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Evangelia Adamou

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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

IXCATEC



Name and ISO code : $j^{h}wa^{2}ni^{3}$, 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 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 superscripted¹, a mid tone, transcribed with², and a low tone, transcribed with³. 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 ê ï 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 ≠ 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 (-da² ‘male’, -k^wa² ‘female’, and -βa³ ‘animal’) corefer to nouns formed with the *noun classifiers*, di²- ‘man’, k^wa²- ‘woman’, ʔu²- ‘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., su¹wa¹-da² ‘he’ and su¹wa¹-kwa² ‘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

Definition	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).
Construction	Cross-reference morphemes are suffixed on verbs, possessives, and predicate adjectives.
Constraints	The Ixcatec cross-reference morphemes corefer to nouns formed with the noun classifiers di ² - ‘man’, kwa ² - ‘woman’, ʔu ² - ‘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 ¹ wa ¹ -da ² ‘he’ and su ¹ wa ¹ -kwa ² ‘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).

▶ a²tsu² ni² kwa²tu²tsu² kwi²hi² sa¹ li²be¹tu² kwi²hi²da² la² / (IXC_LEA_CONV_01_JSB-RRM_185)

a²tsu² ni² kwa²tu²tsu² kwi²hi² sa¹ li²be¹tu² kwi²hi²da² la² /
a²tsu² ni² kwa²tu²= tsu² kwi²= hi² sa¹ li²- be¹tu² kwi²= hi² -da² la² /
maybe still FUT.PL- want/say FUT- arrive DEF CLS.boy- NP FUT- arrive -CO.M LOC.DIST /
ADV ADV TAM.PNG V TAM V DET AFFX N TAM V PRO ADV /

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

▶ ka² me¹ndra² ki¹i² kwa² la² ʔa²ku² ndi¹ʔe¹kwa² // (IXC_LEA_CONV_04_JSB-RRM_024)

ka² me¹ndra² ki¹i² kwa² la² ʔa²ku² ndi¹ʔe¹kwa² //
ka² me¹ndra² ki¹i² kwa² la² ʔa²ku² ndi¹ -ʔe¹ -kwa² //
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.

▶ la² ki¹ʔta¹hū² nda² kwi¹ka¹ʔa²βa² // (IXC_LEA_CONV_04_JSB-RRM_054)

la² ki¹ʔta¹hū² nda² kwi¹ka¹ʔa²βa² //
la² ki¹= ʔta¹hū² nda² kw- i¹ka¹ -ʔa² -βa² //
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

Definition	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.
Construction	The definite article sa ¹ 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.
Contrasts	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).

▶ nda²β²e¹ sa¹ kwa²pi¹na² // (IXC_LEA_CONV_01_JSB-RRM_048)

nda²β²e¹ sa¹ kwa²pi¹na² //
nda²β² -ʔe¹ sa¹ kwa²- pi¹na² //
husband -POSS.3SG DEF CLF.F- NP //
N DET DET AFFX N //

Crespina's husband.

▶ [hã²ã³ ndra²na² tsu² sa¹ kwa²do²kto²ra² kwi²φu²i¹na³ //](#) (IXC_LEA_CONV_01_JSB-RRM_234)

hã²ã³ ndra²na² tsu² sa¹ kwa²do²kto²ra² kwi²φu²i¹na³ //
 hã²ã³ ndra² -na² tsu² sa¹ kwa²- do²kto²ra² kwi²- φu²i¹ -na³ //
 yes like.that -FOC wantsay 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.

▶ [ndra² sa¹ ʔu²ndja²hju³ nde²de² //](#) (IXC_LEA_CONV_04_JSB-RRM_118)

ndra¹ sa¹ ʔu²ndja²hju³ nde¹de² //
 ndra² sa¹ ʔu²- ndja²hju³ nde¹de² //
 like.that DEF CLF.AN- turkey what //
 ADV DET AFFX N PRO.Q //

That's what the turkeys do.

1.3. indefinite

Definition	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.
Construction	The numeral hɲgu² 'one' precedes the N.
Constraints	The indefinite article is not used with non-referential and generic nouns.
Contrasts	1) DEF+N 2) bare nouns (used for generic nouns only when they are given in the discourse, for groups of objects, and substances).

▶ [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.

▶ [na² la² ki¹i² hngu² βa¹tsu²ndu³ ki¹tʃi²ndi²e¹ la² βa²ʔi² βa²ha² tʃi²tʃe¹ βa²ha² //](#) (IXC_LEA_CONV_04_JSB-RRM_028)

na² la² ki¹i² hngu² βa¹tsu²ndu³ ki¹tʃi²ndi²e¹ la² βa²ʔi² βa²ha² tʃi²tʃe¹ βa²ha² //
 na² la² ki¹i² hngu² βa¹tsu²ndu³ ki¹= tʃi²ndi²e¹ la² βa²ʔi² βa²ha² tʃi²tʃe¹ -ʔe¹ βa²ha² //
 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.

