtooky?

në'n x-took-y
 how.much 2A-sell-DEP
 'How much are you asking for?' (Lit: 'For how much do you sell it?')

In (132a), *pën* ‘who’ is the S of an intransitive verb, in (132b) *mëte’ep* ‘which one’ is also the S of an intransitive verb, and in (132c), *pën* ‘who’ is the A of a monotransitive verb. In (132d), *tii* ‘what’ is the O of a transitive verb. None of them trigger inflectional dependency. On the other hand, in (133a) the sentence is asking about a location, in (133b) about the time, in (133c) about the price. In none of these cases is the interrogative element an argument, and all of them trigger dependent marking.

Again, it is not the interrogative word *per se* that triggers the inflectional dependency, but its grammatical function. While locative or temporal interrogative words always trigger dependency, words like *pën* ‘who’ or *tii* ‘what’ need not be arguments. If they are the object of the associative/instrumental adposition *mëët*, like *pën* ‘who’ in (134a) and *tii* ‘what’ in (134b), they are not arguments (or rather, the whole adpositional phrase is an oblique or adjunct).

134. a) ¿Pën mëët mtëk?

pën mëët m-tëk
 who ASSOC 2s-enter[INCH;DEP]
 ‘Who did you enter with?’

a) ¿tii mëët xtsiky yë’ päteety?

tii mëët x-tsuk-y päteety
 what ASSOC 2A-chop-DEP wormseed
 ‘What are you chopping wormseeds with?’

As for secondary predication, the depictive adjective is not an argument by definition, and so, it triggers inflectional dependency, as shown in (135).

135. Yë’ ntat mä’ät tsu’utsy ttooky.

yë’ë n-tat mä’ät tsu’uts+y t-took-y
 DEM.M 1POSS-father rotten meat 3A-sell-DEP
 ‘The man is selling rotten meat.’

10.7.3.1 Particles and adverbs that do not trigger dependency

So far, it has been shown that constituents other than arguments trigger inflectional dependency when occurring in preverbal position. This, however, is not always the case. There are some specific cases in which an aspectual particle or a temporal expression do not trigger inflectional dependency.

In addition to the perfective particle *tě* and the perfective and past tense particle *ojts*, there are three particles that indicate imperfective aspect: *ijty*, *nojty* and *ti ijty* (§6.12.1). In the two examples in (136) the clauses have the imperfective aspect particle *nojty* and the verb still has independent conjugation.

136. a) ¿Ti nojty tyimpy?

ti nojty y-tum-yp
 what IMPF 3A-do-INDEP;TR
 ‘What was he doing?’ (TAMA-A-11)

b) Yě’ě nojty kart jyaapy.

yě’ě nojty kart y-jä’äy-yp
 DEM.M IMPF letter 3A-write-INDEP;TR
 ‘He was writing a letter.’ (TAMA-N-11)

Of course, if there is anything else that triggers dependency, the verb is marked as dependent even if it has an imperfective particle. For example, in (137a) the adverbial locative demonstrative *jam*, and not the aspectual particle *nojty* ‘imperfective’, triggers the dependent conjugation on the verb. Similarly, in (137b) the perfective aspect particle *tě* triggers dependency, even though it also has the imperfective particle *nojty*. This indicates that what is important is to have a word that triggers dependency; if a word does not trigger inflectional dependency, it does not mean that it blocks it.

137. a) Jam nojty něxpiky.

jam nojty n-ěxpěk-y
 DEIC.D IMPF 1S-study-DEP
 ‘I used to study there.’ (AE-1427)

- b) (Said as an order by a teacher leaving the classroom: “When I return...”)
 të nojty mejts taree xakeykëxn.
 të nojty mejts taree x-ak-ey-këx-n
 BEFORE.NOW IMPF 2SG homework 2A-CAUS-good-finish-PERF.DEP
 ‘you will have done your homework.’ (TAMA-108b)

In addition, calendrical words (§6.10.1) seem to trigger dependency inconsistently.

While some of them usually trigger inflectional dependency, other words do not. For example in (138a-c), *axëëy* ‘yesterday’ triggers dependent conjugation, but in (138d) the verb has independent inflection. It would seem that this happens more often in combination with an imperfective particle, as in (138e).

138. a) Axëëy Carlos tkaakyixy ja’ xëkënëäx me’ep ojts njëyy mäa’ merkaatë’n.
 axëëy Carlos t-kay-këx-y ja’a xëjk+jën+näax
 yesterday Carlos 3A-eat.corn-finish-DEP DEM.D enfrijoladas
 mëte’ep ojts n-jëy-y mäa=ja’a merkat=ë’n
 REL PAST 1A-buy-DEP where=DEM.D market=ADJ
 ‘Yesterday, Carlos ate all the *enfrijoladas* (traditional meal) that I bought at the market.’

- b) ¿Ti Beto axëëy ttiny?

ti Beto axëëy t-tun-y
 what Beto yesterday 3A-do-DEP
 ‘What did Beto do yesterday?’

- c) Axëëy ntejkxy tse’maxu’nk.

axëëy n-tojkk-y tse’e+maxu’nk
 yesterday 1A-eat-DEP zucchini
 ‘Yesterday, I ate zucchini.’

- d) ¿Ti m’itsy axëëy tyimpy ko y’opajtkiixy?

ti m-itsy axëëy y-tun-yp ku
 what 2POSS-younger.sibling yesterday 3A-do-INDEP;TR when
 y-opät-këx-y
 3S-have.breakfast-finish-DEP
 ‘What did your brother do after breakfast?’ (TAMA-N-87)

- e) ¿Ti nojty axëëy tyimpy?

ti nojty axëëy y-tun-yp
 what IMPF yesterday 3A-do-INDEP;TR
 ‘What was he doing yesterday?’ (TAMA-A-9)

On the other hand, exhibiting the opposite situation, *japom* ‘tomorrow’ does not trigger inflectional dependency in many cases, as exemplified in (139a). However, there seem to be other cases in which the speaker prefers to use independent conjugation only when *japom* ‘tomorrow’ is after the verb, as in (139b), and dependent conjugation when it is before the verb, as in (139c).

139. a) Yë’ëts japom x’ës’exämp.

yë’ë=ëjts japom x-ës-ex-ä’ä’-p
 DEM.M=1SG tomorrow 1O[INV]-MCP-see-DES-INDEP
 ‘Tomorrow, they will go see me.’ (c3p19)

b) Nekys njä’äyampy japom.

neky=ëjts n-jä’äy-ä’än-yp japom
 letter=1SG 1A-write-DES-INDEP;TR tomorrow
 ‘I’ll write a letter tomorrow.’ (FUT-C-41)

c) Japoms neky njä’äyā’äny.

japom=ëjts neky n-jä’äy-ä’än-y
 tomorrow=1SG letter 1A-write-DES-DEP
 ‘Tomorrow I’ll write a letter.’ (FUT-C-41)

Also, *tsyäm* is ambiguous between a locative (i.e. an adverbial locative demonstrative, §6.8.2) and a temporal word. When it is used as temporal word it means ‘now, today’, and it usually does not trigger inflectional dependency, as shown in (140).

140. Pero tsyäms ntakaapy tsë’ëpy.

pero tsyäm=ëjts n-ta-kay-yp tsi’ipy
 but now=1SG 1A-APPL-eat.corn-INDEP;TR quelites
 ‘But now I eat *quelites* (type of edible leaf).’ (AE-1222)

However, when a temporal word takes the suffix *-ëp*, which means ‘X time ago’, it triggers dependent marking, as shown in (131) above.

Finally, it has been mentioned that depictive adjectives in secondary predication trigger dependent conjugation. In addition, it was mentioned in §6.10.3.1 that adjectives could take the suffix *-ëm* to be derived into manner adverbs. In most cases, the derived

adverb triggers dependency, as shown in (141a-b). However, there are some examples in which the adverb does not trigger dependency, as in (141c).

141. a) Axëëkë'm mkajpxy.

axëëk-ëm m-käjp̄x-y
bad-ADV 2S-speak-DEP
'You speak badly.'

b) Pi'nkyë'm ja' wet kyaxi'iky.

pi'nky-ëm ja'a wet y-kaxë'ëk-y
puffy-ADV DEM.D cloth 3S-seem-DEP
'The cloth seems soft.'

c) Ayooöpë'm mtsëënëp mtanëp.

ayoo-p-ëm m-tsëën-ë-p m-tan-ë-p
be.poor-INDEP-ADV 2S-sit-INCH-INDEP 2S-stand-INCH-INDEP
'You live in a poor manner.'

I have no explanation as to why most particles and adverbs trigger dependent marking, but a few of them do not. Notice, however, that, except for the last example in (141), all of the other elements that (sometimes) fail to trigger inflectional dependency have a temporal meaning.

10.7.4 Inflectional dependency in the complex clause

In this section the inflectional dependency in complex clauses is examined.

Inflectional dependency in complex clauses works just like it does in the simple clauses.

The impression that one might get that inflectional dependency is intrinsically linked to

subordinate (or to structurally dependent) clauses comes from the fact that some

subordinate clauses are introduced by elements that always trigger inflectional

dependency. However, there are cases where the non-matrix verb is always conjugated as dependent while in other cases it might or might not be conjugated as dependent. I

exclude from the discussion here cases when the construction involves a non-finite verb,

i.e. non-finite complement clauses (§10.1.3) and non-finite complex predication (§10.5).

Also, secondary predication was treated in the previous subsection.

Let us see first the cases in which the verb is always marked as dependent. This is exactly the case of adverbial subordinate clauses. Temporal subordinate clauses are introduced by the temporal conjunction *ku* ‘when’, as shown in (142a); locative subordinate clauses are introduced by the subordinator *mää* ‘where’, as shown in (142b); and, manner subordinate clauses are introduced by the subordinator *tam* ‘like, as’, as shown in (142c). In all these cases, the subordinating word triggers inflectional dependency.

142. a) Temporal

Tsetsäay ëets naktuntë'p kuu ëets njëtst näxkëejxy.
 tsets-äay ëets n-ak-tun-të-yp kuu ëets n-jëts-t
 coral.tree-leaf 1PL.EX 1A-CAUS-do-PL-INDEP;TR when 1PL.EX 1A-grind-PL;DEP
 nääyx-këx-y
 ground-SURFACE-LOC
 ‘When we used to grind (corn by hand) on the ground, we used coral tree leaves
 (to kneel down).’ (NLAH-561)

b) Locative

....mäa' tyeety tyäak tsyëënët.
 mäa=ja'a y-teety y-täak y-tseen-ë-t
 where=DEM.D 3POSS-father 3POSS-mother 3s-sit-INCH-PL;DEP
 ‘(When he got money, he went back, he went home...) where his parents live’
 (Aur2L-317)

c) Manner

....tam meets tsyäm m'uuktë'n.
 tam meets tsyäm m-uuk-t=ë'n
 as 2PL now 2S-drink-PL;DEP=ADJ
 ‘and my dad used to drink as you drink’ (NLA-578)

In complement clauses, the situation is more complex. As explained in §10,1, there are five types of complement clauses in AyMi; however, only four of them are dealt with here, as non-finite complement clauses (type 2 in §10.1.3) are not relevant for inflectional dependency. Among these four types, only in full subordinate declarative clauses is

inflectional dependency obligatory; the other three types are cases where inflectional dependency is not obligatory. As explained in §10.1.2, declarative complement clauses are introduced by the complementizer *ku*, as shown in (143). As one can see, the verb in the complement clause can take different AM suffixes (neuter in (143a) and irrealis in (143b)), but the verb always has to be conjugated as dependent.

