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## Predication in Ixcatec (Otomanguean)

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### Introduction

This paper presents the relationships that exist between a predicate, whether verbal or non-verbal, and a noun phrase (NP) in Ixcatec. The so-called *predications* were identified only when the language disposed of formal means to code them, such as inflectional marking, on the predicate or the NP, specialized predicates, or linear order, when applicable (see Frajzyngier & Shay 2016). The predications are presented by the name of their function to achieve better cross-linguistic comparability, but each predication is introduced by a language specific definition. Under "constructions", I present the formal means that code this predication in Ixcatec and under "contrasts" the relevant predications with which the predication is in contrast. Up to four examples are presented in order to illustrate each predication, some of them being the prototypical examples, in accordance with the definition, and others more peripheral or problematic. The examples are extracted through the spontaneous conversations and the data elicited through the Pear Stories films (Chafe 1975). All the data were annotated using IPA. Glosses follow the standardized glossing rules elaborated within the project and significantly expanding the Leipzig glossing rules.

### Language information

#### IXCATEC



**Name and ISO code** :  $j^hwa^2ni^3$ , 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 Ngiba/Ngigua (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 ĕ ĩ õ ù/. 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 ( $A = S \neq P$ ), 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’) cofer to nouns formed with the *noun classifiers*, di<sup>2</sup>- ‘man’, k<sup>w</sup>a<sup>2</sup>- ‘woman’, ʔu<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>-kwa<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 Predication for the language Ixcatec (Otomanguean)

### 1.1. existential and equational

<b>Definition</b>	The existential predicate encodes the general existence of an entity X. It is also used as an equational predication indicating that an entity A is identical with an entity B (no occurrences in the corpus).
<b>Construction</b>	The existential predicate si <sup>1</sup> .

▶ si<sup>1</sup>ku<sup>1</sup> tʃi<sup>2</sup>tse<sup>1</sup> // (IXC\_LEA\_CONV\_01\_JSB-RRM\_064)

```
si1ku1      tʃi2tse1 //
si1      -ku1 tʃi2tse1 //
EXS      -ANT party //
PRED    TAM  N    //
```

There was a party

▶ si<sup>1</sup> ʔu<sup>1</sup>tʃa<sup>1</sup> tsu<sup>1</sup>t<sup>h</sup>e<sup>2</sup> si<sup>1</sup> / (IXC\_LEA\_CONV\_02\_JSB-RRM\_065)

```
si1      ʔu1tʃa1 tsu1the2 si1 /
si1      ʔu1tʃa1 tsu1the2 si1 /
EXS      much garbage EXS /
PRED    QUANT N    PRED /
```

there's a lot of garbage,

▶ βe<sup>2</sup>g# βa<sup>2</sup>ni<sup>2</sup>nga<sup>2</sup>ʔa<sup>1</sup>na<sup>3</sup> ndi<sup>2</sup>ʃe<sup>2</sup>ra<sup>2</sup> la<sup>2</sup> nda<sup>1</sup> ʃta<sup>1</sup> si<sup>1</sup> <ma<sup>2</sup>ma<sup>2</sup>si<sup>1</sup>ta<sup>2</sup>> // (IXC\_LEA\_CONV\_03\_JSB-RRM\_007)

```
βe2g# βa2ni2nga2ʔa1na3          ndi2ʃe2ra2 la2      nda1 ʃta1 si1 ma2ma2si1ta2 //
β-          a2ni2nga2 -ʔa1na3      ndi2ʃe2ra2 la2      nda1 ʃta1 si1 ma2ma2si1ta2 //
FS          PROG-          upset -POSS.1SG because COMP what ugly EXS mummy //
TAM          PRED          PRO          CONJ          COMP PRO.Q ADJ PRED N.BORR //
```

I'm getting upset because it's so ugly <woman>.

### 1.2. negative existential

<b>Definition</b>	The negative existential denies the existence of an entity.
<b>Construction</b>	The negative existential is expressed through the non-verbal predicate ka <sup>2</sup> ʔa <sup>2</sup> .
<b>Contrasts</b>	The negative existential contrasts with the existential predicate si <sup>1</sup> .

▶ ka<sup>2</sup>ʔa<sup>2</sup>na<sup>2</sup> tʃi<sup>2</sup>ka<sup>2</sup> he<sup>2</sup>e<sup>2</sup> ʔi<sup>1</sup>a<sup>2</sup>na<sup>2</sup> / (IXC\_LEA\_CONV\_02\_JSB-RRM\_055)

```
ka2ʔa2na2      tʃi2ka2 he2e2 ʔi1a2na2 /
ka2ʔa2      -na2 tʃi2ka2 he2e2 ʔi1a2 -na2 /
NEG.EXS -FOC like now no -FOC /
PRED          ADP ADV PTL PTL /
```