▶ [hngu² ʔu²kwa² ju² //](#) (IXC_LEA_NARR_01_PEARSTORY-PSG_050)

hngu² ʔu²kwa² ju² //
 hngu² ʔu²- kwa² ju² //
 one CLF.AN- woman come //
 INDF AFFX N V //

A female animal comes.

1.4. proximal reference

Definition	The proximal demonstrative indicates that an entity is located close to the speaker and the addressee.
Construction	The proximal demonstrative -ri² is suffixed on the NP.

▶ [ni² kwa²je²ku¹ fta¹a¹ kwa²φi² tʃi²tse¹ri² //](#) (IXC_LEA_CONV_03_JSB-RRM_083)

ni² kwa²je²ku¹ fta¹a¹ kwa²φi² tʃi²tse¹ri² //
 ni² kwa²- je² -ku¹ fta¹a¹ kwa²- φi² tʃi²tse¹ -ri² //
 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

Definition	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 recognitional, i.e. referring to entities which are considered to be known by the hearer although they have not been mentioned in the preceding discourse.
Construction	The distal demonstrative -ra² is suffixed on the NP.
Constraints	The demonstratives combine with the definite article sa¹ in 50% of the cases.

▶ [ndi¹ʔe¹ sa¹ di²ra² pa²dri²no² //](#) (IXC_LEA_CONV_01_JSB-RRM_021)

ndi¹ʔe¹ sa¹ di²ra² pa²dri²no² //
 ndi¹ -ʔe¹ sa¹ di² -ra² pa²dri²no² //
 house -POSS.3SG DEF sir -DEM.DIST godfather //
 N DET DET N DET N.BORR //

At godfather's house.

▶ [me¹ se²ma¹na²ra² /](#) (IXC_LEA_CONV_01_JSB-RRM_170)

me¹ se²ma¹na²ra² /
 me¹ se²ma¹na² -ra² /
 therefore week -DEM.DIST /
 ADV N.BORR DET /

Therefore, that week.

▶ [ndi² ʔu²i¹ku¹ na²ʔnde²ra² la² ʃta¹ si¹ //](#) (IXC_LEA_CONV_03_JSB-RRM_188)

ndi² ʔu²i¹ku¹ na²ʔnde²ra² la² ʃta¹ si¹ //
 ndi² ʔu²i¹ -ku¹ na²ʔnde² -ra² la² ʃta¹ si¹ //
 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

Definition	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.
Construction	Bare nouns.
Contrasts	1) DEF 2) INDEF

▶ [me¹ ki¹tsʔu¹na² ndzi²ʃja² //](#) (IXC_LEA_CONV_01_JSB-RRM_051)

me¹ ki¹tsʔu¹na² ndzi²ʃja² //
 me¹ ki¹= tsʔu¹na² ndzi²ʃja² //
 therefore PROG.3SG- make.by.hand candle //
 ADV TAM.PNG V N //

therefore he is making candles.

▶ [ndi² kwa²ʔa¹na²na³ ʔa¹ ʃna²na³ ʔi²- a²ʃe² ʔa¹tsu²ndu³ li²o² ʔi² //](#) (IXC_LEA_CONV_03_JSB-RRM_206)

ndi² kwa²ʔa¹na²na³ ʔa¹ ʃna²na³ ʔi²- a²ʃe² ʔa¹tsu²ndu³ li²o² ʔi² //
 ndi² kwa²- ʔa¹ -ʃna²na³ ʔi²- a²ʃe² ʔa¹tsu²ndu³ li² -o² ʔi² //
 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.

▶ [tsi¹ʔi² tʃhi²na² tsi¹ʔa²tsi²ʃe²ngi² ʔi²nda² ki¹ ki¹ʔa²ha² tʃi²ʃe¹ //](#) (IXC_LEA_CONV_04_JSB-RRM_032)

tsi¹ʔi² tʃhi²na² tsi¹ʔa²tsi²ʃe²ngi² ʔi²nda² ki¹ ki¹ʔa²ha² tʃi²ʃe¹ //
 tsi¹- ʔi² tʃhi² -na² tsi¹- ʔa²tsi²ʃe²ngi² ʔi²nda² ki¹= ki¹= ʔa²ha² tʃi²ʃe¹ -ʔe¹ //
 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

Definition	Possession within an NP indicates that an entity X (the possessed) belongs/is related to an entity Y (the possessor).
Construction	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.

