



## Reference in Ixcatec (Otomanguean)

Evangelia Adamou

### ► To cite this version:

| Evangelia Adamou. Reference in Ixcatec (Otomanguean). 2017. halshs-02119954v2

HAL Id: halshs-02119954

<https://shs.hal.science/halshs-02119954v2>

Preprint submitted on 20 Dec 2019

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

citation : Adamou, Evangelia. 2019. Reference in Ixcatec (Otomanguean). In Mettouchi, Frajzyngier & Chanard (eds), Corpus-based cross-linguistic studies on Reference (CorTypo). <http://cortypo.huma-num.fr/resources.html> Accessed on DD/MM/YYYY.

# Reference in Ixcatec (Otomanguean)

Adamou, Evangelia

CNRS, LACITO

## Introduction

This paper presents the functional domain of reference in Ixcatec, that is the formal means that Ixcatec uses to identify the participants in the discourse using a *non-aprioristic* approach (see Frajzyngier & Shay 2016). The coding means may consist of demonstratives, articles, and agreement, among others. The functional subdomains are presented by the name of their function in order to achieve better cross-linguistic comparability, but are introduced by a language-specific definition. Under "constructions", I present the formal means used for this function and under "contrasts" the other, most-closely related functions with which a contrast can be established. Up to four examples are presented in order to illustrate each function, some of them being the prototypical examples, in accordance with the definition, and others more peripheral or problematic. The examples are extracted from the spontaneous conversations and the data elicited through the Pear Stories films (Chafe 1975). All the data were annotated using the International Phonetic Alphabet (IPA). Glosses follow the standardized glossing rules elaborated within this project under the direction of Bernard Comrie, building on the Leipzig glossing rules.

In the following sections, I present first some background information on Ixcatec. Then I introduce the functional subdomains of reference in detail, followed by a summary and a short conclusion.

## Language information



**Name and ISO code :**  $\text{J}^{\text{h}}\text{wa}^2\text{ni}^3$ , better known in the literature under the name Ixcatec (IXC), ixcateco (in Spanish), based on Nahuatl *ichcatl* ‘cotton’ + -teca/-tecatl ‘inhabitant of a place (whose name ends in -tlan or -lan)’.

**Speakers :** Ten identified speakers, of whom only four are fluent. Most of them -with one exception- are in their late 80s. All are bilingual in Spanish. They have had little formal education in Spanish and no formal education in Ixcatec.

**Region :** Ixcatec is spoken in the municipality of Santa María Ixcatlán in the state of Oaxaca, in Mexico. Today, Santa María Ixcatlán has some 400 inhabitants but at the time of the arrival of the Spaniards in 1522 it was an important centre for the Mixteca zone with an estimated population of 10,000 to 30,000 people.

**Classification :** Ixcatec belongs to the Popolocan branch of the Otomanguean stock together with Ngibá/Ngigüa (also known as Chocho), Popoloc, and Mazatec.

**Dialectology :** There are no known dialects.

**Status :** Ixcatec is a critically endangered language, with less than ten speakers. An orthography was developed in the 1950s by a native Ixcatec speaker, Doroteo Jiménez, in collaboration with linguists of the Instituto Lingüístico de Verano, the Mexican branch of the Summer Institute of Linguistics. Doroteo Jiménez's orthography uses the Latin script and relies on the graphic correspondences with Spanish with some additions when necessary.

**Main typological features :** Ixcatec is a tone language, with three lexically contrastive tones: a high tone, transcribed with a superscripted<sup>1</sup>, a mid tone, transcribed with<sup>2</sup>, and a low tone, transcribed with<sup>3</sup>. Its phonology is complex and not yet well understood. The existence of stress is under discussion. Consonant inventory ranges from 24 to 52 depending on whether glottalized and aspirated consonants are analyzed as clusters of two segments, complex single segments or simple onsets followed by simple nuclei. It has five vowels which may be oral, /a e i o u/, or nasal /ã ë ï ð û/. Ixcatec makes a clear distinction between verbs and nouns; some adjectives may also function as predicates. It is a head-marking language, i.e., grammatical relations are marked on the verb. It has accusative alignment in indexing (A = S ≠ P), i.e., only the single argument of intransitive verbs (S) and the agent-like argument of transitive verbs (A) are indexed on the verb through suffixes. A dozen experience predicates take a different coding, namely through possessive suffixes. Ixcatec is a pro-drop language, i.e., free pronouns are optionally used for all functions, and NPs are generally omitted. It has a VS/SVO unmarked order. When an S argument is moved to the preverbal position, a cross-reference morpheme is suffixed on the verb. The Ixcatec cross-reference morphemes (-da<sup>2</sup> 'male', -k<sup>w</sup>a<sup>2</sup> 'female', and -βa<sup>3</sup> 'animal') corefer to nouns formed with the *noun classifiers*, di<sup>2</sup>- 'man', k<sup>w</sup>a<sup>2</sup>- 'woman', ?u<sup>2</sup>- 'animal', to some animate nouns even though they have no classifier, and to the masculine and feminine third singular pronouns which bear the same suffixes as those used for the cross-reference morphemes, i.e., su<sup>1</sup>wa<sup>1</sup>-da<sup>2</sup> 'he' and su<sup>1</sup>wa<sup>1</sup>-k<sup>w</sup>a<sup>2</sup> 'she'. Noun classifiers are distinct from so-called class terms which partake in word formation for inanimates but are not associated with any cross-reference morphemes.