Not like now, no,

▶ ka<sup>2</sup>ʔa<sup>2</sup>na<sup>2</sup> tʃi<sup>2</sup>ka<sup>2</sup> ka<sup>2</sup>ndi<sup>2</sup> ʃu<sup>2</sup>hu<sup>2</sup>na<sup>3</sup> kwi<sup>2</sup>ʔku<sup>2</sup>na<sup>3</sup> ndi<sup>2</sup> si<sup>1</sup> tʃi<sup>2</sup>wi<sup>1</sup> // (IXC\_LEA\_CONV\_03\_JSB-RRM\_196)

```
ka2ʔa2na2      tʃi2ka2 ka2ndi2 ʃu2hu2na3          kwi2ʔku2na3          ndi2 si1 tʃi2wi1 //
ka2ʔa2      -na2 tʃi2ka2 ka2ndi2 ʃu2hu2 -na3 kw-          i2ʃku2 -na3 ndi2 si1 tʃi2wi1 //
NEG.EXS -FOC like when come -1SG PFV-          see -1SG what EXS clean //
PRED    PTL ADP ADV V          PRO TAM          V PRO PRO.Q PRED ADV //
```

Not like when I come, I see it is clean.

▶ ka<sup>2</sup>ʔa<sup>2</sup> hu<sup>2</sup>ku<sup>2</sup>ti<sup>2</sup>pa<sup>2</sup> // (IXC\_LEA\_CONV\_04\_JSB-RRM\_273)

```
ka2ʔa2      hu2ku2ti2pa2 //
ka2ʔa2      hu2ku2ti2pa2 //
NEG.EXS NP          //
PRED    N          //
```

It's not Hukutipa.

## 1.3. presentational

<b>Definition</b>	The presentational predication is used to introduce a referent in a deictic situation.
<b>Construction</b>	The presentational predication involves the presentational predicate <i>je</i> <sup>2</sup> .
<b>Contrasts</b>	The presentational predicate is distinct from verbs because it does not receive any S or A suffixes. It is distinct from the other non-verbal predicates because of its form.

▶ *tja<sup>2</sup>ndjo<sup>2</sup> kwa<sup>2</sup>je<sup>2</sup> ʔndʒe<sup>1</sup>na<sup>3</sup>na<sup>3</sup> la<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> la<sup>2</sup> ti<sup>1</sup>nda<sup>1</sup>hna<sup>3</sup> //* (IXC\_LEA\_CONV\_03\_JSB-RRM\_161)

tja<sup>2</sup>ndjo<sup>2</sup> kwa<sup>2</sup>je<sup>2</sup> ʔndʒe<sup>1</sup>na<sup>3</sup>na<sup>3</sup> la<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> la<sup>2</sup> ti<sup>1</sup>nda<sup>1</sup>hna<sup>3</sup> //  
 tja<sup>2</sup>ndjo<sup>2</sup> kwa<sup>2</sup>- je<sup>2</sup> ʔndʒe<sup>1</sup> -na<sup>3</sup>na<sup>3</sup> la<sup>2</sup> ki<sup>1</sup>i<sup>2</sup> la<sup>2</sup> ti<sup>1</sup>nda<sup>1</sup>hna<sup>3</sup> //  
 therefore? PFV- PRST child -POSS.1SG LOC.DIST LOC LOC.DIST municipality //  
 ADV TAM PRED N DET ADV PRED ADV N //

So, my son is there at the municipality.

▶ *kwi<sup>2</sup>hi<sup>2</sup> ka<sup>2</sup> tʃ<sup>0</sup>mī<sup>1</sup> je<sup>2</sup> ku<sup>2</sup>rʃi<sup>2</sup> //* (IXC\_LEA\_NARR\_01\_PEARSTORY-PSG\_015)

kwi<sup>2</sup>hi<sup>2</sup> ka<sup>2</sup> tʃ<sup>0</sup>mī<sup>1</sup> je<sup>2</sup> ku<sup>2</sup>rʃi<sup>2</sup> //  
 kwi<sup>2</sup>- hi<sup>2</sup> ka<sup>2</sup> tʃ<sup>0</sup>mī<sup>1</sup> je<sup>2</sup> ku<sup>2</sup>rʃi<sup>2</sup> //  
 PFV- arrive all fruit PRST seems //  
 TAM V QNT N PRED V //

He arrives, there is all the fruit, it seems.

▶ *hngu<sup>2</sup> kwa<sup>2</sup> je<sup>2</sup> //* (IXC\_LEA\_NARR\_01\_PEARSTORY-PSG\_088)

hngu<sup>2</sup> kwa<sup>2</sup> je<sup>2</sup> //  
 hngu<sup>2</sup> kwa<sup>2</sup> je<sup>2</sup> //  
 one woman PRST //  
 INDF N PRED //

There is a woman.

## 1.4. possessive

<b>Definition</b>	The possessive predication indicates that an entity X owns/has an entity Y.
<b>Construction</b>	The possessive predication involves the possessive predicate <i>ja</i> <sup>1</sup> . It is followed by an NP and can be preceded by another NP: (NP) <i>ja</i> <sup>1</sup> NP.
<b>Contrasts</b>	The possessive predicate is distinct from verbs for not receiving the S or A suffixes. It is distinct from the locative and existential predicates because of its form.