143. a) Myëtoopyë [kuka' jä'äy tsyapay, yyä'äxy].

y-mëtoo-yp=yë ku=ëk=ja'a jä'äy y-tsapää-y y-yä'äx-y
 1A-hear-INDEP;TR=DEM.D CMPLZ=HEARSAY=DEM.D people 3S-cry-DEP 3S-cry-DEP
 'He heard those people crying.' (Aur2-686)

b) Ntsejkypys ku Pedro mye'nt.

n-tsok-yp=ëjts kuu Pedro y-men-t
 1A-want-INDEP;TR=1SG CMPLZ Pedro 3A-come-IRR;DEP
 'I want Pedro to come.'

To summarize, adverbial subordinate clauses and full subordinate declarative complement clauses are introduced by a subordinating word that obligatorily triggers conjugational dependency on the subordinate verb.

There are other non-matrix clauses that are not always conjugated as dependent. As explained below, this is either due to the fact that the subordinating word does not trigger dependency or because they are asyndetic constructions. Also, in some cases the inflectional dependency of the subordinate verb is not correlated with the inflectional dependency in the matrix clause, but in some other cases it is.

Relative clauses behave like independent clauses with respect to inflectional dependency. The verb is conjugated as dependent only when there is something inside the relative clause that triggers the dependency. In (144a), the relative clause consists only of the relativizer and the verb, and so nothing triggers inflectional dependency. On the other hand, in (144b) the relative clause has the perfective aspect and past tense particle *ojts*,

which triggers inflectional dependency. Finally, if the relativized participant is the object of the adposition *mëët*, the whole adpositional phrase triggers dependency, as in (144c).

144. a) Të yë'e mixy kyëta'aky jatukojk [mëte'ep jä'äxytyo'kp]_{REL}.
 të yë'ë mixy y-këtä'äk-y jatukojk mëte'ep
 BEFORE.NOW DEM.M boy 3S-come.down-DEP again REL
 jä'äxy-took-p
 [3S]fire.wood-sell-INDEP
 'The boy who sells firewood came back again.'
- b) Ojts yë ëxmäts kyëëtsy [mëte'ep ojts njëy]_{REL}.
 ojts yë'ë ëxmäts y-këëts-y mëte'ep ojts n-jëy-y
 PAST DEM.D pants 3S-tear-DEP REL PAST 1A-buy-DEP
 'The pants that I bought got torn.' (J)
- c) Ęjts ntsë'ë, ntsuknëëxtsa' [te'ep mëët tsyëën]_{RC}.
 Ęjts n-tsë'ë n-tsuknëëx Ęjts=ja'a te'ep mëët y-tsëën
 1SG 1POSS-cousin 1POSS-niece 1SG=DEM.D REL ASSOC 3S-live[INCH.DEF]
 'My cousin, my niece, the one that she lived with.' (NL2-1111)

Another similar case with respect to inflectional dependency is when the complement clause is an embedded question (§10.1.2.2). Embedded polar questions take the complementizer *pën*. However, unlike the complementizer *ku*, *pën* does not trigger inflectional dependency. Therefore, the verb in the subordinate clause can be conjugated as independent or as dependent, according to whether there is something else that triggers inflectional dependency inside the complement clause. In (145a) the verb in the complement clause is conjugated as independent since the verb is the first element in the clause. The inflection of the matrix verb has no bearing on whether the complement clause is dependent-marked, as the negative particle *ka't* triggers dependent marking on the matrix verb, but does not have scope over the subordinate clause. In (145b), on the other hand, the verb in the complement clause takes inflectional dependency, which is triggered by the completive and past tense particle *ojts*.

145. a) Ka'ts najäw pen memp Pedro.

Ka't=ëjts n-nasjäw pen mem-p Pedro
 NEG=1SG 1A-know[INCH;DEP] whether [3S]come-INDEP Pedro
 'I don't know whether Pedro is coming.'

b) Ka'ts najäw pën Karlos ojts uupy ttejkxy.

Ka't=ëjts n-najäw pën Karlos ojts uupy y-tojkx-y
 NEG=1SG 1A-know[INCH;DEP] whether Carlos PAST amarillito 3A-eat-DEP
 'I don't know whether Carlos ate *amarillito* (type of stew).' (J)

Embedded content questions behave just like non-embedded content questions. When the interrogative element is an argument, as in (146a), the verb is conjugated as independent, but when the interrogative word is not an argument, as in (146b), the verb is conjugated as dependent.

146. a) Ka'ts najäw tii Karlos tyejkxypy.

Ka't=ëjts n-najäw ti Karlos y-tojkx-yp
 NEG=1SG 1A-know[INCH;DEP] what Carlos 3A-eat-INDEP;TR
 'I don't know what Carlos is eating.'

b) Ka'ts najäw mäaa' Karlos tyejkxy.

Ka't=ëjts n-najäw mäa=ja'a Karlos y-tojkx-y
 NEG=1SG 1A-know[INCH;DEP] where=DEM.D Carlos 3A-eat-DEP
 'I don't know where Carlos is eating.'

What one must obtain from these constructions is that in relative clauses and in embedded questions the verb might or might not be conjugated as dependent; when there is inflectional dependency, it is because there is a word that triggers the dependency inside the subordinate clause, not because they are subordinated.

Cosubordinate complement clauses (§§10.1.4-6) are somewhat similar to the last type of subordinate clauses with respect to inflectional dependency, in that the non-matrix verb may or may not be conjugated as dependent. However, since in this case the complement verb is not strictly speaking embedded (or subordinated at all), they have different syntactic properties. Partially, the key to understanding these constructions is that they do not take a complementizer.

As discussed in §10.1.4, the subordinate verb in full cosubordinate constructions can take all syntactic arguments, but shares particles and adverbs with the matrix verb. For this reason, when there is a non-argument constituent, it affects the whole sentence; conversely, if there is none, both the matrix and the complement verb are conjugated as independent. Thus, in (147a) the interrogative word *pën* ‘who’ is an argument of the complement verb and thus both verbs are treated as independent; in contrast, in (147b) the interrogative word *mää* ‘where’ is not an argument of neither verb, and thus both the matrix and the complement verb are conjugated as dependent.

147. a) ¿Pën mnasä’äp menämp?

pëen m-nasäw-ë-yp men-ä’än-p
 who 2A-think-INCH-INDEP;TR [3S]come-DES-INDEP
 ‘Who do you think is coming?’

b. ¿Mää xnasäw kya’aty?

mää x-nasäw y-kay-t
 where 2A-think[INCH;DEP] 3S-eat-IRR;DEP
 ‘Where do you think he is eating?’

The other two types of complement clauses (see §§10.1.5-6) have one characteristic in common: in both cases, the matrix verb, which is always after the complement verb, has to be in dependent conjugation. For this reason, it would seem as if the complement verb is not treated as an argument of the matrix verb, but as an oblique.

Leaving the matrix verb out, finite cosubordinate complement clauses (§10.1.5) behave similarly to full cosubordinate complement clauses with respect to inflectional dependency. When there is nothing in the whole clause that triggers the dependency, the complement verb is conjugated as independent, while the matrix verb remains dependent, as in (148a). Again, when there is a word that triggers inflectional dependency, such as the negative particle *ka’t* in (148b), the subordinate verb will be conjugated as dependent.

148. a) Ja' kipyu'unk myajtsypy kyaxi'iky.
 ja'a kipy-u'unk y-mäts-yp y-kaxë'ëk-y
 DEM.D stick-DIM 3A-grab-INDEP;TR 3S-look.like-DEP
 'It looks like he is grabbing that stick.' (M&T-VA-257)

b) Ka't tsoony xmetey.
 ka't y-tsoon-y x-metoo-y
 NEG 3S-go.away-DEP 2A-hear-DEP
 'You didn't hear him leaving.'

Finally, the complement verb in core cosubordinate complement clauses (149) is always conjugated as independent, as in (149a). As discussed in §10.1.6, this is probably due to the fact that it is not possible to have a negative particle before the complement verb, as shown in (149b).

149. a) Matsämp ijty xjatseky.
 m-ats-ä'an-p ijty x-ja+tsok-y
 2S-dance-DES-INDEP IMPF 2A-want-DEP
 'You would like to dance.'

b) (*Ojts) tso'omp ojts xjënmay.
 (*ojts) tsoon-p ojts x-jënmay-y
 (PAST) [3S]go.away-INDEP PAST 2A-think-DEP
 'You thought he had gone.'

In sum, in complex sentences, the non-matrix verb has inflectional dependency if there is a word that triggers it. If there is a subordinating word that triggers inflectional dependency, the non-matrix verb will always be dependent. Otherwise, if the subordinating word does not trigger dependency or if there is asyndeton, the inflectional dependency of the non-matrix verb will depend on the presence of another word that triggers the dependent conjugation.

10.7.5 Discussion

It has been insisted upon throughout this dissertation that inflectional dependency is triggered by a non-argument. Usually that non-argument occurs before the verb. Even

though this statement is basically true, it is necessary now, after reviewing those contexts in which inflectional dependency is triggered and those in which it is not triggered, to make the exceptions explicit. First of all, grammatical particles trigger dependency except for incompletive aspect particles. Most adverbs and adverbials also trigger dependency, except for calendrical words, which trigger dependency inconsistently. Also, most conjunctions (and I include the complementizer *ku* here) trigger inflectional dependency, except for *pën*, which is used in embedded polar questions.¹² Also, even though relativizers are subordinating words, they do not trigger inflectional dependency. This might have to do with their very nature, i.e. the fact that they refer to arguments in the relative clause (unless the relativizer is the object of the adposition *mëët*, in which case the whole adpositional phrase triggers dependency). Finally, if there is asyndeton in complex sentences, the non-matrix verb behaves just like in independent clauses.

In Ayutla Mixe, (inflectional) dependency is not about types of clauses but rather it has to do with inflectional systems, in a similar way to Algonquian languages (Valentine 2001; Richards 2004). This inflectional system is indeed related to some syntactic contexts, all of which have been discussed here. In this respect, inflectional dependency is a characteristic of a number of constructions. If we think of negative clauses, content questions with non-argument interrogative elements, and so on, as different types of constructions, there is a given number of constructions in AyMi that share the

¹² The fact that *pën* in embedded polar questions does not trigger inflectional dependency but the complementizer *ku* for declarative complement clauses does suggests that they should not be treated syntactically in the same way. Since embedded polar questions and embedded content questions behave alike with respect to inflectional dependency, one might think that *pën* is not a complementizer at all, but just an interrogative word. If this is the case, complementation with embedded polar questions are in fact asyndetic constructions.

characteristic of requiring dependent conjugation. This, however, does not make them instances of the same type of clause.

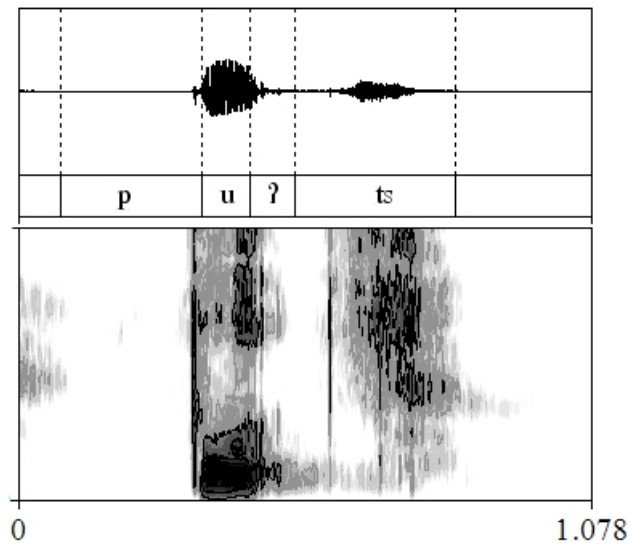
I do not rule out the possibility that it is indeed related to types of clauses in other Mixe-Zoque languages, as there is evidence that in Olutec and in San Miguel Chimalapa Zoque dependency is mostly restricted to structurally dependent clauses (Zavala 2000; Johnson 2000). In fact, one could adventure the hypothesis that historically inflectional dependency was somehow related to structural dependency, but it was reanalyzed as an inflectional system in AyMi.