## Functions in the domain of Reference for the language Ixcatec (Otomanguean)

### 1.1. animate cross-reference

<b>Definition</b>	Cross-reference morphemes indicate identity of reference with some animate S or A-like arguments, only when the NPs occur in the preverbal position or are heads of subject relative clauses (see constraints).
<b>Construction</b>	Cross-reference morphemes are suffixed on verbs, possessives, and predicate adjectives.
<b>Constraints</b>	The Ixcatec cross-reference morphemes corefer to nouns formed with the noun classifiers di <sup>2</sup> - 'man', k <sup>w</sup> a <sup>2</sup> - 'woman', ?u <sup>2</sup> - 'animal', to some animate nouns even though they have no classifier, and to the masculine and feminine third singular pronouns which bear the same suffixes as those used for the cross-reference morphemes, i.e., su <sup>1</sup> wa <sup>1</sup> -da <sup>2</sup> 'he' and su <sup>1</sup> wa <sup>1</sup> -k <sup>w</sup> a <sup>2</sup> 'she'. They are used for S/A arguments only, and only when the N is in marked positions (preverbal and sometimes the head of relative clauses).

▶ a<sup>2</sup>tsu<sup>2</sup> ni<sup>2</sup> kwa<sup>2</sup>tu<sup>1</sup>tsu<sup>2</sup> kwi<sup>2</sup>hi<sup>2</sup> sa<sup>1</sup> l̄i<sup>2</sup>be<sup>1</sup>tu<sup>2</sup> kwi<sup>2</sup>hi<sup>2</sup>da<sup>2</sup> la<sup>2</sup> / (IXC\_LEA\_CONV\_01\_JSB-RMM\_185)  
 a<sup>2</sup>tsu<sup>2</sup> ni<sup>2</sup> kwa<sup>2</sup>tu<sup>1</sup>= tsu<sup>2</sup> kwi<sup>2</sup>= hi<sup>2</sup> sa<sup>1</sup> l̄i<sup>2</sup>- be<sup>1</sup>tu<sup>2</sup> kwi<sup>2</sup>= hi<sup>2</sup> -da<sup>2</sup> la<sup>2</sup> /  
 maybe still FUT.PL- want\say FUT- arrive DEF CLS.boy- NP FUT- arrive -CO.M LOC.DIST /  
 ADV ADV TAM.PNG V DET AFFX N TAM V PRO ADV /

Maybe as soon as they say, my son arrives, Veto, he will go there,

▶ ka<sup>2</sup> me<sup>1</sup>ndra<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> kwa<sup>2</sup> la<sup>2</sup> ?a<sup>2</sup>ku<sup>2</sup> ndi<sup>1</sup>?e<sup>1</sup>kwa<sup>2</sup> // (IXC\_LEA\_CONV\_04\_JSB-RMM\_024)  
 ka<sup>2</sup> me<sup>1</sup>ndra<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> kwa<sup>2</sup> la<sup>2</sup> ?a<sup>2</sup>ku<sup>2</sup> ndi<sup>1</sup>?e<sup>1</sup>kwa<sup>2</sup> //  
 ka<sup>2</sup> me<sup>1</sup>ndra<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> kwa<sup>2</sup> la<sup>2</sup> ?a<sup>2</sup>ku<sup>2</sup> ndi<sup>1</sup> -?e<sup>1</sup> -kwa<sup>2</sup> //  
 all for.this LOC woman LOC.DIST inside house\place -POSS.3SG -CO.F //  
 QNT CONJ PRED N ADV SPCF.SPC N DET PRO //  
 the woman is there, in her house.

▶ la<sup>2</sup> ki<sup>2</sup>jta<sup>1</sup>hū<sup>2</sup> nda<sup>2</sup> kwi<sup>1</sup>ka<sup>1</sup>?a<sup>2</sup>βa<sup>2</sup> // (IXC\_LEA\_CONV\_04\_JSB-RMM\_054)  
 la<sup>2</sup> ki<sup>2</sup>jta<sup>1</sup>hū<sup>2</sup> nda<sup>2</sup> kwi<sup>1</sup>ka<sup>1</sup>?a<sup>2</sup>βa<sup>2</sup> //  
 la<sup>2</sup> ki<sup>1</sup>= jta<sup>1</sup>hū<sup>2</sup> nda<sup>2</sup> kw- i<sup>1</sup>ka<sup>1</sup> -?a<sup>2</sup> -βa<sup>2</sup> //  
 SUB PROG.3SG- be.scared what PFV- seaze -NEG -CO.AN //  
 COMP TAM.PNG V PRO.Q TAM V AFFX PRO //

Because he is scared. The animal didn't bite.