▶ *kwa<sup>2</sup>tsu<sup>2</sup> fta<sup>1</sup>hū<sup>2</sup>ku<sup>1</sup> tʃa<sup>2</sup>hmi<sup>2</sup> me<sup>1</sup>nda<sup>2</sup> ja<sup>1</sup> tʃh<sup>0</sup> //* (IXC\_LEA\_CONV\_04\_JSB-RRM\_087)

kwa<sup>2</sup>tsu<sup>2</sup> fta<sup>1</sup>hū<sup>2</sup>ku<sup>1</sup> tʃa<sup>2</sup>hmi<sup>2</sup> me<sup>1</sup>nda<sup>2</sup> ja<sup>1</sup> tʃh<sup>0</sup> //  
 kwa<sup>2</sup>- tsu<sup>2</sup> fta<sup>1</sup>hū<sup>2</sup> -ku<sup>1</sup> tʃa<sup>2</sup>hmi<sup>2</sup> me<sup>1</sup>nda<sup>2</sup> ja<sup>1</sup> tʃh<sup>0</sup> //  
 PFV- say be.scared -ANT people for.this POSS blood //  
 TAM V V TAM N CONJ PRED N //

One says, people got scared, that's why it has blood.

▶ *ja<sup>1</sup> ka<sup>2</sup> tʃ<sup>0</sup>mī<sup>1</sup> ʔa<sup>2</sup>ku<sup>3</sup> ra<sup>2</sup>ʃku<sup>2</sup>ʔe<sup>1</sup> βa<sup>2</sup>ka<sup>2</sup>hu<sup>3</sup> tʃ<sup>0</sup>mī<sup>1</sup> //* (IXC\_LEA\_NARR\_02\_PEARSTORY-RRM\_021)

ja<sup>1</sup> ka<sup>2</sup> tʃ<sup>0</sup>mī<sup>1</sup> ʔa<sup>2</sup>ku<sup>3</sup> ra<sup>2</sup>ʃku<sup>2</sup>ʔe<sup>1</sup> βa<sup>2</sup>ka<sup>2</sup>hu<sup>3</sup> tʃ<sup>0</sup>mī<sup>1</sup> //  
 ja<sup>1</sup> ka<sup>2</sup> tʃ<sup>0</sup>mī<sup>1</sup> ʔa<sup>2</sup>ku<sup>3</sup> ra<sup>2</sup>- ʃku<sup>2</sup>ā<sup>1</sup> -ʔe<sup>1</sup> βa<sup>2</sup>ka<sup>2</sup>hu<sup>3</sup> tʃ<sup>0</sup>mī<sup>1</sup> //  
 POSS all fruit in CLS.OBJ- bag -POSS.3SG carry fruit //  
 PRED QNT N ADP AFFX N DET V N //

He has all the fruit in his bag. He carries the fruit.

▶ *ja<sup>1</sup> ʔu<sup>2</sup>ʃi<sup>1</sup>ku<sup>3</sup> //* (IXC\_LEA\_NARR\_02\_PEARSTORY-RRM\_039)

ja<sup>1</sup> ʔu<sup>2</sup>ʃi<sup>1</sup>ku<sup>3</sup> //  
 ja<sup>1</sup> ʔu<sup>2</sup>- ʃi<sup>1</sup>ku<sup>3</sup> //  
 POSS CLF.AN- goat //  
 PRED AFFX N //

He has a goat.

## 1.5. stative locative

<b>Definition</b>	The stative locative predication indicates the presence of an entity at the place X or of an event that occurs at the place X.
<b>Construction</b>	The stative locative predication involves the stative locative predicate <i>ki</i> <sup>1</sup> i <sup>2</sup> which is preceded by an NP and can be followed by another NP: NP LOC (NP)
<b>Contrasts</b>	The stative locative predicate is distinct from verbs for not receiving the S or A suffixes and distinct from other non-verbal predicates because of its form.

▶ [la² ki¹i² ndi¹ʔe¹ me¹nda² la² βa²tu¹φi² //](#) (IXC\_LEA\_CONV\_01\_JSB-RRM\_088)

la² ki¹i² ndi¹ʔe¹ me¹nda² la² βa²tu¹φi² //  
 la² ki¹i² ndi¹ -ʔe¹ me¹nda² la² βa²tu¹= φi² //  
 LOC.DIST LOC house\place -POSS.3SG for.this COMP PROG.PL- go //  
 ADV PRED N DET CONJ COMP TAM V //

There, he is in his house. That's why they are going.

▶ [ku² li² ki¹i² ʰngu² nda²tsi² //](#) (IXC\_LEA\_CONV\_03\_JSB-RRM\_027)

ku² li² ki¹i² ʰngu² nda²tsi² //  
 ku² li² ki¹i² ʰngu² nda²tsi² //  
 COORD/INS LOC.PROX LOC one outside //  
 CONJ ADV PRED INDF ADV //

And here there is a square.