As one can see, there are many constructions in which inflectional dependency is present. In all those cases, there is a word that triggers it. However, one might wonder whether we are dealing with a single phenomenon or rather with a cluster of related phenomena. Thus, instead of saying that inflectional dependency occurs in a given syntactic environment, it would be perhaps more accurate to say that it is a common feature across several syntactic environments.

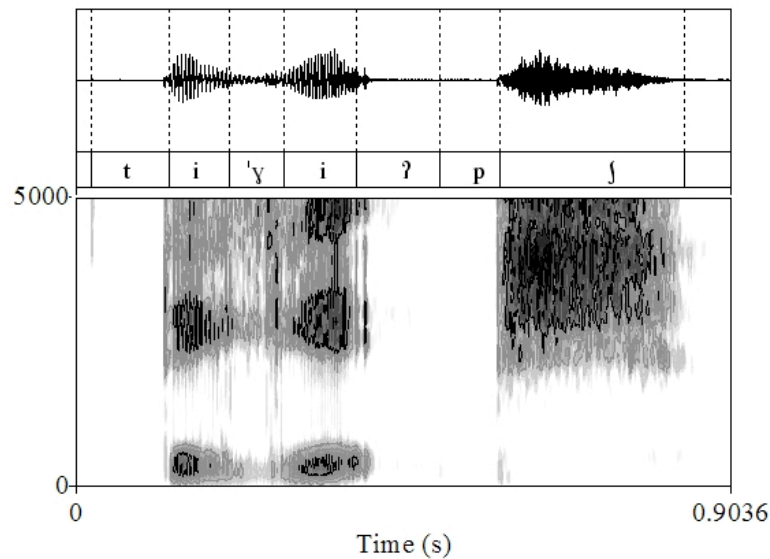
It would also be desirable to provide an answer as to why some particles or adverbs trigger inflectional dependency in an inconsistent way. Unfortunately, I do not have an explanation as to why this happens. Thus, even though the hypothesis presented here seems to cover most cases, i.e. inflectional dependency occurs when non-argument is placed before the verb, there are still some cases that cannot be explained. As in many other aspects of the grammar of Ayutla Mixe, more research is needed.

Appendix A-Acoustic analysis

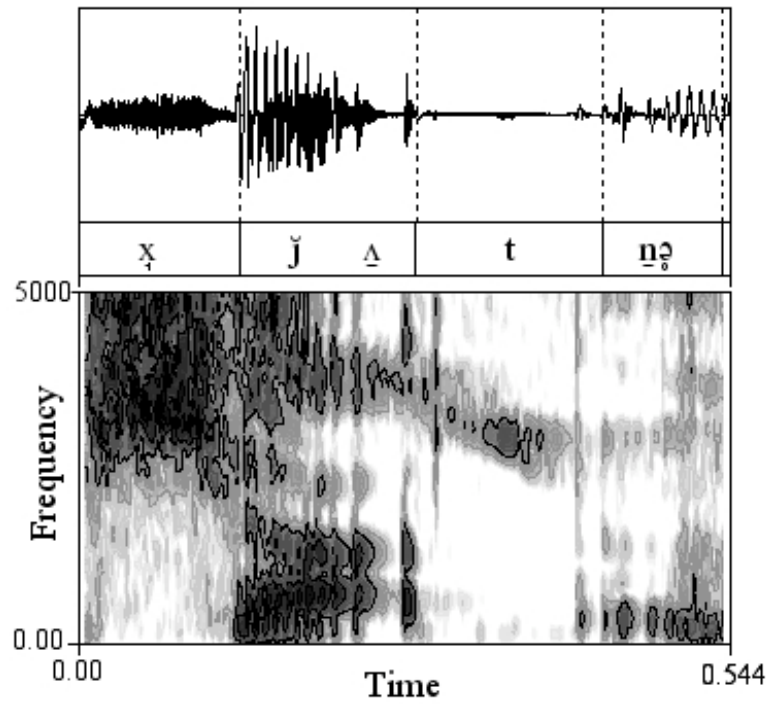
In this appendix spectrograms for the second part of this dissertation are provided. In particular, they correspond to the discussion on laryngeally complex vowels (§5.6) and on the differences between aspirated vowels and the glottal fricative (§5.7). On each image a waveform, a phonetic transcription, and the spectrogram are presented, in that order. Below the spectrogram, as part of the caption, I provide a phonological transcription and the gloss of the word.



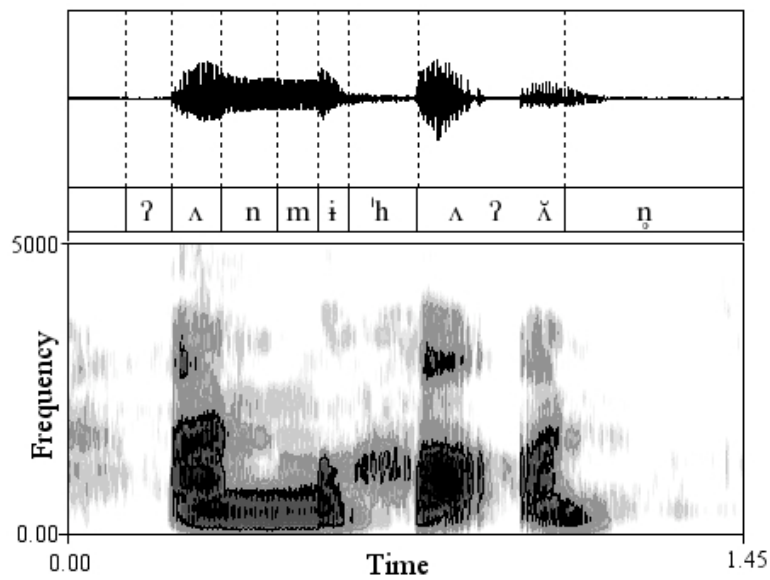
Spectrogram 1. /pu²ts/ ‘yellow’.
(See §5.6.1, example (45a) p. 145.)



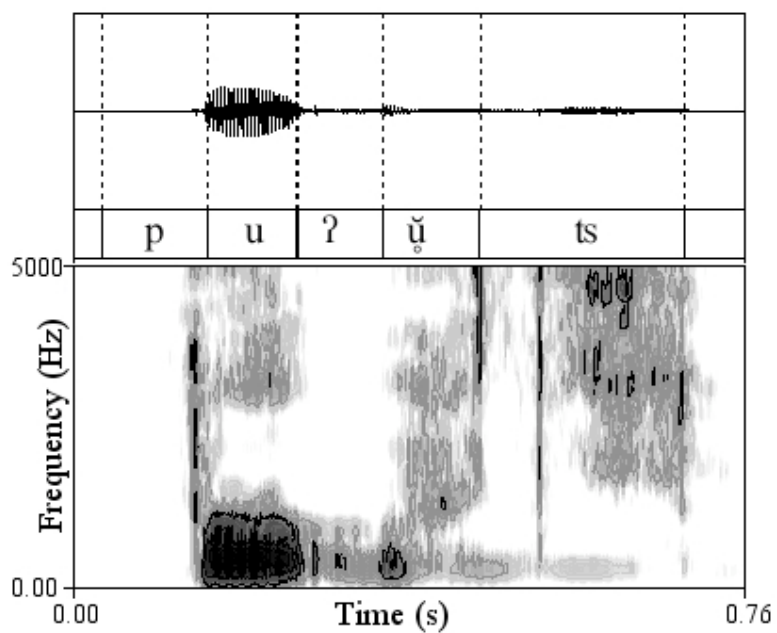
Spectrogram 2. /tiki²pɿj/ ‘sixty’.
(See §5.6.1, example (45b) p. 145.)



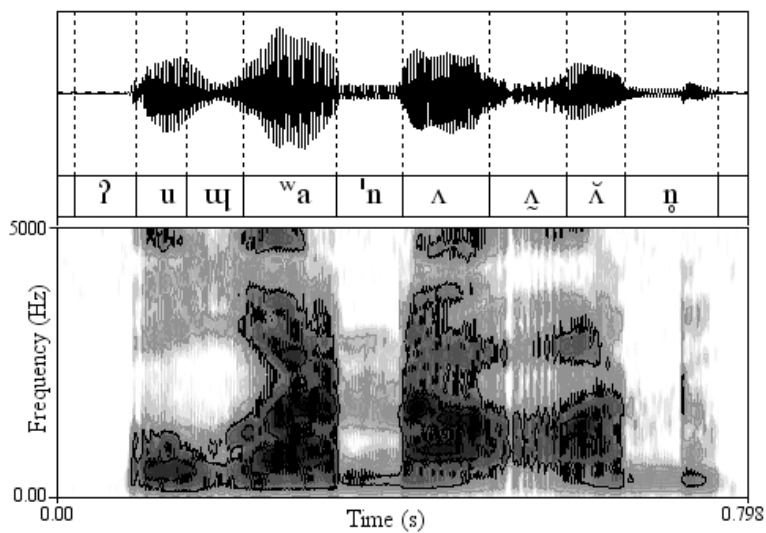
Spectrogram 3. /jɦʌ²tn/ ‘(he) arrived (perfect)’.
 (See §5.6.1, example (45e) p. 145.)



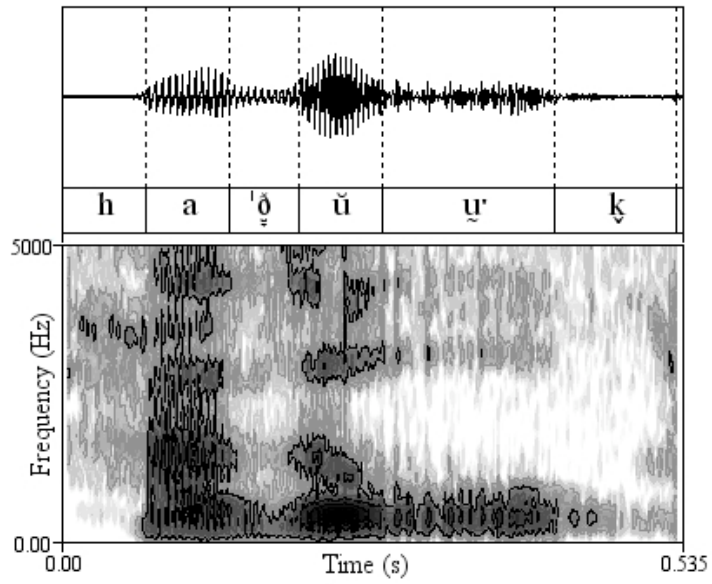
Spectrogram 4. /ʔʌnmihʌ²ʌn/ ‘thought’.
 (See §5.6.1, example (46a) p. 146.)