### 1.2. definite

<b>Definition</b>	The Ixcatec definite article is used as a definite anaphoric, with a referent which was previously mentioned or a referent which is pragmatically identifiable. The definite article is not used with a referent with generic meaning when it is new (first mentioned) in discourse, but it can be used with a generic referent when it is given (previously mentioned) in discourse. It is regularly used with human proper nouns.
<b>Construction</b>	The definite article sa <sup>1</sup> is used with human, animate, and inanimate nouns and does not inflect for gender or number. It precedes the N (DEF N) and generally attaches phonologically to the postposed noun it modifies. Very frequently though, in natural speech, when there is a pause between the determiner and the noun, it attaches to the preceding prosodic word, regardless of its syntactic function (and this with no obligatory vowel lengthening). Finally, examples where it does not attach to a host have been encountered in the corpus and this led us to abandon the analysis of the definite article as a clitic.
<b>Contrasts</b>	1) INDF (numeral 'one') 2) bare nouns (used for generic nouns only when they are given in the discourse, for groups of objects, and substances).

▶ nda<sup>2</sup>β?e<sup>1</sup> sa<sup>1</sup> kwa<sup>2</sup>pi<sup>1</sup>na<sup>2</sup> // (IXC\_LEA\_CONV\_01\_JSB-RMM\_048)  
 nda<sup>2</sup>β?e<sup>1</sup> sa<sup>1</sup> kwa<sup>2</sup>pi<sup>1</sup>na<sup>2</sup> //  
 nda<sup>2</sup>β -?e<sup>1</sup> sa<sup>1</sup> kwa<sup>2</sup>- pi<sup>1</sup>na<sup>2</sup> //  
 husband -POSS.3SG DEF CLF.F- NP //  
 N DET DET AFFX N //

Crespina's husband.

▶ hā<sup>2</sup>ā<sup>3</sup> ndra<sup>2</sup>na<sup>2</sup> tsu<sup>2</sup> sa<sup>1</sup> kwa<sup>2</sup>do<sup>2</sup>kto<sup>2</sup>ra<sup>2</sup> kwi<sup>2</sup>ɸu<sup>2</sup>i<sup>1</sup>na<sup>3</sup> // (IXC\_LEA\_CONV\_01\_JSB-RMM\_234)  
 hā<sup>2</sup>ā<sup>3</sup> ndra<sup>2</sup> -na<sup>2</sup> tsu<sup>2</sup> sa<sup>1</sup> kwa<sup>2</sup>- do<sup>2</sup>kto<sup>2</sup>ra<sup>2</sup> kwi<sup>2</sup>- ɸu<sup>2</sup>i<sup>1</sup> -na<sup>3</sup> //  
 yes like.that -FOC wantlsay DEF CLF.F- doctor PFV- leave -1SG //  
 PTL ADV PTL V DET AFFX N.BORR TAM V PRO //

Yes, that's why the doctor says, I left.

▶ ndra<sup>2</sup> sa<sup>1</sup> ?u<sup>2</sup>ndja<sup>2</sup>nu<sup>3</sup> nde<sup>2</sup>de<sup>2</sup> // (IXC\_LEA\_CONV\_04\_JSB-RMM\_118)  
 ndra<sup>1</sup> sa<sup>1</sup> ?u<sup>2</sup>ndza<sup>2</sup>nu<sup>3</sup> nde<sup>1</sup>de<sup>2</sup> //  
 ndra<sup>2</sup> sa<sup>1</sup> ?u<sup>2</sup>- ndza<sup>2</sup>nu<sup>3</sup> nde<sup>1</sup>de<sup>2</sup> //  
 like.that DEF CLF.AN- turkey what //  
 ADV DET AFFX N PRO.Q //

That's what the turkeys do.

### 1.3. indefinite

<b>Definition</b>	The indefinite article, deriving from the numeral 'one', is not fully grammaticalized in Ixcatec. It introduces a discourse-new participant either in the beginning of a story or in the middle, independent of whether it will become the topic of discussion.
<b>Construction</b>	The numeral hngu <sup>2</sup> 'one' precedes the N.
<b>Constraints</b>	The indefinite article is not used with non-referential and generic nouns.
<b>Contrasts</b>	1) DEF+N 2) bare nouns (used for generic nouns only when they are given in the discourse, for groups of objects, and substances).

▶ ku<sup>2</sup> li<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> "ngu<sup>2</sup> nda<sup>2</sup>tsi<sup>2</sup> // (IXC\_LEA\_CONV\_03\_JSB-RMM\_027)  
 ku<sup>2</sup> li<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> "ngu<sup>2</sup> nda<sup>2</sup>tsi<sup>2</sup> //  
 COORD/INS LOC.PROX LOC one outside //  
 CONJ ADV PRED INDF ADV //

And here there is a square.