▶ [si¹si²ka² ske¹ʔe¹ ki¹ʔu²se²ʔe² ndi¹ra² ki¹i² nda² ʔu²ra² //](#) (IXC\_LEA\_CONV\_04\_JSB-RRM\_113)

si¹si²ka² ske¹ʔe¹ ki¹ʔu²se²ʔe² ndi¹ra² ki¹i² nda² ʔu²ra² //  
 si¹si²ka² ske¹ -ʔe¹ ki¹= ʔu²se²ʔe² ndi¹ra² ki¹i² nda² ʔu² -ra² //  
 stand head -POSS.3SG PROG.3SG- look where LOC what animal -DEM.DIST //  
 V N DET TAM.PNG V Q PRED PRO.Q N DET //

it stands, looks around, where is that animal.

## 2.1. human antipassive

<b>Definition</b>	The antipassive triggers the suppression of the patient-like (P) and the recipient-like (R) arguments which are pragmatically identifiable. With stative predicates it indicates that the state is particularly affecting the participant.
<b>Construction</b>	The antipassive morpheme -mi² is suffixed on the verbs and stative predicates.

▶ [ni²ka² kwi²rha²na³mi² ndi²la² //](#) (IXC\_LEA\_CONV\_01\_JSB-RRM\_106)

ni²ka² kwi²rha²na³mi² ndi²la² //  
 ni²ka² kwi²rha²na² -na³ -mi² ndi²la² //  
 as.soon.as meet -1SG -ANTIP SUB //  
 ADV V PRO CONJ //

I just met (with him/them) that...

▶ [kwi²hi² kwi²hi² βa²a²mi² la² kwa²hi²ri² la² /](#) (IXC\_LEA\_CONV\_01\_JSB-RRM\_131)

kwi²hi² kwi²hi² βa²a²mi² la² kwa²hi²ri² la² /  
 kwi²- hi² kwi²- hi² βa²a² -mi² la² kwa²- hi² -ri² la² /  
 PFV- arrive PFV- arrive (IPFV)take -ANTIP LOC.DIST PFV- arrive -HON LOC.DIST /  
 TAM V TAM V V AFFX ADV TAM V PRO ADV /

They came to bring (me). There, they came there...

▶ [ndri² ʔmi²ke² βi²hi² ʔu²se²ʔe²mi² tu¹φi² //](#) (IXC\_LEA\_CONV\_04\_JSB-RRM\_171)

ndri² ʔmi²ke² βi²hi² ʔu²se²ʔe²mi² tu¹φi² //  
 ndri² ʔmi² -ke² βi²hi² ʔu²se²ʔe² -mi² tu¹= φi² //  
 how call -ITER arrive look -ANTIP PROG.PL- go //  
 Q V TAM V V AFFX TAM.PNG V //

what is it called, she arrives to see how we are doing.

## 2.2. causative

<b>Definition</b>	The causative introduces a new argument, semantically a causer and syntactically an A argument. In several cases, the causative has been lexicalized, e.g. tse²k-/tse²- 'sell' < 'do-go'.
<b>Construction</b>	The causative tse²k-/tse²- attaches to verbs.
<b>Contrasts</b>	The causative derives from the verb tse² "to do", which is still used as a verb and an auxiliary. Note the use of tse² as a light verb with Spanish verb borrowings. As a valency-increasing suffix, the causative contrasts with the valency-decreasing antipassive and can co-occur with it suppressing the causee.

▶ [aj me¹ ku¹tse²ʔiā¹ūku¹ tja²hmi² me¹nda² //](#) (IXC\_LEA\_CONV\_04\_JSB-RRM\_078)

aj me¹ ku¹tse²ʔiā¹hū²ku¹ tja²hmi² me¹nda² //  
 aj me¹ ku¹- tse²- ʔiā¹hū² -ku¹ tja²hmi² me¹nda² //  
 INTJ therefore PFV- CAUS- be.scared -ANT people for.this //  
 EXCLM ADV TAM V TAM N CONJ //

Oh, therefore, it made people scared, that's why.

▶ [ku¹tse²ngu²se¹ ka² ʔmī¹ //](#) (IXC\_LEA\_NARR\_01\_PEARSTORY-PSG\_216)

ku²tse²ngu²tse¹          ka² tʃᵐᵐᵐ¹ //  
 ku²-                  tse²ngu²tse¹   ka² tʃᵐᵐᵐ¹ //  
 PFV-                  CAUS:gather all fruit //  
 TAM                  V                  QNT N //

He has gathered all the fruit.

2.3. instrumental

<b>Definition</b>	The instrumental serves to add a prototypically non-human argument, often indicating that the action is realized with an instrument.
<b>Construction</b>	The instrumental is expressed in two ways: 1) The applicative-instrumental -ʃᵐᵐᵐᵐᵐᵐ attaches to verbs or experience predicates (note some lexicalized uses). However, the applicative-instrumental does no longer seem very productive in its prototypical uses. 2) The coordinating conjunction ku² e.g. "talk with the microphone", "clean with the scarf".
<b>Constraints</b>	For the applicative-instrumental to be used, the object has to be in a marked position, i.e., preverbal.
<b>Contrasts</b>	The instrumental contrasts in particular with the comitative ka²hu², which indicates that the agent executes the action with a human co-agent.