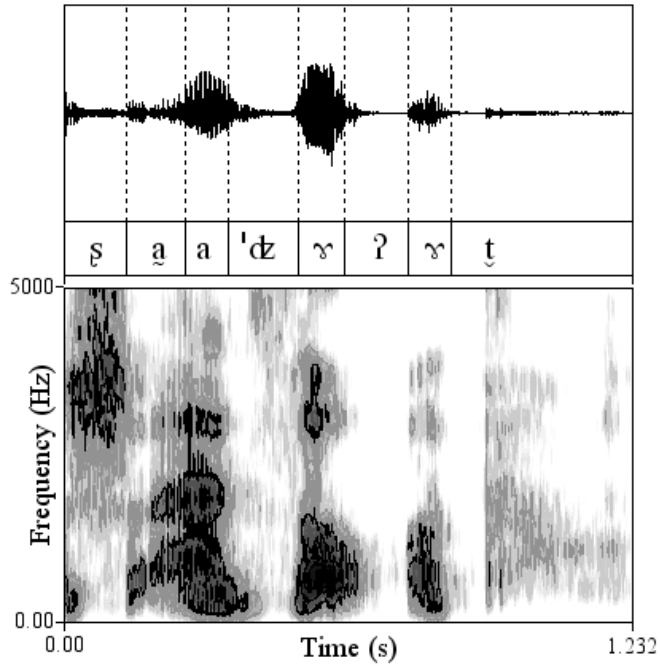
Spectrogram 5. /pu²uts/ ‘acne’.
 (See §5.6.1, example (46b) p. 146.)



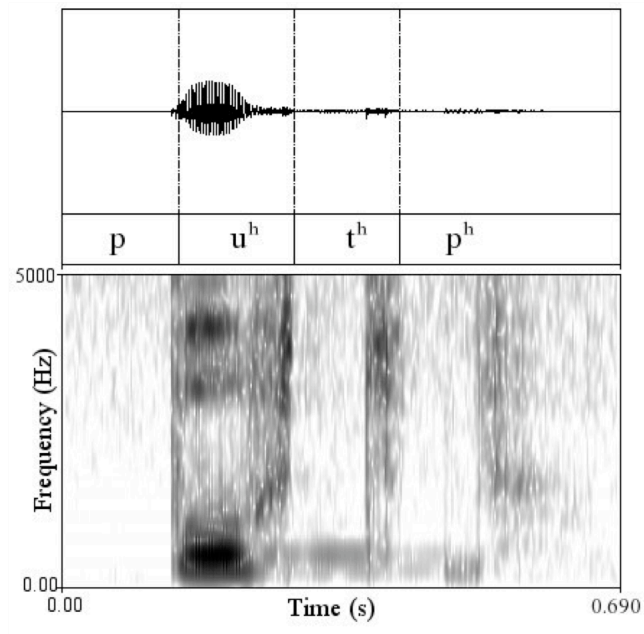
Spectrogram 6. /ukanΛ²Λn/ ‘say (it)’.
 (See §5.6.1, example (46c) p. 146.)



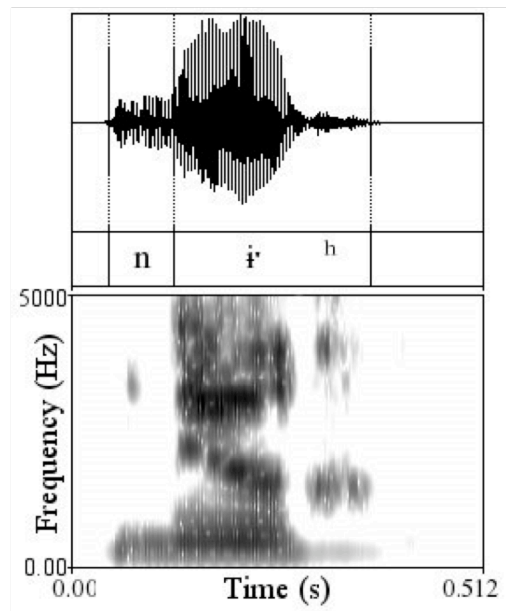
Spectrogram 7. /hatu²uk/ ‘another’.
 (See §5.6.1, example (46d) p. 146.)



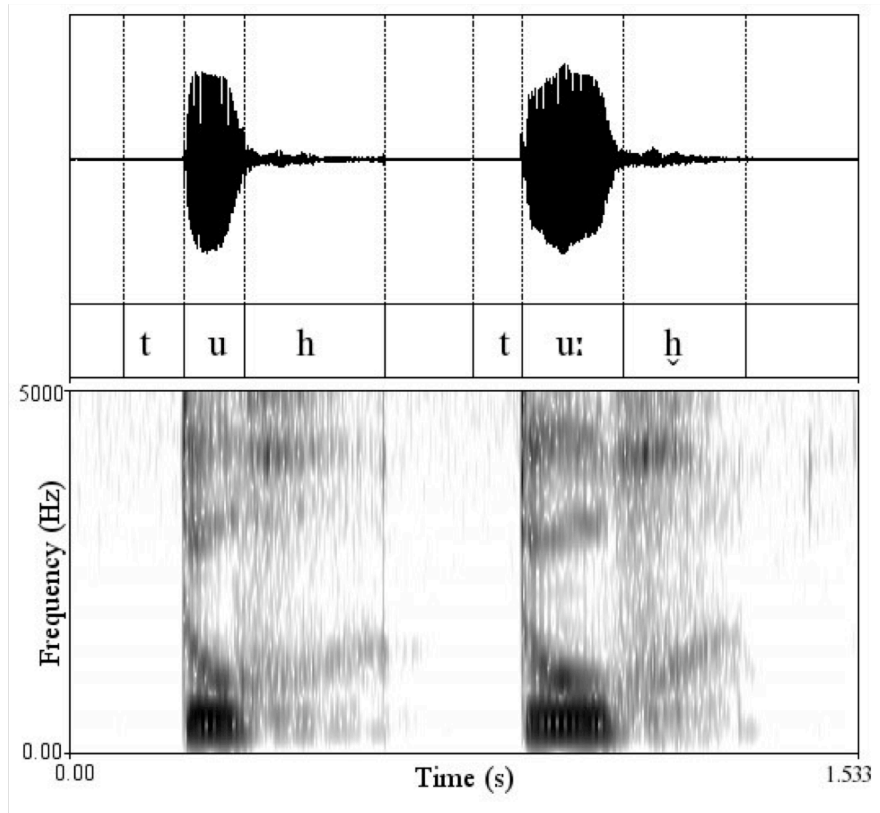
Spectrogram 8. /sʔats²rʔ/ ‘You answer to me’ (irrealis).
 (See §5.6.1, example (47) p. 147.)



Spectrogram 11. /pu^ht^hp/ ‘(he) runs’.
 (See §5.7, example (62a) p. 156.)



Spectrogram 12. /ni:~h/ ‘water’.
 (See §5.7, example (62b) p. 156.)



Spectrogram 13. /tuh/ 'type of basket' vs. /tu:h/ 'rain'.
(See §5.7, examples (62c-d) p. 156.)

Appendix B. Verb conjugations

In this appendix I present the inflection for all eight conjugational classes, which are described in §8.3.11. As a reminder, the conjugational classes were defined both by the form of the last syllable of the verb stem (i.e. whether it is short or long, glottalized or plane) and by apophony it undergoes in the conjugations (see §8.3.9 and §8.3.11).

In §§8.3.9-11, verb stems were said to have at four main variants:

- one for the neutral dependent AM, called STEM A;
- one for the irrealis AM, called STEM A', it's usually a variant of STEM A, and not all verbs have it;
- one for the neutral independent AM, called STEM B; and,
- one for the completive AM, which is manifested only by the apophony, called STEM C.

Also in §8.4.2, the apophony triggered by the inverse morpheme was presented according to the verb conjugational classes. As a reminder, the inverse and the inchoative suffixes trigger the same type of apophony. However, the situation is far more complicated: sometimes the form that the verb stem has in the singular is different from the form it has in the plural. In chapter 8, I do not presented in detail all these changes. Furthermore, in many cases the form for the singular and the plural are not entirely predictable. Thus, it is necessary to present all this information in a more or less condensed form.

In these tables, I follow the same conventions used when presenting other tables with the conjugational classes (§8.3.11, §8.4.2). In other words,

- «C» stands for a consonant;
- «V» stands for a short vowel;
- «VV» stands for a long vowel
- «V'» stands for a glottalized vowel;
- «V'V» stands for a rearticulated vowel;
- «Vj» stands for a short aspirated vowel

- «VVj» stands for a long aspirated vowel; and
- «V'Vj» stands for an aspirated and rearticulated vowel.

As a reminder, in the orthography the letter «j» has two uses: as the glottal fricative consonant /h/ and as part of an aspirated nucleus /V^h/. Thus, in some cases it might not be clear whether a sequence «Vj» refers to an aspirated nucleus or a plain nucleus followed by a consonant, but the difference is made explicit if necessary.

In the table, I do not present the whole verb, but only the last syllable of the verb stem plus the inflectional suffixes. The last syllable of the verb stem is represented using upper case letters and the suffixes using lower case letters. This is exemplified in (1).

- | | | |
|---|-------------------|-----------|
| 1. a) mko'mtëp
m-kon-të-p
2A-carry-PL-INDEP
'you (pl) carry it/them (the small objects)' | is represented as | CV'Ntëp |
| b) jëënyëtëp
jëy-në-të-p
buy-PREF-PL-INDEP
'(We/they) have bought' | is represented as | CVVynëtëp |

However, it is necessary to keep in mind that the palatal glide /j/ undergoes metathesis with the following consonant. For this reason, it is explicitly presented using «y», even if it is part of the verb stem. This is relevant because the palatal glide as the coda of the last syllable of the verb stem helps defining three verb classes (Class 3, Class 6b, and Class 7b).

Unlike the conjugational tables in §8.3.11 and §8.4.2, here there is an independent table for each conjugational subclass.

Ia CVC_[fricative]: Invariable.