▶ na<sup>2</sup> la<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> "ngu<sup>2</sup> βa<sup>1</sup>tsu<sup>2</sup>ndu<sup>3</sup> ki<sup>1</sup>tj<sup>2</sup>ndi<sup>2</sup>e<sup>1</sup> la<sup>2</sup> βa<sup>2</sup>?i<sup>2</sup> βa<sup>2</sup>ha<sup>2</sup> tj<sup>2</sup>tj<sup>2</sup>e<sup>1</sup> βa<sup>2</sup>ha<sup>2</sup> // (IXC\_LEA\_CONV\_04\_JSB-RMM\_028)  
 na<sup>2</sup> la<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> "ngu<sup>2</sup> βa<sup>1</sup>tsu<sup>2</sup>ndu<sup>3</sup> ki<sup>1</sup>= tj<sup>2</sup>ndi<sup>2</sup>e<sup>1</sup> la<sup>2</sup> βa<sup>2</sup>?i<sup>2</sup> βa<sup>2</sup>ha<sup>2</sup> tj<sup>2</sup>tj<sup>2</sup>-?e<sup>1</sup> βa<sup>2</sup>ha<sup>2</sup> //  
 so LOC.DIST LOC one night PROG.3SG- sit LOC.DIST be weave top.of.hat -POSS.3SG weave //  
 PTL ADV PRED INDF N TAM.PNG V ADV V V N DET V //

So, one night she is there, sitting there, weaving her hat.

▶ "ngu<sup>2</sup> ?u<sup>2</sup>kwa<sup>2</sup> ju<sup>2</sup> // (IXC\_LEA\_NARR\_01\_PEARSTORY-PSG\_050)  
 "ngu<sup>2</sup> ?u<sup>2</sup>kwa<sup>2</sup> ju<sup>2</sup> //  
 "ngu<sup>2</sup> ?u<sup>2</sup>- kwa<sup>2</sup> ju<sup>2</sup> //  
 one CLF.AN- woman come //  
 INDF AFFX N V //

A female animal comes.

### 1.4. proximal reference

<b>Definition</b>	The proximal demonstrative indicates that an entity is located close to the speaker and the addressee.
<b>Construction</b>	The proximal demonstrative -ri <sup>2</sup> is suffixed on the NP.

▶ ni<sup>2</sup> kwa<sup>2</sup>je<sup>2</sup>ku<sup>1</sup> ðta<sup>1</sup>a<sup>1</sup> kwa<sup>2</sup>ɸi<sup>2</sup> tj<sup>2</sup>tse<sup>1</sup>ri<sup>2</sup> // (IXC\_LEA\_CONV\_03\_JSB-RMM\_083)  
 ni<sup>2</sup> kwa<sup>2</sup>- je<sup>2</sup> -ku<sup>1</sup> ðta<sup>1</sup>a<sup>1</sup> kwa<sup>2</sup>- ɸi<sup>2</sup> tj<sup>2</sup>tse<sup>1</sup> -ri<sup>2</sup> //  
 still PFV- PRST -ANT finish PFV- go party -DEM.PROX //  
 ADV TAM PRED TAM V TAM V N DET //

As soon as it ends they go to this party.

### 1.5. distal reference

<b>Definition</b>	The distal demonstrative indicates that a referent is located far from the speaker and the addressee. It can also be used to refer to the discourse (endophoric) whether as anaphoric, i.e. referring to the preceding discourse; or recognitionnal, i.e. referring to entities which are considered to be known by the hearer although they have not been mentioned in the preceding discourse.
<b>Construction</b>	The distal demonstrative -ra <sup>2</sup> is suffixed on the NP.
<b>Constraints</b>	The demonstratives combine with the definite article sa <sup>1</sup> in 50% of the cases.

▶ ndi<sup>1</sup>?e<sup>1</sup> sa<sup>1</sup> di<sup>2</sup>ra<sup>2</sup> pa<sup>2</sup>dri<sup>2</sup>no<sup>2</sup> // (IXC\_LEA\_CONV\_01\_JSB-RMM\_021)  
 ndi<sup>1</sup>?e<sup>1</sup> sa<sup>1</sup> di<sup>2</sup>ra<sup>2</sup> pa<sup>2</sup>dri<sup>2</sup>no<sup>2</sup> //  
 ndi<sup>1</sup> -?e<sup>1</sup> sa<sup>1</sup> di<sup>2</sup> -ra<sup>2</sup> pa<sup>2</sup>dri<sup>2</sup>no<sup>2</sup> //  
 house -POSS.3SG DEF sir -DEM.DIST godfather //  
 N DET DET N DET N.BORR //

At godfather's house.

▶ me<sup>1</sup> se<sup>2</sup>ma<sup>1</sup>na<sup>2</sup>ra<sup>2</sup> / (IXC\_LEA\_CONV\_01\_JSB-RMM\_170)  
 me<sup>1</sup> se<sup>2</sup>ma<sup>1</sup>na<sup>2</sup>ra<sup>2</sup> /  
 me<sup>1</sup> se<sup>2</sup>ma<sup>1</sup>na<sup>2</sup> -ra<sup>2</sup> /  
 therefore week -DEM.DIST /  
 ADV N.BORR DET /

Therefore, that week.

▶ ndi<sup>2</sup> φu<sup>2</sup>i<sup>1</sup>ku<sup>1</sup> na<sup>2</sup>?nde<sup>2</sup>ra<sup>2</sup> la<sup>2</sup> fta<sup>1</sup> si<sup>1</sup> // (IXC\_LEA\_CONV\_03\_JSB-RMM\_188)  
 ndi<sup>2</sup> φu<sup>2</sup>i<sup>1</sup>ku<sup>1</sup> na<sup>2</sup>?nde<sup>2</sup>ra<sup>2</sup> la<sup>2</sup> fta<sup>1</sup> si<sup>1</sup> //  
 ndi<sup>2</sup> φu<sup>2</sup>i<sup>1</sup> -ku<sup>1</sup> na<sup>2</sup>?nde<sup>2</sup> -ra<sup>2</sup> la<sup>2</sup> fta<sup>1</sup> si<sup>1</sup> //  
 what leave -ANT ground -DEM.DIST REL ugly EXS //  
 PRO.Q V TAM N DET COMP ADJ PRED //

It went to that field which is ugly.