▶ la² ki¹i² ᵐngu² na²?nde² la² ndi¹ra² βa²tu¹βa²ni²tʃᵐᵐᵐᵐᵐᵐ ku² mi²kro²fo²no² // (IXC\_LEA\_CONV\_02\_JSB-RRM\_246)

la²                  ki¹i²                  ᵐngu²   na²?nde²   la²                  ndi¹ra²   βa²tu¹βa²ni²tʃᵐᵐᵐᵐᵐᵐ                  ku²                  mi²kro²fo²no² //  
 la²                  ki¹i²                  ᵐngu²   na²?nde²   la²                  ndi¹ra²   βa²tu¹=                  βa²-   ni²tʃᵐᵐᵐᵐᵐᵐᵐ   ku²                  mi²kro²fo²no² //  
 LOC.DIST   LOC   one   ground   LOC.DIST   where   PROG.PL-   IPFV-   talk   COORD/INS   microphone //  
 ADV                  PRED   INDF   N                  ADV                  Q                  TAM.PNG                  TAM   V                  CONJ                  N.BORR                  //

there is one field, there where they talk with the microphone,

▶ he²e² ka²ndi² kwa²fi² di²a²le²ja¹ndro²na² ʔmē¹ʔō² nda¹ra² βa²tsu²ke² ti²mä¹hū¹ke²na² ku² su¹wa³ // (IXC\_LEA\_CONV\_03\_JSB-RRM\_094)

he²e²   ka²ndi²   kwa²fi²                  di²a²le²ja¹ndro²na²                  ʔmē¹ʔō²   nda¹ra²   βa²tsu²ke²                  ti²mä¹hū¹ke²na²  
 he²e²   ka²ndi²   kwa²-                  fi²   di²-                  a²le²ja¹ndro²   -na²   ʔmē¹ʔō²   nda¹ra²   βa²-                  tsu²   -ke²                  ti²=                  mä¹hū¹   -ke²                  -na²  
 now   when   PFV-   go   CLF.M-                  NP                  -FOC   also   what   PROG-   say   -ITER   PROG.SG-   sweep   -ITER   -FOC  
 ADV   ADV   TAM   V   AFFX                  N                  PTL   ADV                  PRO.Q                  TAM                  V                  TAM                  TAM.PNG                  V                  TAM                  PTL  
 ku²                  su¹wa³                  //  
 ku²                  su¹wa³                  //  
 COORD/INS   hot                  //  
 CONJ                  ADV/ADJ                  //

Now when Alejandro came, he again said how I sweep in the heat.

▶ ki¹βe²he³ ku² pa²ni¹tu²ʔe¹ ku² ki¹βe²he³ // (IXC\_LEA\_NARR\_02\_PEARSTORY-RRM\_023)

ki¹βe²he³                  ku²                  pa²ni¹tu²ʔe¹                  ku²                  ki¹βe²he³                  //  
 ki¹=                  βe²he³   ku²                  pa²ni¹tu²                  -ʔe¹                  ku²                  ki¹=                  βe²he³                  //  
 PROG.3SG-   clean   COORD/INS   scarf                  -POSS.3SG   COORD/INS   PROG.3SG-   clean   //  
 TAM.PNG                  V                  CONJ                  N.BORR                  DET                  CONJ                  TAM.PNG                  V                  //

He is cleaning with his scarf, he is cleaning.

2.4. comitative

<b>Definition</b>	The comitative indicates that the agent executes the action with a human co-agent.
<b>Construction</b>	An uninflected comitative morpheme, ka²hu², is used as a free morpheme. It can also be found in lexicalized verbs, e.g. φᵐᵐᵐᵐᵐᵐka²hu² ‘bring’ < ‘come-with’.
<b>Contrasts</b>	The comitative contrasts with the instrumental, which applies to non-human arguments.

▶ ʔi¹na¹na³ ka²hu²na² la² na²ʔtʃi² ta¹ʔtʃi² kwa²tu¹tse² nda¹ra² βa²tsu¹ ndi² βa²tu¹fi² ka² tsi²kū³ʔe¹ // (IXC\_LEA\_CONV\_02\_JSB-RRM\_187)

ʔi¹na¹na³          ka²hu²na²          la²          na²ʔtʃi²          ta¹ʔtʃi²          kwa²tu¹tse²          nda¹ra²   βa²tsu¹          ndi²   βa²tu¹fi²          ka²          tsi²kū³ʔe¹  
 ʔi¹na³          -na²   ka²hu²          -na²   la²          na²ʔtʃi²          ta¹ʔtʃi²          kwa²tu¹=          tse²   nda¹ra²   βa²tsu¹          ndi²   βa²tu¹=          φᵐᵐᵐᵐᵐᵐ   ka²          tsi²kū³          -ʔe¹  
 fine          -FOC   COM          -FOC   COMP   grandmother   grandfather   PFV.PL-   do   what   belmake   what   PROG.PL-   go   all   money   -POSS.3SG  
 ADV   PTL   ADP   PTL   COMP   N                  N                  TAM.PNG                  V                  Q                  V                  Q                  TAM.PNG                  V                  QNT                  N                  DET  
 //  
 //  
 //  
 //

It's fine with the grandmothers, the grandfathers, they do, they go for their money