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVjC	CVCtëp	CVCëp	CVCëtëp	CVCy	CVct	CVCy	CVCyët
Irrealis	CVCp	CVCtëp	CVCëp	CVCëtëp	CVct	CVctët	CVCët	CVCëtët
Completive	CVC	CVct						
Perfect neutral	CVCnëp	CVCnëtëp	CVCënyëp	CVjCënytëp	CVCn	CVCnët	CVCëny	CVCënyët
First person plural Inclusive	CVVjCyë'm							
Imperative -k	CVVjCëk							
+V	CVC+V							
+C	CVC+C							
Applicative benefactive	CVjC							

Ib CVC_[nasal]:

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVNp(y)	CVVNtëp	CV'VNëp/ CVVjNëp	CVVjNëtëp	CVNy	CVNt	CVNy	CVNyët
Irrealis	CV'Np	CV'Ntëp	CV'Nëp	CV'Nëtëp	CV'Nt	CV'Ntët	CV'Nët	CV'Nëtët
Completive	CVVN	CVVNt						
Perfect neutral	CVNnëp	CVVNnëtëp	CVjNën(y)ëp	CVjNën(y)tëp	CVNn	CVVNnët	CV'VNëny/ CVVjNëny	CVVjNënyët
First person plural Inclusive	CV'VNYë'm							
Imperative -k	CV'VNëk/ CVVjNëk							
+V	CVN+V							
+C	CVN+C							
Applicative benefactive	CVVjN							

Ic CVC_[obstruent]:

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVjCp	CVjCtëp	CVjCëp	CVjCëtëp	CVCy	CVCt	*****	CVCyët
Irrealis	CVCp	CVCtëp	CVCëp	CVCëtëp	CVCt	CVCtët	CVCët	CVCëtët
Completive	CVjC/ CVVjC	CVjCt						
Perfect neutral	CVjCnëp	CVjCnëtëp	CVjCënyëp	CVjCënyëtëp	CVjCn	CVjCnët	CVjCën	CVjCënyët
First person plural Inclusive	CVjCyë'm							
Imperative -k	CVjCëk							
+V	CVC+V							
+C	CVjC+V							
Applicative benefactive	CVVjC							

IIa CVjCx: Invariable

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVjCxp(y)	CVjCxtëp	CVjCxëp	CVjCxëtëp	CVjCxy	CVjCxt	****	CVjCxyët
Irrealis	CVjCxp	CVjCxtëp	CVjCxëp	CVjCxëtëp	CVjCxt	CVjCxtët	CVjCxët	CVjCxëtët
Completive	CVVCx	CVVCxt						
Perfect	CVjCxnëp	CVjCxnëtëp	CVjCxënyëp	CVjCxënyëtëp	CVjCxn	CVjCxnët	CVjCxën(y)	CVjCxënyët
First person plural inclusive	CVjCxyë'm							
Imperative -k	CVjCxëk							
+V	CVjCx+V							
+C	CVjCx+C							
Applicative benefactive	CVjCx							

Iib CV'Cx: Invariable

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CV'Cxp(y)	CV'Cxtëp	CV'Cxëp	CV'Cxëtëp	CV'Cxy	CV'Cxt	****	CV'Cxyët
Irrealis	CV'Cxp	CV'Cxtëp	CV'Cxëp	CV'Cxëtëp	CV'Cxt	CV'Cxtët	CV'Cxët	CV'Cxëtët
Completive	CV'VCx/ CV'Cx	CV'Cxt						
Perfect neutral	CV'Cxnëp	CV'Cxnëtëp	CV'Cxënyëp	CV'Cxënyëtëp	CV'Cxn	CV'Cxnët	CV'Cxën(y)	CV'Cxënyët
First person plural inclusive	CV'Cxyë'm							
Imperative -k	CV'Cxëk							
+V	CV'Cx+V							
+C	CV'Cx+C							
Applicative benefactive	CV'Cx							

III CVy

	Singular	Plural	Inverse ^(a) Singular	Inverse ^(a) Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVVpy	CVVtyëp	CVVjyëp/ CV'Vyëp	CVVjyëtëp/ CV'Vyëtëp	CVy	CVVty	****	CVVyët
Irrealis	CV'Vpy	CV'Vtyëp	CVVjyëp	CVVjyëtëp	CV'Vty	CV'Vtyët	CVVyët	CVVyëtët
Completive	CVVy	CVVty						
Perfect	CVVnyëp	CVVnyëtëp	CVVjyënyëp/ CV'Vyënyëp	CVVjyënyëtëp/ CV'Vyënyëtëp	CVVny	CVVnyët	CVVjyëny	CVVjyënyët
First person plural inclusive	CV'Vyë'm							
Imperative -k	CVjyëk/ CVVjyëk/ CV'Vyëk							
+V	CVy+V							
+C	CVV+Cy							
Applicative Benefactive	CVVjy							

^(a) The inverse forms have the vowel that has not been affected by the apophony.

IVa CVVC_[obstruent] (CVV'C)

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CV' Cp	CV' Ctëp	CV' VCë'p/ CV' VjCë'p	CV' VCëtëp/ CV' VjCëtëp	CVVCy	CVVCt	****	CVVCyët
Irrealis	CVVCp	CVVCtëp	CVVCëp	CVVCëtëp	CVVCt	CVVCtët	CVVCët	CVVCëtët
Completive	CV'VC							
Perfect	CV' Cnëp	CV' Cnëtëp	CV' VCënyëp	CV' VCënyëtëp	CV' Cn	CV' Cnët	CV' VCëny	CV' VCënyët
First Person plural inclusive	CV' VCyë'm							
Imperative -k	CV' VCëk							
+V	CVVC+V							
+C	CVjC+C/ CV'C+C							
Applicative benefactive	CV'V(j)C							

IVb CVVh: Invariable

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVVjp(y)	CVVjtëp	CVVjëp ^(a)	CVVjëtëp ^(a)	CVVjy	CVVjt	****	CVVjyët
Irrealis	CVVjp	CVVjtëp	CVVjëp	CVVjëtëp	CVVjt	CVVjtët	CVVjët	CVVjëtët
Completive	CVVj	CVVjt						
Perfect	CVVjnëp	CVVjnëtëp	CVVjënyëp	CVVjënyëtëp	CVVjn	CVVjnët	CVVjëny	CVVjënyët
First person plural inclusive	CVjyë'm							
Imperative -k	CVjëk							
Inclusive								
+V	CVVj+V							
+C	CVVj+C							
Applicative benefactive	CVVj							

^(a) In the inverse form in this, the phonological form is /CV:^h/ but it is realized as [CV·h] or [CV:h].

Class V: CVV

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVVp(y)/ CV'Vp	CVVtëp/ CV'Vtëp	CVVjëp/ CVjëp	CVVjëtëp/ CV'Vtëp/ CVjëtëp	CVy	CVVt	****	CVyët
Irrealis	CV'Vp	CV'Vtëp	CVVjëp/ CVjëp	CVVjëtëp/ CVjëtëp	CV'Vt	CV'Vtët	CVVt/ CVjët	CVVtët
Completive	CVV/ CVVj	CVVjt						
Perfect	CVVnëp	CVVnëtëp	CVVjënyëp	CVVjënyëtëp	CVVn	CVVnët	CVVjëny	CVVjënyët
First person plural inclusive	CV'Vyë'm							
Imperative –k	CV'Vk/ CVjëk							
+V	CV+V							
+C	CVV+C							
Applicative benefactive	CVVj							

VIa CV'V: Invariable

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CV'Vp(y)	CV'Vtëp	CV'Vp	CV'Vtëp	CV'Vy	CV'Vt	****	CV'Vyët
Irrealis	CV'Vp	CV'Vtëp	CV'Vp	CV'Vtëp	CV'Vt	CV'Vtët	CV'Vt	CV'Vtët
Completive	CV'V							
Perfect	CV'Vnëp	CV'Vnëtëp	CV'Vnëp	CV'Vnëtëp	CV'Vn	CV'Vnët	CV'Vn	CV'Vnyët
First person plural inclusive	CV'Vyë'm							
Imperative -k	CV'Vk							
+V	CV+V							
+C	CV'V+C							
Applicative benefactive	CV'V							

VIb CV'Vy: Invariable.

(Just a few verbs)

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CV'Vp(y)	CV'Vtyëp	CV'Vyëp	CV'Vyëtëp	CV'Vy	CV'Vty	****	CV'Vyët
Irrealis	CV'Vpy	CV'Vtyëp	CV'Vyëp	CV'Vyëtëp	CV'Vty	CV'Vtyët	CV'Vyët	CV'Vyëtët
Completive	CV'Vy							
Perfect	CV'Vnyëp	CV'Vnyëtëp	CV'Vyënyëp	CV'Vyënyëtëp	CV'Vny	CV'Vnyët	CV'Vyën	CV'Vyënyët
First person plural inclusive	CV'Vyë'm							
Imperative -k	CV'Vk							
+V	CV'Vy+V							
+C	CV'V+Cy							
Applicative benefactive	CV'Vjy							

VIIa CV'V: Stem A: CVV; Stem B: CV'V.

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVVp	CVVtëp	CVVjëp	CVVjëtëp	CV'Vy	CV'Vt	****	CV'Vtyët
Irrealis	CV'Vp	CV'Vtëp	CV'Vp	CV'Vtëp	CV'Vt	CV'Vtët	CV'Vt	CV'Vtët
Completive	CVV							
Perfect	CVVnëp	CVVnëtëp	CVVjënyëp	CVVjënyëtëp	CVVn	CVVnët	CVVjën	CVVjënyët
First person plural inclusive	CV'Vyë'm							
Imperative -k	CVVjëk/ CV'Vk							
+V	CV+V							
+C	CVV+C							
Applicative benefactive	CVVj							

VIIIb CV'Vy: Stem A: CVVCy; Stem B: CV'V(C)y

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVVpy	CVVtyëp	CVjyëp	CVjyëtëp	CV'Vy	CV'Vty	****	CV'Vyët
Irrealis	CV'Vpy	CV'Vtyëp	CV'Vyëp	CV'Vyëtëp	CV'Vty	CV'Vtyët	CV'Vyët	CV'Vyëtët
Completive	CVVy	CVVty						
Perfect	CVVnyëp	CVVnyëtëp	CVVjënyëp	CVVjënyëtëp	CVVny	CVVnyët	CVVjyën/ CV'Vyën	CVVjyënyët/ CV'Vyënyët
First person plural inclusive	CV'Vyë'm							
Imperative -k	CVky/ CVjyëk							
+V	CV'Vy+V							
+C	CVVCy							
Applicative benefactive	CV'Vjy/ CVVjy							

VIIIa CV'VC: Stem A: CV'C; Stem B: CV'VC; Stem C: CV'VjC

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CV'Cp(y)	CV'Ctëp	CV'VjCëp	CV'VjCëtëp	CV'VCy	CV'VCt	****	CV'VCyët
Irrealis	CV'VCp	CV'VCtëp	CV'VjCëp	CV'VjCëtëp	CV'VCt	CV'VCtët	CV'VCët	CV'VCëtët
Completive	CV'VjC	CV'VjCt						
Perfect	CV'Cnëp	CV'Cnëtëp	CV'VjCënyëp	CV'VjCënyëtëp	CV'Cn	CV'Cnët	CV'VjCën	CV'VjCënyët
First person plural inclusive	CV'VCyë'm/ CV'VjCyë'm							
Imperative -k	CV'VjCëk							
+V	CV'VC+V							
+C	CV'C+C							
Applicative benefactive	CV'C							

VIIIb CV'VC: Stem A: CV(°)C; Stem B: CV'VC; Stem C: CVVjC

	Singular	Plural	Inverse Singular	Inverse Plural	Singular	Plural	Inverse Singular	Inverse Plural
Neutral	CVCp(y) CV'Cp(y)	CVCtëp	CVVjCëp	CVVjCëtëp	CV'VCy	CV'VCt	****	CV'VCyët
Irrealis	CV'VCp	CV'VCtëp	CVVjCëp	CVVjCëtëp	CV'VCt	CV'VCtët	CV'VCët	CV'VCëtët
Completive	CVVjC	CVVjCt						
Perfect	CVCnëp	CVCnëtëp	CVVjCënyëp	CVVjCënyëtëp	CVCn	CVCnët	CVVjCën	CVVjCënyët
First person plural inclusive	CVVjCyë'm							
Imperative -k	CVVjCëk							
+V	CV'VC+V							
+C	CV'C+C							
Applicative benefactive	CVVjC							

Appendix C- Narrative

In this appendix I present a narrative told by Irene Galván Morales on 2005, during my longest fieldtrip to the community. The narrative is written in the Mixe alphabet, just like the examples in the rest of the dissertation. In general, the text is preserved as it was told, except for the exclusion of some hesitations. As in the examples throughout this dissertation, the glossing of the narratives follows the same conventions. However, unlike the examples in this dissertation, here I included the Spanish translation that was told to me when I was transcribing the texts. The English translation is based on the Spanish translation. In narrative, all the Spanish words and phrases appear in italics, except when it is clear that the word has been borrowed into Mixe.