## 1.6. no instruction to identify

<b>Definition</b>	It instructs the listener not to search for the referent. It is namely used for generic nouns (only when they are given in the discourse), for groups of objects, and substances.
<b>Construction</b>	Bare nouns.
<b>Contrasts</b>	1) DEF 2) INDEF

▶ me<sup>1</sup> ki<sup>1</sup>ts<sup>2</sup>u<sup>1</sup>na<sup>2</sup> ndzi<sup>2</sup>ftja<sup>2</sup> // (IXC\_LEA\_CONV\_01\_JSB-RMM\_051)  
 me<sup>1</sup> ki<sup>1</sup>ts<sup>2</sup>u<sup>1</sup>na<sup>2</sup> ndzi<sup>2</sup>ftja<sup>2</sup> //  
 me<sup>1</sup> ki<sup>1</sup>= ts<sup>2</sup>u<sup>1</sup>na<sup>2</sup> ndzi<sup>2</sup>ftja<sup>2</sup> //  
 therefore PROG.3SG- make.by.hand candle //  
 ADV TAM.PNG V N //

therefore he is making candles.

▶ ndi<sup>2</sup> kwa<sup>2</sup>a<sup>1</sup>na<sup>2</sup>na<sup>3</sup> βa<sup>2</sup>je<sup>2</sup> βa<sup>1</sup>tsu<sup>2</sup>ndu<sup>3</sup> li<sup>2</sup>o<sup>2</sup> φi<sup>2</sup> // (IXC\_LEA\_CONV\_03\_JSB-RMM\_206)  
 ndi<sup>2</sup> kwa<sup>2</sup>- a<sup>1</sup> -na<sup>2</sup>na<sup>3</sup> βi<sup>2</sup>- a<sup>2</sup>je<sup>2</sup> βa<sup>1</sup>tsu<sup>2</sup>ndu<sup>3</sup> li<sup>2</sup> -o<sup>2</sup> φi<sup>2</sup> //  
 ndi<sup>2</sup> kwa<sup>2</sup>- ?a<sup>1</sup> -na<sup>2</sup>na<sup>3</sup> βi<sup>2</sup>- a<sup>2</sup>je<sup>2</sup> βa<sup>1</sup>tsu<sup>2</sup>ndu<sup>3</sup> li<sup>2</sup> -o<sup>2</sup> φi<sup>2</sup> //  
 what CLF.F- mother -POSS.1SG IPFV- get.out night LOC.PROX -RESTR go //  
 PRO.Q AFFX N DET TAM V N ADV QNT V //

Because my aunt comes out at night, just here she goes.

▶ tsi<sup>1</sup>φi<sup>2</sup> tjh<sup>2</sup>na<sup>2</sup> tsi<sup>1</sup>βa<sup>2</sup>tsi<sup>2</sup>je<sup>2</sup>ngi<sup>2</sup> ?i<sup>2</sup>nda<sup>2</sup> ki<sup>1</sup> ki<sup>1</sup>βa<sup>2</sup>ha<sup>2</sup> tji<sup>2</sup>fj<sup>2</sup>e<sup>1</sup> // (IXC\_LEA\_CONV\_04\_JSB-RMM\_032)  
 tsi<sup>1</sup>φi<sup>2</sup> tjh<sup>2</sup>na<sup>2</sup> tsi<sup>1</sup>βa<sup>2</sup>tsi<sup>2</sup>je<sup>2</sup>ngi<sup>2</sup> ?i<sup>2</sup>nda<sup>2</sup> ki<sup>1</sup> ki<sup>1</sup>βa<sup>2</sup>ha<sup>2</sup> tji<sup>2</sup>fj<sup>2</sup>e<sup>1</sup> //  
 tsi<sup>1</sup>- φi<sup>2</sup> tjh<sup>2</sup> -na<sup>2</sup> tsi<sup>1</sup>- βa<sup>2</sup>tsi<sup>2</sup>je<sup>2</sup>ngi<sup>2</sup> ?i<sup>2</sup>nda<sup>2</sup> ki<sup>1</sup>= ki<sup>1</sup>= βa<sup>2</sup>ha<sup>2</sup> tji<sup>2</sup>fj<sup>2</sup> -?e<sup>1</sup> //  
 EVD- go day -FOC EVD- pour water PROG.3SG- PROG.3SG- weave top.of.hat -POSS.3SG //  
 TAM V N PTL TAM V N TAM.PNG TAM.PNG V N DET //

reportedly they go by day to pour water. She is weaving her hat.