▶ tʃi¹ᵐngu² ʃᵐᵐᵐᵐᵐᵐ ki¹u²ʃta¹ma² ku² ki¹u²ʃta¹ma² ka²hu² ku² tʃᵐᵐᵐᵐᵐᵐ ki¹i² // (IXC\_LEA\_NARR\_02\_PEARSTORY-RRM\_119)

tʃi¹ᵐngu²          ʃᵐᵐᵐᵐᵐᵐ                  ki¹u²ʃta¹ma²                  ku²                  ki¹u²ʃta¹ma²                  ka²hu²          ku²                  tʃᵐᵐᵐᵐᵐᵐ          ki¹i²                  //  
 tʃi¹ᵐngu²          ʃᵐᵐᵐᵐᵐᵐ                  ʃᵐᵐᵐᵐᵐᵐ                  ki¹=                  u²ʃta¹ma²                  ku²                  ki¹=                  u²ʃta¹ma²                  ka²hu²          ku²                  tʃᵐᵐᵐᵐᵐᵐ          ki¹i²                  //  
 other.one          CLS.boy-          small          PROG.3SG-          play          COORD/INS          PROG.3SG-          play          COM          COORD/INS          fruit          LOC                  //  
 PRO                  AFFX                  N                  TAM.PNG                  V                  CONJ                  TAM.PNG                  V                  ADP                  CONJ                  N                  PRED                  //

Another boy is playing with... he is playing together with the fruit. He is there.

## 2.5. sociative

<b>Definition</b>	The sociative is used to express an action realized together with other participants, e.g. "go together", "meet". Some examples indicate a passive use, where the patient is promoted as a subject, e.g. "he is hot" = "the heat affects him". Examples not attested in the corpus indicate a reciprocal meaning.
<b>Construction</b>	The sociative $-te^3?e^3$ attaches to the verb.

▶ ju<sup>1</sup>hu<sup>2</sup> na<sup>2</sup> ja<sup>2</sup>tu<sup>2</sup>te<sup>3</sup>?e<sup>3</sup> la<sup>2</sup> // (IXC\_LEA\_NARR\_01\_PEARSTORY-PSG\_126)

ju <sup>1</sup> hu <sup>2</sup> na <sup>2</sup>	ja <sup>2</sup> tu <sup>2</sup> te <sup>3</sup> ?e <sup>3</sup>	la <sup>2</sup>	//
ju <sup>1</sup> hu <sup>2</sup>	-na <sup>2</sup>	ja <sup>2</sup> tu <sup>2</sup>	-te <sup>3</sup> ?e <sup>3</sup> la <sup>2</sup> //
two	-FOC	meet	-SOC LOC.DIST //
NUM	PTL	V	PRO ADV //

the two of them meet there.

▶ la<sup>2</sup> tu<sup>1</sup>hi<sup>2</sup>te<sup>3</sup>?e<sup>3</sup> // (IXC\_LEA\_NARR\_01\_PEARSTORY-PSG\_152)

la <sup>2</sup>	tu <sup>1</sup> hi <sup>2</sup> te <sup>3</sup> ?e <sup>3</sup>	//
la <sup>2</sup>	tu <sup>1</sup> =	hi <sup>2</sup> -te <sup>3</sup> ?e <sup>3</sup> //
SUB	PROG.PL-	arrive -SOC //
COMP	TAM.PNG	V PRO //

The others are going together.

▶ ja<sup>2</sup>tu<sup>2</sup>ku<sup>1</sup>te<sup>3</sup>?e<sup>3</sup> la<sup>2</sup> / (IXC\_LEA\_NARR\_02\_PEARSTORY-RRM\_129)

ja <sup>2</sup> tu <sup>2</sup> ku <sup>1</sup> te <sup>3</sup> ?e <sup>3</sup>	la <sup>2</sup>	/
ja <sup>2</sup> tu <sup>2</sup>	-ku <sup>1</sup> -te <sup>3</sup> ?e <sup>3</sup>	la <sup>2</sup> /
meet	-ANT -SOC	LOC.DIST /
V	TAM	PRO ADV /

They met each other there.

## 3. experiencer

<b>Definition</b>	The experiencer predication encodes that a participant is affected by the event, e.g. emotion 'be upset', 'be lazy'; bodily experience 'be sick', 'bathe', but also posture 'sit'.
<b>Construction</b>	The experiencer predication consists of a non-verbal predicate (not a noun or a verb) that receives the series of possessive suffixes.
<b>Contrasts</b>	Other non-verbal predications.