The mat-snake

1. Ps *siempre* jëntep ity titymyo'oy myityä'äkt te'n.
 pës siempre jëntep ijty teetymä'äy y-matyä'äk-t jëte'n
 DISC always before IMPF grandfather 3S-talk-PL;DEP M.DEM
 'Pues mi abuelito siempre platicaba así.'
 'My grandpa used to tell this (i.e. the following tale).'

2. Ja titymyo'oy ti ijty myityä'äkt kuk... ku ka't ëëts ti ity... posetypy ëëts nnëkont *había un pozo*.
 ja'a teetymyä'äy ti ijty y-matyä'äk-t ku=ëk kuu ka't ëëts
 DEM.D grandfather IMPF 3S-talk-DEP Cmplz=HEARSAY Cmplz NEG 1PL.EX
 tii ijty komo pos-ot-py ëëts n-nëej-kon-t
 IMPF as well-INSIDE-LOC 1PL.EX 1A-water-carry-PL;DEP
 'El abuelo platicaba que... que nosotros no... trajéramos agua del pozo, había un pozo.'
 'Grandpa used to tell that... that we did not... carry water from the well, there was a well. ' 1816

3. Ës japa nëej jyaakkeny.
 jëts jajp=ja'a nëej y-ja-ak-kon-y
 and DEIC.D=DEM.D water 3S-PREF-CAUS-carry-DEP
 'Y ahí iba a traer agua'

‘And I used to carry water from there.’ 1818

4. Ejtp eëts nnëkont jajp.

ejtp eëts n-në-kon-t jajp
always 1PL.EX 1A-ON-carry-PL;DEP DEIC.D

‘Nosotros siempre traíamos de ahí.’

‘We always carried it from there.’ 1820

5. Ta titymyá’äy y’anä’ány «ka’t jajp n’extët, ka’t mkëyättët *porque* jajp to’oky te’n, käjts to’oky te’n, käjtsëka».

taa teetymyá’äy y-anä’an-y ka’t jajp n-ex-të-t
DEIC.D grandfather 3S-SAY-DEP NEG DEIC.D 1A-see-PL-IRR;DEP NEG

ka’t m-këyät-të-t *porque* jajp to’oky jëte’n käjts
NEG 2S-play-PL-IRR;DEP because DEIC.D petate M.DEM black.&.white

to’oky jëte’n käjts=ëk=ja’a
petate M.DEM black.&.white=HEARSAY=DEM.D

‘Y el abuelito dijo «ahí no vayan ahí no juegen *porque* ahí hay *petate* de blanco y negro, un *petate* en blanco y negro.»’

‘Grandpa said, «do not look there, do not play there because there is a *petate* that is black and white; a black and white *petate*.»’ 1826

Note: A *petate* is a kind of mat made out of the leaves of the palm tree.

6. «Kuk jajp mpujtë’ëjkt tsä’ányëk nojtya’, mëj tena’».

ku=ëk jajp m-put-ë’ëk-t tsä’ány=ëk nojty=ja’a
when=HEARSAY DEIC.D 2S-jump-go.up-IRR;DEP snake=HEARSAY IMPF=DEM.D

mëj jëte’n=ja’a

big M.DEM=DEM.D

‘«Si brincas ahí, hay una serpiente, grande está.»’

‘«If you jump there, there is a snake, it is big.»’ 1828

7. Ku yë’ ta y’anä’ány, «pës ka’tajp mkyättët,» te’n y’anä’ány.

ku yë’ë taa y-anä’an-y pës ka’t=jajp m-këyät-të-t jëte’n y-anä’an-y
when DEM.M DEIC.M 3S-say-DEP DISC NEG=DEIC.D 2S-play-PL-IRR;DEP M.DEM 3S-say-DEP

‘Cuando dijo así «pues no jueguen allá,» así dijo.’

‘When he said «do not play there,» he said.’ 1831

8. «Ka’t jajp mkyättët, ka’t nëej... mnëkä’tspattët, ka’t te xtu’ntët.» Te’na’ teetymyá’äy y’anä’ány.

ka’t jajp m-këyät-të-t ka’t nëej m-nëej-kä’äts-pat-të-t ka’t te
NEG DEIC.D 2S-play-PL-IRR NEG water 2S-water-throw-ascend-PL-IRR;DEP NEG NEG

x-tun-të-t jëte’n=ja’a teetymyá’äy y-anä’an-y
2A-work-PL-IRR M.DEM=DEM.D grandfather 3S-say-DEP

‘«No jueguen allá, no avienten piedras dentro del agua, no le hagan nada.» Así dijo el abuelo.’

‘«Do not play there, do not throw stones into the water, do not do anything,»
grandfather said.’ 1835

9. Ps ja' eëts ntsë'ëkinyaxypy ja käts ja'a, käts tsä'ány kua teetyä'äy te'n
myatya'aky.

pës ja'a eëts n-tsë'ëk-ë-näx-yp ja'a käjts
DISC DEM.D 1PL.EX 1S-get.cared-INCH-pass-INDEP;TR DEM.D black.&.white

ja'a käjts tsä'ány ku=ja'a teetyä'äy jëte'n y-matyä'äk-y
DEM.D black.&.white snake when=DEM.D grandfather M.DEM 3S-tell-DEP

‘Pues a ese le teníamos mucho miedo, a la pinta, a la serpiente pinta, cuando así
platicó el abuelo.’

‘We were very afraid of the black and white one, the black and white snake, when
grandfather told that.’ 1840

10. Ps kantee eëts nkanëkä'tspatt kum...

pës kantee eëts n-ka-nëej-kä'äts-pat-t
DISC never 1PL.EX 1S-NEG-water-throw-ascend-PL;DEP

‘Pues nosotros nunca aventamos (piedras) al agua, as...’

‘We never threw (stones) in the water, as...’ 1843

11. Mëja' pos ity, mëja tänk jëte'n, mëja tänk jëte'n, mëj.

mëj=ja'a pos iijty mëj=ja'a tänk jëte'n mëj=ja'a tänk jëte'n mëj
big=DEM.D well IMPF big=DEM.D well M.DEM big=DEM.D well M.DEM big

‘Era grande el pozo, era grande el tanque, ¿verdad?, era grande el tanque, ¿verdad?,
grande.’

‘The well was big, the well was big, wasn't it? The well was big, wasn't it? (It was)
big.’ 1847

12. Ps ka't eëtsa nnëkä'tspatt taa'...

pës ka't eëts=ja'a n-nëej-kä'äts-pat-t taa=ja'a
DISC NEG 1PL.EX=DEM.D 1A-LOC-throw-ascend-PL;DEP DEIC.D=DEM.D

‘Pues nosotros no aventamos (piedras) al agua.’

‘We never threw them (stones) into the water.’ 1849

13. Ps ta te'na jä'äy te'n te'nëk ojts jyaty, te'na teetyä'äy myatya'aky, pues.

pës taa jëte'n=ja'a jä'äy jëte'n jëte'n=ëk ojts y-jät-y
DISC DEIC.M M.DEM=DEM.D person M.DEM M.DEM=HEARSAY PRET 3S-happen-DEP

jëte'n=ja'a teetyä'äy y-mëtyä'äk-y pës
M.DEM=DEM.D grandpa 3S-tell-DEP DISC

‘Pues entonces así le pasó a esa persona, así contó el abuelo, pues.’

‘This is how it happened to that person, it was how grandfather said.’ 1853

14. Tak jēte'n ojtsa jā'äy te'na y'u'unk, nēmajtskēka, tu'uk kiixyu'nk, tu'uk mixyu'nk.
 taa=ək jēte'n ojts=ja'a jā'äy jēte'n=ja'a y-u'unk
 DEIC.M=HEARSAY M.DEM PAST=DEM.D person M.DEM=DEM.D 3POSS-child
 nē-majtsk=ək=ja'a tu'uk kiixy-u'nk tu'uk mixy-u'nk
 ANIM-two=HEARSAY=DEM.D one girl-DIM one boy-DIM
 'Entonces dicen que esa persona tenía dos hijos, una niña y un niño.'
 'It's said that that person had two children, one girl and one boy.' 1858
15. Tenēka'... y'anä'äk t'anējm, ka'tēka' myētootēk.
 jēte'n=ək=ja'a y-anä'äk t-a+nējm ka't=ək=ja'a
 M.DEM=HEARSAY=DEM.D 3POSS-young.people 3A- decir NEG=HEARSAY=DEM.D
 y-mētoo-t=ək
 3S-listen-DEP.pl=HEARSAY
 'Así le dijo a sus hijos, no obedecieron.'
 'He told this (i.e. not to go looking for the *petate*) to his children, they did not listen.'
 1860
16. Ēs taak ojtsa to'oky jajp t'expäätt, te'nēka, akxonēk jajp pyujti'iky, pyujti'iky,
 pyujti'iky jajp.
 jēts taa=ək ojts=ja'a to'oky tajp t-ex-päät-t
 and DEIC.M=HEARSAY PAST=DEM.D petate DEIC.M 3A-see-find-PL;DEP
 jēte'n=ək=ja'a akxon=ək tajp y-put-ē'ək-y
 M.DEM=HEARSAY=DEM.D intens=HEARSAY DEIC.M 3s-jump-go.up-DEP
 y-put-ē'ək-y y-put-ē'ək-y tajp
 3S-jump-go.up-DEP 3S-jump-go.up-DEP DEIC.M
 'Y entonces divisaron el *petate*, dicen que brincaban mucho, brincaba, brincaban allá'
 'And then they found the *petate*, and they jumped, jumped, jumped a lot.' 1865
17. Jajp, to'okykixypy
 tajp to'oky-kēx-py
 DEIC.M petate-SURFACE-LOC
 'Ahí sobre el *petate*.'
 'There, on the *petate*.' 1867
18. Ja' anä'äk.
 ja'a anä'äjk
 DEM.D young.people
 'Los muchachos.'
 'Those young people.' 1868

19. Ps tu'uk ojtsa', ja kiixyu'nk, yakapejtn ojts.
 pēs tu'uk ojts=ja'a ja'a kiixyu-u'nk y-ak-a-pet-n ojts
 DISC one PAST=DEM.D DEM.D girl-DIM 3S-CAUS-IN-roll-PERF;DEP PAST
 'Pues una, la niña, la envolvieron.' (i.e. La envolvieron con el petate.)
 'Then one, the girl, (the *petate*) rolled around her.' 1871
20. Ta ojtsa' taknējkxn jajp nēetyy.
 taa ojts=ja'a t-ak-nējkx-n tajp nēēj-ot-py
 DEIC.M PAST=DEM.D 3A-CAUS-go-PERF;DEP DEIC.D water-inside-loc
 'Entonces se la llevó al agua.'
 'Then it was taken to the water.' 1873
21. Ētsa' t'apejtmujknēt.
 jēts=ja'a t-a-pet-muk-nē-t
 and=DEM.D 3A-IN-roll-join-PERF-PL;DEP
 'Y la envolvió toda.'
 'And it rolled around her.' 1876
22. Ps jatēkojk ko ojtsa' kiixy, ko kixyēto'oxyājtn ojts.
 pēs jatukoojk ku ojts=ja'a kiixy ku kixyēto'oxy-āt-n ojts
 DISC then when PAST=DEM.D girl when young.lady-VRBLZ-PERF;DEP PAST
 'Pues entonces cuando la niña, cuando era ya señorita.'
 'Then (the time went by), and when the girl, when she had become a young lady.'
 1879
23. Ps ojtsa' yu'unk kanaxy tjatimyēxtā'āty, nimāāka' tkapātn ja yu'unk.
 pēs ojts=ja'a y-u'unk kaa-nāx+y t-ja-timy-extā'āy-t
 DISC PAST=DEM.D 3POSS-child much-INTENS 3A-XX-just-search-PL;DEP
 ni-māā=ēk=ja'a t-ka-pāāt-n ja'a y-u'unk
 NEG-where=HEARSAY=DEM.D 3A-NEG-find-PERF;DEP DEM.D 3POSS-child
 'Pues buscaron mucho a su hija, (dicen que) por ningún lado la encontraron.'
 'Then they searched much for his child, she was not found anywhere.' 1882
24. Jekyēk ojts t'extā'āyyēk.
 jeky=ēk ojts t-extā'āy-y=ēk
 much.time=HEARSAY PAST 3A-buscar-DEP=HEARSAY
 'Mucho tiempo buscaron.'
 'They looked for her a long time.' 1885
25. Ps taka' jatukoojk ja'... ja' tat ja' nan y'anā'āny, tēēka y'u'unk nojty kyixyēto'oxy, tē nojtya... mējna, pues.
 pēs taa=ēk=ja'a jatukoojk ja'a ja'a tāt ja'a nān
 DISC DEIC.M=HEARSAY=DEM.D then DEM.D DEM.D man DEM.D woman
 y-anā'ān-y tēē=ēk=ja'a y-u'unk nojty y-kixyē'to'oxy

3S-say-DEP BEFORE.NOW=HEARSAY=DEM.D 3POSS-child IMPF 3POSS-young.lady

tëë nojty=ja'a mēj-n=ja'a
BEFORE.NOW IMPF=DEM.D big-PERF=DEM.D

‘Entonces, el señor, la señora, dicen, su hija ya era señorita, ya era grande pues.’