## 1.7. possessive reference

<b>Definition</b>	Possession within an NP indicates that an entity X (the possessed) belongs/is related to an entity Y (the possessor).
<b>Construction</b>	Ixcatec expresses nominal possession using the structure 'N1-POSS N2' where N1 is the possessed, N2 the possessor, and the suffix codes the person and number of the possessor. The possessed can also appear on its own bearing the possessive suffixes. Ixcatec has inalienable possession, e.g. kinship terms are always possessed. Moreover, body part terms bear a specific set of possessive suffixes.

▶ ndi<sup>1</sup>?e<sup>1</sup> sa<sup>1</sup> di<sup>2</sup>ra<sup>2</sup> pa<sup>2</sup>dri<sup>2</sup>no<sup>2</sup> // (IXC\_LEA\_CONV\_01\_JSB-RMM\_021)  
 ndi<sup>1</sup>?e<sup>1</sup> sa<sup>1</sup> di<sup>2</sup>ra<sup>2</sup> pa<sup>2</sup>dri<sup>2</sup>no<sup>2</sup> //  
 ndi<sup>1</sup> -?e<sup>1</sup> sa<sup>1</sup> di<sup>2</sup> -ra<sup>2</sup> pa<sup>2</sup>dri<sup>2</sup>no<sup>2</sup> //  
 house -POSS.3SG DEF sir -DEM.DIST godfather //  
 N DET DET N DET N.BORR //

At godfather's house.

▶ nda<sup>2</sup>β<sup>2</sup>e<sup>1</sup> sa<sup>1</sup> kwa<sup>2</sup>pi<sup>1</sup>na<sup>2</sup> // (IXC\_LEA\_CONV\_01\_JSB-RMM\_048)

nda <sup>2</sup> β <sup>1</sup> e <sup>1</sup>	sa <sup>1</sup>	kwa <sup>2</sup> pi <sup>1</sup> na <sup>2</sup>	//
nda <sup>2</sup> β	-?e <sup>1</sup>	sa <sup>1</sup>	kwa <sup>2</sup> - pi <sup>1</sup> na <sup>2</sup> //
husband	-POSS.3SG	DEF	CLF.F- NP //
N	DET	DET	AFFX N //

Crespina's husband.

► kwi<sup>2</sup>phi<sup>2</sup> ts<sup>h</sup>u<sup>2</sup>i<sup>1</sup> // (IXC\_LEA\_CONV\_01\_JSB-RMM\_074)

kwi <sup>2</sup> phi <sup>2</sup>	ts <sup>h</sup> u <sup>2</sup> i <sup>1</sup>	//
kwi <sup>2</sup> -	phi <sup>2</sup>	ts <sup>h</sup> u <sup>2</sup> -i <sup>1</sup> //
PFV-	go	flower -POSS.1PL.INCL //
TAM	V	N DET //

He goes for our flowers.

### 3.1. restrictive quantifier

<b>Definition</b>	The restrictive quantifier restricts the scope of X (e.g. referent, location, temporal span) in relation to a set of alternatives.
<b>Construction</b>	The restrictive -o <sup>2</sup> 'just, only' attaches to nouns, adverbs (locative, manner), demonstratives and locative predicates.

► J<sup>h</sup>wa<sup>2</sup>ni<sup>3</sup>o<sup>2</sup> ni<sup>2</sup>t<sup>h</sup>e<sup>2</sup> nda<sup>1</sup>ra<sup>2</sup> ndi<sup>2</sup> mi<sup>2</sup>?e<sup>2</sup>?a<sup>2</sup> βi<sup>2</sup>ku<sup>2</sup>?a<sup>2</sup>na<sup>2</sup> / (IXC\_LEA\_CONV\_01\_JSB-RMM\_125)

J <sup>h</sup> wa <sup>2</sup> ni <sup>3</sup> o <sup>2</sup>	ni <sup>2</sup> t <sup>h</sup> e <sup>2</sup>	nda <sup>1</sup> ra <sup>2</sup>	ndi <sup>2</sup>	mi <sup>2</sup> ?e <sup>2</sup> ?a <sup>2</sup>	βi <sup>2</sup> ku <sup>2</sup> ?a <sup>2</sup> na <sup>2</sup>	/
J <sup>h</sup> wa <sup>2</sup>	-ni <sup>1</sup>	-o <sup>2</sup>	ni <sup>2</sup> t <sup>h</sup> a <sup>2</sup>	nda <sup>1</sup> ra <sup>2</sup>	ndi <sup>2</sup>	mi <sup>2</sup> ?e <sup>2</sup> -?a <sup>2</sup>
language\Ixcatec	-POSS.1SG.INCL	-RESTR	talk	what	what	hear -NEG IPFV- see -NEG -FOC /
N	DET	QNT	V	PRO.Q	PRO.Q	V TAM AFFX V AFFX PTL /

talks in pure Ixcatec language but she can't hear, can't see.