▶ βe<sup>2</sup>g# βa<sup>2</sup>ni<sup>2</sup>nga<sup>2</sup>?na<sup>1</sup>na<sup>3</sup> ndi<sup>2</sup>?e<sup>2</sup>ra<sup>2</sup> la<sup>2</sup> nda<sup>1</sup> fta<sup>1</sup> si<sup>1</sup> <ma<sup>2</sup>ma<sup>2</sup>si<sup>1</sup>ta<sup>2</sup>> // (IXC\_LEA\_CONV\_03\_JSB-RRM\_007)

βe <sup>2</sup> g#	βa <sup>2</sup> ni <sup>2</sup> nga <sup>2</sup> ?na <sup>1</sup> na <sup>3</sup>	ndi <sup>2</sup> ?e <sup>2</sup> ra <sup>2</sup>	la <sup>2</sup>	nda <sup>1</sup>	fta <sup>1</sup>	si <sup>1</sup>	ma <sup>2</sup> ma <sup>2</sup> si <sup>1</sup> ta <sup>2</sup>	//
FS	β-	a <sup>2</sup> ni <sup>2</sup> nga <sup>2</sup>	-?na <sup>1</sup> na <sup>3</sup>	ndi <sup>2</sup> ?e <sup>2</sup> ra <sup>2</sup>	la <sup>2</sup>	nda <sup>1</sup>	fta <sup>1</sup> si <sup>1</sup>	ma <sup>2</sup> ma <sup>2</sup> si <sup>1</sup> ta <sup>2</sup> //
	PROG-	upset	-POSS.1SG	because	COMP	what	ugly	EXS mummy //
	TAM	PRED	PRO	CONJ	COMP	PRO.Q	ADJ	PRED N.BORR //

I'm getting upset because it's so ugly <woman>.

▶ me<sup>1</sup>nda<sup>2</sup> ?i<sup>2</sup>na<sup>1</sup>na<sup>3</sup> ?mē<sup>1</sup>?ō<sup>2</sup> sja<sup>1</sup>?na<sup>3</sup>na<sup>3</sup> tsi<sup>2</sup> tsu<sup>2</sup> ku<sup>2</sup>tse<sup>2</sup>na<sup>3</sup> // (IXC\_LEA\_CONV\_03\_JSB-RRM\_099)

me <sup>1</sup> nda <sup>2</sup>	?i <sup>2</sup> na <sup>1</sup> na <sup>3</sup>	?mē <sup>1</sup> ?ō <sup>2</sup>	sja <sup>1</sup> ?na <sup>3</sup> na <sup>3</sup>	tsi <sup>2</sup>	tsu <sup>2</sup>	ku <sup>2</sup> tse <sup>2</sup> na <sup>3</sup>	//
me <sup>1</sup> nda <sup>2</sup>	?i <sup>2</sup> na <sup>1</sup> na <sup>3</sup>	?mē <sup>1</sup> ?ō <sup>2</sup>	sja <sup>1</sup>	-?na <sup>3</sup> na <sup>3</sup>	tsi <sup>2</sup>	tsu <sup>2</sup> ku <sup>2</sup> -	tse <sup>2</sup> -na <sup>3</sup> //
for.this	1SG	also	idleness	-POSS.1SG	?	say PFV-	say -1SG //
CONJ	PRO	ADV	PRED	PRO	?	V TAM	V PRO //

that's why to do this I'm lazy, I told him.

## 4. spatial specification

<b>Definition</b>	Spatial specification codes the position of a referent X with respect to a referent Y, e.g., X inside Y, X above Y, etc. Some spatial specifiers derive from body part terms.
<b>Construction</b>	The spatial specifiers combine with TMA markers, but not with S or A suffixes. They generally precede the NP: SPCF.SPC NP

▶ tʃi<sup>2</sup>ka<sup>2</sup> ti<sup>1</sup>nda<sup>1</sup>h<sup>1</sup>na<sup>3</sup> ?mē<sup>1</sup>?ō<sup>2</sup> ?a<sup>2</sup>ku<sup>2</sup> h<sup>1</sup>ngu<sup>2</sup> to<sup>2</sup>ne<sup>1</sup> le<sup>2</sup> ʃe<sup>1</sup> / (IXC\_LEA\_CONV\_03\_JSB-RRM\_146)

tʃi <sup>2</sup> ka <sup>2</sup>	ti <sup>1</sup> nda <sup>1</sup> h <sup>1</sup> na <sup>3</sup>	?mē <sup>1</sup> ?ō <sup>2</sup>	?a <sup>2</sup> ku <sup>2</sup>	h <sup>1</sup> ngu <sup>2</sup>	to <sup>2</sup> ne <sup>1</sup>	la <sup>2</sup>	ʃe <sup>1</sup> /
tʃi <sup>2</sup> ka <sup>2</sup>	ti <sup>1</sup> nda <sup>1</sup> h <sup>1</sup> na <sup>3</sup>	?mē <sup>1</sup> ?ō <sup>2</sup>	?a <sup>2</sup> ku <sup>2</sup>	h <sup>1</sup> ngu <sup>2</sup>	to <sup>2</sup> ne <sup>1</sup>	la <sup>2</sup>	ʃe <sup>1</sup> /
like	municipality	also	inside	one	barrel	REL	big /
ADP	N	ADV	SPCF.SPC	INDF	N.BORR	COMP	ADJ /

Like at the municipality also in a barrel that is big...