▶ [ndi¹ʔe¹ sa¹ di²ra² pa²dri²no² //](#) (IXC_LEA_CONV_01_JSB-RRM_021)

ndi¹ʔe¹ sa¹ di²ra² pa²dri²no² //
 ndi¹ -ʔe¹ sa¹ di² -ra² pa²dri²no² //
 house -POSS.3SG DEF sir -DEM.DIST godfather //
 N DET DET N DET N.BORR //

At godfather's house.

▶ [nda²ʔe¹ sa¹ kwa²pi¹na² //](#) (IXC_LEA_CONV_01_JSB-RRM_048)

nda²β⁷e¹ sa¹ kwa²pi¹na² //
 nda²β -⁷e¹ sa¹ kwa²- pi¹na² //
 husband -POSS.3SG DEF CLF.F- NP //
 N DET DET AFFX N //

Crespina's husband.

► [kwi²φi² ts^hu²i¹ //](#) (IXC_LEA_CONV_01_JSB-RRM_074)

kwi²φi² ts^hu²i¹ //
 kwi²- φi² ts^hu² -i¹ //
 PFV- go flower -POSS.1PL.INCL //
 TAM V N DET //

He goes for our flowers.

3.1. restrictive quantifier

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

► [ɸwa²ni²o² ni²tʃ^he² nda¹ra² ndi² mi²?e²?a² βi²ʃku²?a²na² /](#) (IXC_LEA_CONV_01_JSB-RRM_125)

ɸwa²ni²o² ni²tʃ^he² nda¹ra² ndi² mi²?e²?a² βi²ʃku²?a²na² /
 ɸwa² -ni¹ -o² ni²tʃ^ha² nda¹ra² ndi² mi²?e² -?a² β- i²ʃku² -?a² -na² /
 language\Ixcaté -POSS.1SG.INCL -RESTR talk what what hear -NEG IPFV- see -NEG -FOC /
 N DET QNT V PRO.Q PRO.Q V AFFX TAM V AFFX PTL /

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

► [φu²i¹?a²na²ma² o²di²to²ri²o² ?i¹a²na² lo² tu¹hu² //](#) (IXC_LEA_CONV_01_JSB-RRM_276)

φu²i¹?a²na²ma² o²di²to²ri²o² ?i¹a²na² lo² tu¹hu² //
 φu²i¹ -?a² -na² -ma² o²di²to²ri²o² ?i¹a² -na² l -o² tu¹= hu² //
 leave -NEG -FOC -3PL auditorium no -FOC LOC.DIST -RESTR PROG.PL- be.together //
 V AFFX PTL PRO N.BORR PTL PTL ADV QNT TAM.PNG V //

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

► [me¹e¹ro² βa²tu¹tse²ka²tē²hē² //](#) (IXC_LEA_CONV_03_JSB-RRM_068)

me¹e¹ro² βa²tu¹tse²ka²tē²hē² //
 me¹e¹r -o² βa²tu¹= tse²ka²tē²hē² //
 DEM.DIST -RESTR PROG.PL- CAUS:lift //
 DET QNT TAM.PNG V //

They are having it picked up, just that.

3.2. universal quantifier

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

► [la² ndra² ka²ndi² βa²tu¹φi² ka² lɪ²nda²wa²na² /](#) (IXC_LEA_CONV_02_JSB-RRM_047)

la² ndra² ka²ndi² βa²tu¹φi² ka² lɪ²nda²wa²na² /
 la² ndra² ka²ndi² βa²tu¹= φi² ka² lɪ²- nda²wa² -na² /
 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...

► [ka²na¹ko³ βa²tse² re²si²βi² ka² tja²hmi² me¹nda² //](#) (IXC_LEA_CONV_02_JSB-RRM_086)

ka²na¹ko³ βa²tse² re²si²βi² ka² tja²hmi² me¹nda² //
 ka²na¹ko³ βa²- tse² re²si²βi² ka² tja²hmi² me¹nda² //
 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.

► [kwa²φi² βi²ka²hu²ku¹ ka²na¹ko³ βi²ka¹ //](#) (IXC_LEA_CONV_02_JSB-RRM_234)

kwa²φi² βi²ka²hu²ku¹ ka²na¹ko³ βi²ka¹ //
 kwa²- φi² βi²ka²hu² -ku¹ ka²na¹ko³ βi²- i²ka¹ //
 PFV- go bring -ANT everything IPFV- seize //
 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 Fernandez 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 *h₁ngu²* '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-noun₁ noun₂' where noun₁ is the possessed and noun₂ 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.

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