► φu<sup>2</sup>i<sup>1</sup>?a<sup>2</sup>na<sup>2</sup>ma<sup>2</sup> o<sup>2</sup>di<sup>2</sup>to<sup>2</sup>ri<sup>2</sup>o<sup>2</sup> ?i<sup>1</sup>a<sup>2</sup>na<sup>2</sup> lo<sup>2</sup> tu<sup>1</sup>hu<sup>2</sup> / (IXC\_LEA\_CONV\_01\_JSB-RMM\_276)

φu <sup>2</sup> i <sup>1</sup> ?a <sup>2</sup> na <sup>2</sup> ma <sup>2</sup>	o <sup>2</sup> di <sup>2</sup> to <sup>2</sup> ri <sup>2</sup> o <sup>2</sup>	?i <sup>1</sup> a <sup>2</sup> na <sup>2</sup>	lo <sup>2</sup>	tu <sup>1</sup> hu <sup>2</sup>	//
φu <sup>2</sup> i <sup>1</sup>	-?a <sup>2</sup>	-na <sup>2</sup>	-ma <sup>2</sup>	o <sup>2</sup> di <sup>2</sup> to <sup>2</sup> ri <sup>2</sup> o <sup>2</sup>	?i <sup>1</sup> a <sup>2</sup> -na <sup>2</sup> I -o <sup>2</sup> tu <sup>1</sup> = hu <sup>2</sup> //
leave	-NEG	-FOC	-3PL	auditorium	no -FOC LOC.DIST -RESTR PROG.PL- be.together //

They left the auditorium, no. They're just there.

► me<sup>1</sup>e<sup>1</sup>ro<sup>2</sup> βa<sup>2</sup>tu<sup>1</sup>tse<sup>2</sup>ka<sup>2</sup>tē<sup>2</sup>hē<sup>2</sup> / (IXC\_LEA\_CONV\_03\_JSB-RMM\_068)

me <sup>1</sup> e <sup>1</sup> ro <sup>2</sup>	βa <sup>2</sup> tu <sup>1</sup> tse <sup>2</sup> ka <sup>2</sup> tē <sup>2</sup> hē <sup>2</sup>	//
me <sup>1</sup> e <sup>1</sup> r	-o <sup>2</sup>	βa <sup>2</sup> tu <sup>1</sup> = tse <sup>2</sup> ka <sup>2</sup> tē <sup>2</sup> hē <sup>2</sup> //
DEM.DIST	-RESTR	PROG.PL- CAUS:lift //

They are having it picked up, just that.

### 3.2. universal quantifier

<b>Definition</b>	Universal quantifiers indicate that the predicate refers to all the members of a set.
<b>Construction</b>	ka <sup>2</sup> 'all', ka <sup>2</sup> na <sup>1</sup> ko <sup>3</sup> 'everything'

► la<sup>2</sup> ndra<sup>2</sup> ka<sup>2</sup>ndi<sup>2</sup> βa<sup>2</sup>tu<sup>1</sup>phi<sup>2</sup> ka<sup>2</sup> l<sup>2</sup>nda<sup>2</sup>wa<sup>2</sup>na<sup>2</sup> / (IXC\_LEA\_CONV\_02\_JSB-RMM\_047)

la <sup>2</sup>	ndra <sup>2</sup>	ka <sup>2</sup> ndi <sup>2</sup>	βa <sup>2</sup> tu <sup>1</sup> phi <sup>2</sup>	ka <sup>2</sup>	l <sup>2</sup> nda <sup>2</sup> wa <sup>2</sup> na <sup>2</sup>	/
la <sup>2</sup>	ndra <sup>2</sup>	ka <sup>2</sup> ndi <sup>2</sup>	βa <sup>2</sup> tu <sup>1</sup> = phi <sup>2</sup>	ka <sup>2</sup>	l <sup>2</sup> - nda <sup>2</sup> wa <sup>2</sup> -na <sup>2</sup>	/
COMP	like.that	when	PROG.PL-	go	all CLS.boy- male\brave	-FOC /
COMP	ADV	ADV	TAM.PNG	V	QNT AFFX N	PTL /

like that when all the young people go...

► ka<sup>2</sup>na<sup>1</sup>ko<sup>3</sup> βa<sup>2</sup>tse<sup>2</sup> re<sup>2</sup>si<sup>2</sup>βi<sup>2</sup> ka<sup>2</sup> tja<sup>2</sup>hmi<sup>2</sup> me<sup>1</sup>nda<sup>2</sup> / (IXC\_LEA\_CONV\_02\_JSB-RMM\_086)

ka <sup>2</sup> na <sup>1</sup> ko <sup>3</sup>	βa <sup>2</sup> tse <sup>2</sup>	re <sup>2</sup> si <sup>2</sup> βi <sup>2</sup>	ka <sup>2</sup>	tja <sup>2</sup> hmi <sup>2</sup>	me <sup>1</sup> nda <sup>2</sup>	//
ka <sup>2</sup> na <sup>1</sup> ko <sup>3</sup>	βa <sup>2</sup> -	tse <sup>2</sup>	re <sup>2</sup> si <sup>2</sup> βi <sup>2</sup>	ka <sup>2</sup>	tja <sup>2</sup> hmi <sup>2</sup>	me <sup>1</sup> nda <sup>2</sup> //
everything	IPFV-	do	receive	all	people	for.this //

QNT TAM AUX V.BORR QNT N CONJ //

Everything that all the people are going to inhale, that's why.