▶ aj ki<sup>1</sup>nda<sup>2</sup>?ju<sup>2</sup>e<sup>3</sup>na<sup>2</sup> ?u<sup>2</sup>?e<sup>3</sup> // (IXC\_LEA\_CONV\_04\_JSB-RRM\_039)

aj	ki'nda <sup>2</sup> tʃu <sup>2</sup> e <sup>3</sup> na <sup>2</sup>		ʔu <sup>2</sup> je <sup>3</sup>		//
aj	ki'=	nda <sup>2</sup> tʃu <sup>2</sup> e <sup>3</sup>	-na <sup>2</sup>	ʔu <sup>2</sup> -	je <sup>3</sup> //
INTJ	PROG.3SG-	behind	-FOC	CLF.AN-	snake //
EXCLM	TAM.PNG	SPCF.SPC	PTL	AFFX	N //

Oh, the snake is behind (him)!

► ndi<sup>2</sup>la<sup>2</sup> si'nga<sup>2</sup> nde<sup>2</sup>hi<sup>2</sup>βa<sup>2</sup> si'hi<sup>3</sup> ndi<sup>2</sup>la<sup>2</sup> tsu<sup>2</sup>ʔa<sup>2</sup>na<sup>2</sup>βa<sup>2</sup> tse<sup>2</sup>nde<sup>1</sup>ʔe<sup>2</sup>βa<sup>2</sup> // (IXC\_LEA\_CONV\_04\_JSB-RRM\_052)

ndi <sup>2</sup> la <sup>2</sup>	si'nga <sup>2</sup>	nde <sup>2</sup> hi <sup>2</sup> βa <sup>2</sup>		si'hi <sup>3</sup>	ndi <sup>2</sup> la <sup>2</sup>	tsu <sup>2</sup> ʔa <sup>2</sup> na <sup>2</sup> βa <sup>2</sup>		tse <sup>2</sup> nde <sup>1</sup> ʔe <sup>2</sup> βa <sup>2</sup>		//	
ndi <sup>2</sup> la <sup>2</sup>	si'nga <sup>2</sup>	nde <sup>2</sup> hi <sup>2</sup>	-βa <sup>2</sup>	si'hi <sup>3</sup>	ndi <sup>2</sup> la <sup>2</sup>	tsu <sup>2</sup>	-ʔa <sup>2</sup>	-na <sup>2</sup>	-βa <sup>2</sup>	tse <sup>2</sup> nde <sup>1</sup> ʔe <sup>2</sup>	-βa <sup>2</sup> //
SUB	inside/on	tangle	-CO.AN	feet	SUB	want	-NEG	-FOC	-CO.AN	release	-CO.AN //
CONJ	SPCF.SPC	V	PRO	N	CONJ	V	AFFX	PTL	PRO	V	PRO //

Because the animal got tangled in (his) feet, because it didn't want to let go.

## Synthesis & Discussion

To summarize, I have identified the following predications: existential and equational, presentative, possessive, stative locative, negative existential, human antipassive, causative, instrumental, comitative, sociative, experiencer, and spatial specification. However, note that the syntactic analysis is still ongoing.

Ixcatec presents a number of typologically interesting predications. In particular, the human antipassive verbal suffix,  $-mi^2$ , is typologically rare in many respects (Adamou 2014). Unlike most languages with antipassive constructions (Polinsky 2005), Ixcatec antipassive constructions target highly individuated arguments, namely humans who are also generally speech-act participants. This is due to the origin of  $-mi^2$ , which most likely developed from the Proto-Popolocan  $**hmi$  'person' (reconstructed in Veerman-Leichsenring 2004: 433 following Gudshinsky) and is still productive in compound word formation, i.e.  $mi^2$ - $nda^2wa^2$  'man',  $mi^2$ - $tʃa^2$  'woman',  $tʃa^2h-mi^2$  'people'. The Ixcatec antipassive triggers the suppression of the patient-like (P) and the recipient-like (R) arguments. We also note the use of the antipassive suffix with stative predicates, indicating that the state is particularly affecting the participant. Within the Otomanguean stock, one can also draw attention to the equivalent 'object-suppressive' voice in Totonac which also occurs with states and nominal roots for atelic reading (Beck 2004).

Cross-reference morphemes are of typological interest, in relation to the lexical classifiers (see Adamou 2017a for an overview of their uses in relative clauses and methodological challenges for a systematic analysis of a critically-endangered language).

Another interesting feature is the so-called "experiencer" predication. Unlike in other Popolocan languages, as Chocholtec (Ngigua/Ngiba) and Popoloc, I consider that this predication cannot be described as a case of semantic alignment in Ixcatec as it is not a pervasive feature but rather characterizes a small number of verbs (Wichmann 2008: 3 offers the following definition of semantic alignment: "an agentive S is encoded, through case marking, verbal agreement, or both, in the same way as A and non-agentive S in the same way as P" and "the agentive vs. non-agentive distinction is a pervasive feature of the grammar").

Among under-described features of Ixcatec that deserve future research is the so-called "sociative", which presents a rather wide range of uses that defy easy characterization.

## Conclusion

To conclude, Ixcatec is a previously undescribed and critically-endangered language. Although it shares a number of features that characterize the Popolocan languages and more broadly the languages of the Otomanguean stock and the Mesoamerican area, Ixcatec also shows a number of interesting developments that can be of interest to typologists. Clearly, much work remains to be done and the present paper is aimed as an introduction to the complexity of this language.

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