‘And then, the child of the man and the woman, it is said, was already a young woman, she was old.’ 1892

26. Taka' y'anä'äny, ps tak ojtsa' jyä'äty ja' nyëëx.

taa=ëk ja'a y-anä'an-y pës taa=ëk ojts=ja'a
DEIC.M=HEARSAY DEM.D 3s-say-DEP DISC DEIC.M=HEARSAY PAST=DEM.D

y-jä'ät-y ja'a y-nëëx
3s-arrive-DEP DEM.D 3poss-daughter

‘Dicen que dijo, pues entonces llegó su hija.’

‘Then he said (that) their daughter arrived.’ 1896

27. Ja' nyëëx ojts jyä'äty ojts.

ja'a y-nëëx ojts y-jä'ät-y ojts
DEM.D 3poss-daughter PAST 3s-arrive-DEP PAST

‘Su hija llegó.’

‘Their daughter arrived.’ 1898.947

28. Tak yani'mxyëk.

taa=ëk y-a+në'mx-y=ëk
DEIC.M=HEARSAY 3s-say-DEP=HEARSAY

‘Entonces le dijo.’

‘Then she told them.’ 1900

29. Japëka' kaajit'u'nk tu'uk mutsyk jëte'n tkonëk.

jajp=ëk=ja'a kaja-u'unk tu'uk mutsk jëte'n t-kon=ëk
DEIC.D=HEARSAY=DEM.D box-DIM one small M.DEM 3A-carry=HEARSAY

‘Ella trajo una cajita, una pequeña.’

‘She brought a little box, a little one.’ 1902

30. Tak y'anä'an.

taa=ëk y-anä'an
DEIC.M=HEARSAY 3s-say[DEP]

‘Eso (ya) dijo.’

‘It's said.’ 1903

31. «Tsyäats njä'äty mamá.» Nëmëk y'anä'äny. «Ah bueno.» Te'nëk y'anä'äny.

tsyäa=ëjts n-jä'ät-y mamá nëm=ëk y-anä'an-y
DEIC.P=1SG 1S-arrive-DEP mother say=HEARSAY 3s-say-DEP

ah bueno jëte'n=ëk y-anä'an-y
hm good M.DEM=HEARSAY 3s-say-DEP

‘«Ya llegué mamá,» dijo; «está bien,» dijo (la mamá).’
 ‘I arrived mom,» she said; «ah, okay,» she (the mother) said.’ 1907

32. «Ey te’n.» Nëmëk.

ey jëte’n nëm=ëk
 good M.DEM say=HEARSAY
 ‘«Qué bien,» dijo.’

‘«That’s good,» they said.’ 1908

33. «¿Mää mejts mtsoony?» te’nëk y’anä’ány.

mää mejts m-tsoon-y jëte’n=ëk y-anä’än-y
 where 2SG 2S-go.away-DEP M.DEM=HEARSAY 3S-say-DEP
 ‘«¿De dónde vienes?,» así dijo.’

‘«Where do you come from?,» they said.’ 1910

34. «Ps jajp ejts ntsëen,» te’nëk y’anä’ány. «Ah,» nëmëk.

pës jajp ejts n-tsëen jëte’n=ëk y-anä’än-y ah nëm=ëk
 DISC DEIC.D 1SG 1s-sit[inch.dep] M.DEM=HEARSAY 3s-say-DEP ah say=HEARSAY
 ‘«Pues allá vivo,» así dijo. «Ah» dijo.’

‘I live there,» so she said. «Ah,» they said.’ 1914

35. Ps ka’tëka’ nyän.... kum kata’ te’n tukjä’än tam jëkeexy y’u’unkë’n.

pës ka’t=ëk=ja’a y-nän como ka’t=ja’a jëte’n
 DISC NEG=HEARSAY=DEM.D 3poss-woman as NEG=DEM.D M.DEM

t-uk-jäw-n tam jëkeexy y-u’unk=ë’n
 3A-PREF-feel-PERF;DEP as HYPO 3POSS-child=ADJ

‘Pues la señora no, como que ya no sentía que fuera su hija.’

‘The lady, she didn’t feel as if she were her child.’ 1918

36. «Ps ka’ta’ te’n,» Taak yani’mxyëk.

pës ka’t=ja’a jëte’n taa=ëk y-a+në’mx-y=ëk
 DISC NEG=DEM.D M.DEM DEIC.M=HEARSAY 3s-say-DEP=HEARSAY

‘«Pues así no es,» entonces le dijo.’

‘«And then, it’s not like that,» she said.’ 1920

37. «Nijxys mwet tēspujy, ¿jajp mwet mejtsa?» te’nëk y’anä’ány.

nëjx-y=ejts m-wet t-ës-puj-y tajp m-wet mejts=a
 go-DEP=1SG 2poss-clothes 3A-MCP-wash-DEP DEIC.D 2POSS-clothes 2SG=Q

jëte’n=ëk y-anä’än-y
 M.DEM=HEARSAY 3S-say-DEP

‘«Voy a lavar tu ropa, ¿tienes tu ropa?» así dijo (la hija).’

‘I’ll go do your laundry, do you have your clothes?» she (the daughter) said.’ 1922

38. Ps taka' wyet ojts taktso'ony, ta t'anëëjm, taa wyet ojts taktso'ony.
 pës taa=ëk ja'a y-wet ojts t-ak-tsoon-y taa
 DISC DEIC.M=HEARSAY DEM.D 3poss-clothes PAST 3A-CAUS-go.away-DEP DEIC.M
 t-a+nëëjm taa y-wet ojts t-ak-tsoon-y
 3A-say\BEN[INCH.DEP] DEIC.M 3poss-clothes PAST 3A-CAUS-go.away-DEP
 'Pues entonces se llevó su ropa, entonces le dijo, entonces se llevó su ropa.'
 'Then she took their clothes, then she said to them; then she took their clothes.' 1927
39. «Tsyäap yë' mutsyk kaju'nk, ka't xto'nt *mamá*, nëmëk t'anëëjm.
 tsyäj p yë'ë mutsk kaja-u'unk ka't x-ton-t mama
 DEIC.P DEM.M small box-DIM NEG 2A-tocar-IRR;DEP mother
 nëm=ëk t-a+nëëjm
 say=HEARSAY 3A-say\BEN[INCH.DEP]
 '«Esta cajita está aquí, no la toques mamá,» así le dijo.'
 '«This little box here, do not touch it mom,» that's what she told her.' 1929
40. «Oo,» te'nëk y'anä'äny, ja nyan.
 oo jëte'n=ëk y-anä'än-y ja'a y-nän
 AFF M.DEM=HEARSAY 3S-say-DEP DEM.D 3POSS-mom
 '«Bueno,» así dijo, su mamá.'
 '«Okay,» her mom said.' 1932
41. Ta ojts nyijkxy wetpujp.
 taa ojts y-nëjkx-y wet-puj-p
 DEIC.M PAST 3S-go-DEP clothes-wash-INDEP
 'Entonces se fue a lavar la ropa.'
 'Then she went to wash the clothes.' 1935
42. Pës japa' wyetpujy ko ojtsa'... ja' nyan, ojts jajp takityu'utya' mutsyk kaju'nk.
 pës tajp=ja'a y-wet-puj-y ku ojts=ja'a ja'a y-nän
 DISC DEIC.D=DEM.D 3S-clothes-wash-DEP when PAST=DEM.D DEM.D 3POSS-mom
 ojts tajp t-akityu'ut-y=ja'a mutsk caja-u'unk
 PAST DEIC.D 3A-open-DEP=DEM.D little box-DIM
 'Pues estaba lavando cuando su mamá, ella destapó la cajita.'
 'Then she was washing clothes, when her mom, she opened the little box.' 1939
43. Tsä'äny myayxu'unkëk nojty jajp maynyaxy.
 tsä'äny y-maxu'unk=ëk nojty tajp may-naxy
 snake 3poss-baby=HEARSAY IMPF DEIC.D many-INTENS
 'Había muchas víboras chiquitas'
 'Many baby snakes were there.' 1942

44. Ps ja' nyëex yu'unka'an, ka'ta, ka'ta yukwa'an, ka'ta... n'anä'änë'n, yukjä'äjtt tama
 y'u'unke'n iijty, nëkooj te'na yësjä'ätya' poj'äjtp
 pës ja'a y-nëëx y-u'unke wa'n ka't=ja'a ka't=ja'a
 DISC DEM.D 3poss-daughter 3poss-child DUB NEG=DEM.D NEG=DEM.D
 y-uk-wa'a-ë-n ka't=ja'a n-anä'än-ë'n
 3S-PREF-stuff-INCH-PERF;DEP NEG=DEM.D 1S-say-1PL.INCL
 y-uk-jä'ät-t tam=ja'a y-u'unke-ë'n iijty nëkoo jëte'n=ja'a
 3S-PREF-arrive-PL;DEP as=DEM.D 3POSS-child-ADJNT IMPF only M.DEM=DEM.D
 y-ës-jä'ät-y=ja'a poj-ät-p
 3S-MCP-arrive-DEP=DEM.D air-VBLZ-INDEP
 'Pues no parecían ser hijos de su hija, no ya no parecían ser... este... no, este...
 digamos, no llegaba como su hija, nada más llegaba como si ella fuera viento.'
 'They did not seem to be her daughter's children, they did not seem to be... hum...
 let's say, they did not arrive like her children; they (the snakes) arrived like the wind.'
 1954
45. Tak yani'mxyëk.
 taa=ëk y-a+në'mx-y=ëk
 DEIC.M=HEARSAY 3s-say-dep=HEARSAY
 'Entonces le dijo...'
 'Then she said...' 1956
46. Pues taak ojtsa' y'u'unke jëte'n, ku ojts jyä'tn taa nyan nyana'... wyet yëspujkëëjx, ta
 ojts jatëkoojk tyëkyetyty jyä'äty.
 pës taa=ëk ojts=ja'a y-u'unke jëte'n ku ojts
 DISC DEIC.M=HEARSAY PAST=DEM.D 3POSS-child M.DEM when PAST
 y-jä'ät-n taa y-nän y-nän=ja'a y-wet
 3S-arrive-PERF;DEP DEIC.M 3POSS-mom 3POSS-mom=DEM.D 3POSS-clothes
 y-ës-puj-këx taa ojts jatukoojk y-tëjk-ot-py
 3O-MCP-wash-finish\APPL[INCH.DEP] DEIC.M PAST again 3POSS-house-IN-LOC
 y-jä'ät-y
 3S-arrive-DEP
 'Pues entonces su hija, cuando llegó su mamá le fue a lavar toda su ropa, entonces
 otra vez llegó a su casa.'
 'Then her child, when her mom arrived, she went to wash all the clothes, and then she
 arrived home again.' 1961
47. Taak tanëëjm, «mama» nëmëk, «nëkxäännëp ëjts,» nëmëk.
 taa=ëk t-a+nëëjm mama nëm=ëk nëjcx-ä'än-në-p
 DEIC.M=HEARSAY 3A-say\BEN[INCH.DEP] mom say=HEARSAY [3S]go-DES-PERF-INDEP
 ëjts nëm=ëk
 1GS say=HEARSAY
 'Entonces le dijo (a su mamá), «mamá» dijo, «ya me voy a ir» dijo.'
 'Then she said (to her mother), «mom» she said, «I'll go» she said.' 1965