► kwa<sup>2</sup>phi<sup>2</sup> βi<sup>2</sup>ka<sup>2</sup>hu<sup>2</sup>ku<sup>1</sup> ka<sup>2</sup>na<sup>1</sup>ko<sup>3</sup> βi<sup>2</sup>ka<sup>1</sup> / (IXC\_LEA\_CONV\_02\_JSB-RMM\_234)

kwa <sup>2</sup> phi <sup>2</sup>	βi <sup>2</sup> ka <sup>2</sup> hu <sup>2</sup> ku <sup>1</sup>	ka <sup>2</sup> na <sup>1</sup> ko <sup>3</sup>	βi <sup>2</sup> ka <sup>1</sup>	//
kwa <sup>2</sup> -	phi <sup>2</sup>	βi <sup>2</sup> ka <sup>2</sup> hu <sup>2</sup>	-ku <sup>1</sup>	ka <sup>2</sup> na <sup>1</sup> ko <sup>3</sup> βi <sup>2</sup> - i <sup>2</sup> ka <sup>1</sup> //
PFV-	go	bring	-ANT	everything IPFV- seaze //
TAM	V	V	TAM	QNT TAM V //

came and took it all.

## Synthesis & Discussion

In sum, in this study I identified the following reference subdomains in Ixcatec: animate cross-reference, definite reference, indefinite reference, proximal reference, distal reference, reference not identified, possessive reference, restrictive quantifier, and universal quantifier.

The existence of articles in the Popolocan languages in general is not treated in detail. In Adamou (2016), I present some preliminary results from Ixcatec in order to evaluate the degree of grammaticalization. The Ixcatec morpheme *sa'* is described as an optional demonstrative by Fernández de Miranda (1961: 93). Analysis of the contemporary data, however, indicates that *sa'* has been grammaticalized as a definite article. Qualitative analysis of the data shows that the Ixcatec definite article is used as a definite anaphoric, with a referent which was previously mentioned or a referent which is pragmatically identifiable. The Ixcatec definite article is not used with a referent with generic meaning when it is new in discourse, but it can be used with a generic referent when it is given in discourse. Moreover, despite not being very advanced along the grammaticalization path, the Ixcatec definite article is regularly used with human proper nouns, provided they have a lexical classifier, a topic that clearly needs to be further investigated.

Similarly, the existence of a grammaticalized indefinite article is of interest. Ixcatec *<sup>h</sup>ngu<sup>2</sup>* 'one' is used as a numeral, but it can also be used to introduce a new participant either in a presentative construction, or with a specific referent independent of whether it will become the topic of discussion. The Ixcatec indefinite is not used with non-specific referents.

Similar to other Mesoamerican languages, Ixcatec expresses nominal possession using the structure 'his-noun<sub>1</sub> noun<sub>2</sub>' where noun<sub>1</sub> is the possessed and noun<sub>2</sub> the possessor (Campbell, Kaufman and Smith-Stark 1986: 545). Again like other Mesoamerican languages, Ixcatec has inalienable possession, also known as *intimate possession* (Campbell, Kaufman and Smith-Stark 1986: 549).

Finally, we note that unlike in other Popolocan languages, Ixcatec has a relatively small number of lexical classifiers (Veerman-Leichsenring 2004). For the sake of clarity, the analysis adopted here is to consider the morphemes that have no syntactic effect as part of a lexical derivation process, glossed CLS for "class terms", and the morphemes that have a syntactic component, namely when they trigger cross-reference morphemes on the verb, as lexical classifiers (Grinevald 2000). Most lexical classifiers and class terms are derived from nouns with a generic meaning, such as 'person', 'animal', 'tree', 'flower'.

## Conclusion

To conclude, this is a tentative analysis of the Ixcatec functional domain of reference. The description is expected to evolve as more data get analyzed in more detail.

## References

- Adamou, Evangelia. 2017. Spatial language and cognition among the Ixcatec-Spanish bilinguals (Mexico). K. Bellamy, M. Child, A. Muntendam & M. C. Parafita Couto (eds), *Multidisciplinary Approaches to Bilingualism in the Hispanic and Lusophone World*, 175–209. Amsterdam & Philadelphia: John Benjamins.
- Adamou, Evangelia. 2016. *A Corpus-driven Approach to Language Contact. Endangered Languages in a Comparative Perspective*. Boston & Berlin: Mouton de Gruyter.
- Campbell, Lyle, Kaufman, Terrence and Smith-Stark, Thomas C. 1986. Mesoamerica as a linguistic area. *Language* 62 (3): 530–570.
- Chafe, Wallace. 1975. *The Pear Story film*. University of California.
- Fernández de Miranda, María Teresa. 1961. *Diccionario ixcateco*. México, DF: Instituto Nacional de Antropología e Historia (INAH).
- Frajzyngier, Zygmunt & Erin Shay. 2016. *The role of functions in syntax*. Amsterdam: John Benjamins.
- Grinevald, Colette. 2000. A morphosyntactic typology of classifiers. In Gunter Senft (ed.), *Systems of nominal classification*, 50–92. Cambridge UK: Cambridge University Press.
- Veerman-Leichsenring, Annette. 2004. Popolocan noun classifiers: a Reconstruction. *International Journal of American Linguistics* 70 (4): 416–451.