48. «Ey u'unk» nēmēk. Taka' y'u'unk ttijy tnēxāj jajp ja' kaja.
 ey u'unk nēm=ēk taa=ēk ja'a y-u'unk t-tej-y
 good child say=HEARSAY DEIC.M=HEARSAY DEM.D 3poss-child 3A-think-DEP
 t-nēxāj tajp ja'a kaja
 3A-grab[INCH.DEP] DEIC.D DEM.D box
 '«Bueno hija» le dijo. Entonces agarró a sus hijos que estaba en la caja.'
 '«Okay child» she said. Then she took her children that were there in the box.' 1968
49. Ps nitiiēka y'u'unk jajp, tēēka' y'u'unk yakakpājkkēxn tēkē'ēy.
 pēs ni-ti=ēk=ja'a y-u'unk tajp tē=ēk=ja'a
 DISC NEG-what=HEARSAY=DEM.D 3POSS-child DEIC.M BEFORE.NOW=HEARSAY=DEM.D
 y-u'unk y-a+ka'ak+pāk-kēx-n tukē'ēy
 3POSS-child 3s-flee.flying-finish-PERF;DEP all
 'Pues ninguno sus hijos no estaban ahí, ya se habían escapado todos.'
 'And then none of her children were there, all of them had escaped by flying away.'
 1971
50. Ta y'u'unk jēte'n y'apojpājkkēxn.
 taa y-u'unk jēte'n y-apojpāk-kēx-n
 DEIC.M 3POSS-child M.DEM 3S-flee.in.air-finish-PERF;DEP
 'Entonces se escaparon sus hijos por los aires.'
 'Then her children flew away (from each other).' 1973
51. Ta nyan ojtsa' y'ānā'āny, «¿tiis yē maxu'unk?, tēa, tē maxu'unk tē xtenya?»
 Te'nte'n.
 taa y-nān ojts=ja'a y-anā'ān-y ti=ts yē'ē maxu'unk
 DEIC.M 3POSS-mom PAST=DEM.D 3S-say-DEP what=EV DEM.M baby
 tē=a tē maxu'unk tē x-ton-y=ja'a jēte'n
 BEFORE.NOW=Q BEFORE.NOW baby BEFORE.NOW 2A-touch-DEP=DEM.D M.DEM
 'Entonces su mamá dijo, «¿qué le pasa a los niños, ya... ya tocaste al niño?» Así
 (dijo).'
 'Then her mom said, «what (happened) to the babies, did... did you touch the baby?»
 So (she said).' 1978
52. «Ii, ntimyotatys tēa...»
 Ii n-timy-otāt-y=ējts tēē=ja'a
 INTERJ 1A-just-think-DEP=1SG BEFORE.NOW=DEM.D
 '«Híjole, creo que sí...»'
 '«Wow, I truly think so...»' 1980
53. «Tēa m'u'unk y'apojpājkkixy,» te'nēk y'ānā'ānyēk.
 tēē=ja'a m-u'unk y-apojpāk-kēx-y jēte'n=ēk
 BEFORE.NOW=DEM.D 2POSS-child 3S-flee.in.air-finsh-DEP M.DEM=HEARSAY

y-anä'än-y=äk
 3S-say-DEP=HEARSAY
 '«Ya se escaparon tus hijos,» así le dijo.'
 '«Your children already flew away», so she said.' 1983

54. «Ah» nēmēk.
 ah nēm=äk
 ah say=HEARSAY
 '«Ah» dijo.'
 '«Ah» she said.' 1984

55. «Pēs nējxkx n ějts *mamá*,» nēmēk, ta y'änä'änyäk. «Oo» nēmēka' nyan.
 pēs nējxkx-n ějts mamá nēm=äk taa y-anä'än-y=äk
 DISC [1S]go-PERF;DEP 1SG mom say=HEARSAY DEIC.M 3S-say-DEP=HEARSAY
 oo nēm=äk=ja'a y-nän
 AFF say=HEARSAY=DEM.D 3POSS-señora
 '«Pues ya me voy mamá,» dijo, entonces dijo. «Esta bien,» dijo su mamá.'
 '«Then I'll go,» she said, so she said. «Okay,» her mom said.' 1989

56. «Pēs ja' mmē'ējť jyä'ätä'äny, ja' yē' jä'äxy yakjä'ätampy maynyaxy,» tenēk
 y'änä'äny.
 pēs ja'a m-mē'ējť y-jä'ät-ä'än-y ja'a yē'ē jä'äxy
 DISC DEM.D 2POSS-son.in.law 3S-arrive-DES-DEP DEM.D DEM.M fire.wood
 y-ak-jä'ät-ä'än-py may-naxy jēte'n=äk y-anä'än-y
 3O-CAUS-arrive-DES-INDEP;TR much-INTENS M.DEM=HEARSAY 3S-say-DEP
 '«Pues va a llegar tu yerno, va a traer bastante leña,» así dijo.'
 '«Your son-in-law will come, go get a lot of firewood,» she said.' 1993

57. «Ja' mjä'äxy tēsakjukt,» te'nēk y'änä'äny.
 ja'a m-jä'äxy t-ēs-ak-juk-t jēte'n=äk y-anä'än-y
 DEM.D 2POSS-firewood 3A-MCP-CAUS-unload-DEP.PL M.DEM=HEARSAY 3S-say-DEP
 '«Te van a traer tu leña,» así dijo.'
 '«They are going to bring your firewood,» she said.' 1995

58. «Ey u'unċ, ey,» nēmēk y'änä'äny.
 ey u'unċ ey nēm=äk y-anä'än-y
 good child good say=HEARSAY 3S-say-DEP
 '«Esta bien hija,» le dijo.'
 '«Okay, child, okay,» it's said she said.' 1997

59. Ta ojtsa' nyan... ta ojts nyējxkxna' ja'a nyēēx
 taa ojts=ja'a y-nän taa ojts y-nējxkx-n=ja'a
 DEIC.M PAST=DEM.D 3POSS-mom DEIC.M PAST 3s-go-PERF;DEP=DEM.D

- ja'a y-nëëx
DEM.D 3POSS-daughter
'Entonces su mamá... entonces se fue... su hija.'
'Then her mom... then her daughter went away.' 2000
60. Ta myë'ëjt ojts ii, *pero* akxonëk jëte'n tuuj, akxonëk jëte'n poj.
taa y-më'ëjt ojts ii pero akxon=ëk jëte'n tuuj
DEIC.M 3POSS-son.in.law PAST INTERJ but INTENS=HEARSAY M.DEM rain
akxon=ëk jëte'n poj
INTENS=HEARSAY M.DEM air
'Entonces su yerno, híjoles, pero (había) mucha lluvia, (había) mucho viento.'
'Then her son-in-law, gosh, (there was) a lot of rain, (there was) a lot of wind.' 2005
61. Akxonëk jëte'n anaa y'änä'ány, akxonëk jëte'n jyutsiky.
akxon=ëk jëte'n anaa y-anä'an-y akxon=ëk jëte'n y-jutsuk-y
INTENS=HEARSAY M.DEM thunder 3S-say-DEP INTENS=HEARSAY M.DEM 3S-lightning-DEP
'Estaba retumbando mucho, dicen, había muchos relámpagos.'
'(There was) a lot of thunder, he said, lots of flashes of lightning.' 2008
62. Akxonëk jëte'n, pojëk te'n myiny myiny myiny.
akxon=ëk jëte'n poj=ëk jëte'n y-men-y y-men-y y-men-y
INTENS=HEARSAY M.DEM air=HEARSAY M.DEM 3S-come-DEP 3S-come-DEP 3S-come-DEP
'Mucho aire venía, venía, venía.'
'A lot of wind was coming, coming, coming.' 2011
63. Tak ojtsa' jä'äxy, tukë'yëka jä'äxy ojts jajp nyëpajtkixy tækëx'ajpyëk.
taa=ëk ojts=ja'a jä'äxy tukë'ëy=ëk=ja'a jä'äxy ojts tajp
DEIC.M=HEARSAY PAST=DEM.D firewood all=HEARSAY=DEM.D firewood PAST DEIC.D
y-në-pat-këx-y tēj-k-ëx-ajpy=ëk
3s-ON-ascend-finish-DEP house-BEHIND-LOC=HEARSAY
'Entonces la leña, toda la leña se juntó atrás de la casa.'
'Then the firewood, all the firewood put (itself) together behind the house.' 2014
64. Ja jä'äxy jaay, jä'äxy tēsajujkn.
ja'a jä'äxy jaay jä'äxy t-ës-a-juk-n
DEM.D firewood close firewood 3A-MCP-IN-unlowad-PERF;DEP
'Entonces la leña (estaba) cerca; trajo leña.'
'The firewood (was) close; he brought the firewood.' 2016
65. Ja myë'ëjt yēsjuujkxy.
ja'a y-më'ëjt y-ës-juujkx-y
DEM.D 3POSS-son.in.law 3O-MCP-bring\COMPL-DEP
'Su yerno la trajo.'
'Her son-in-law brought it.' 2018

66. Jä'axyëk jajp tēsñējukpety, te'nëk.

jä'axy=ëk tajp t-ēs-nē-juk-pat-y jëte'n=ëk
 firewood=HEARSAY DEIC.D 3A-MCP-ON-leave-ascend-DEP M.DEM=HEARSAY
 'Llevó la leña.'
 'He carried the firewood.' 2021

67. Te'na' tetymyā'äy myëya'aky, tetymyā'äy Manel te'n mēmät'yä'kp.

jëte'n=ja'a teetymyā'äy y-mëtyä'äk-y teetymyā'äy Manuel jëte'n
 M.DEM=DEM.D grandfather 3s-tell-DEP grandfather Manuel M.DEM

 më-matyä'äk-p
 [3S]BEN-tell-INDEP
 'Así contó el abuelo, el abuelo Manuel, así contó.'
 'This is what grandpa said; Grandpa Manuel, he told this.' 2025

68. Yë'ë jya'y

yë'ë y-ja'y
 DEM.M 3S-only
 'Ese nada más.'
 'That is it.' 2028

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