

# A first look at conditional and counterfactual morphology in Lachirioag Zapotec

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## 1 Introduction

This paper describes the conditional and counterfactual conditional constructions found in Lachirioag Zapotec, a Northern Zapotec language from Oaxaca, Mexico.<sup>1</sup> A typical example of each is shown in (1a) and (1b) respectively. The conditional marker *shí* ‘if’ is used to introduce the conditional clauses in both sentences in (1). In order to express counterfactual meaning, there is an additional counterfactual morpheme =*na* encliticized onto *shí* in (1b).

- (1) a. *Shí* [g- ún =n] yiagh gùxe’, na [gá- gane] Yiaghdon yó’o.<sup>2</sup>  
if IRR/G- do =3INAN rain tomorrow then G/IRR- stay Y. house  
‘If it rains tomorrow, then Yiaghdon will stay at home.’
- b. *Shí*=*na* Maur=*na* [we =bē] benen, na [gut =bē].  
if=NA M.=that PERF/GU.drink =3INFOR poison then PERF/GU.die =3INFOR  
‘If Maur had drunk poison, then he would have died.’

To my knowledge, there has been little work done on conditionals or counterfactual conditionals in Zapotec or Otomanguean languages in general, though they are discussed briefly in works like Munro (2006) and Sonnenschein (2004). The aim of this investigation is to provide a systematic description of conditionals (section 3) and counterfactuals (section 4) in Lachirioag Zapotec, with particular focus on the morphology used to create these constructions, and to place Lachirioag Zapotec within the current typology.

## 2 Language background

Lachirioag Zapotec originates from San Cristóbal Lachirioag, a town in the central part of the Villa Alta district of Oaxaca, Mexico. It is spoken by approximately

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<sup>2</sup>Lachirioag Zapotec data is presented in the orthography developed by Pam Munro and Julio Dominguez. *Ch* is [tʃ], *dj* is [dʒ], *x* is [s], *xh* is [z], *nn* is [n:], apostrophes are [ʔ], and *ě* is a reduced central vowel often corresponding to [ə] or [ɨ]. Tone is still not well understood and is not represented exhaustively in the data. Glosses are: AND = andative, CONT = continuative, DUBT = dubitative, EMPH = emphatic, FOR = (human) formal, INAN = inanimate, INCL = inclusive, INCOM = incomplete motion, INFOR = (human) informal, IRR = irrealis, NEG = negation, NEUT = neutral, PERF = perfective, Q = question particle, VEN = venitive.

1,000 speakers in Mexico and an additional 100-200 speakers in southern California. Readers are directed to Solá-Llonch (2021) for further details on the language and community. All Lachirioag Zapotec data presented here was collected through fieldwork done by the author, the majority elicited from a single speaker.

The default word order in Lachirioag Zapotec is (X)VSO. Arguments frequently move to a preverbal position in order to receive topic/focus interpretation, but fronted arguments obligatorily occur with a postverbal coindexed pronominal: this is the subject clitic *=bë* in (2b) and the independent object pronoun *lén* in (2c).

- (2) a. [Ba- sor] Maur velador=na.  
 PERF/B- remove M. candle=that  
 ‘Maur put out the candle.’  
 b. Maur [ba- sor \*(=bë)] velador=na.  
 M. PERF/B- remove =3INFOR candle=that  
 ‘It was Maur who put out the candle.’  
 c. Velador=na [ba- sor] Maur \*(lé=n).  
 candle=that PERF/B- remove M. PRO=3INAN  
 ‘It was that candle that Maur put out.’ (Solá-Llonch 2021:9)

Like arguments, adverbs and prepositional phrases can occur in preverbal position, though they may occur clause-finally as well (3).

- (3) a. {Nna=djga} [dj- guy =bë] nil {nna=djga}.  
 now=DJGA CONT- cook =3INFOR nixtamal now=DJGA  
 ‘He is cooking the nixtamal right now.’  
 b. {Ren Maur} [gu- za =a’] {ren Maur}.  
 with M. PERF/GU- walk =1SG with M.  
 ‘I walked with Maur.’ (Solá-Llonch 2021:10)

All negation words, wh-phrases, and the (matrix) polar question particle *á* obligatorily surface clause-initially and therefore preverbally. They may also cooccur with optionally fronted elements such as arguments or adverbs; example (4b) shows an example of a fronted argument occurring with the constituent negation word *kegë*.

- (4) a. Kũ [b- kwezh] Maria.  
 NEG PERF/B- play M.  
 ‘Maria didn’t perform.’  
 b. Kegë Maria=n [b- kwezh =bë].  
 NEG M.=N PERF/B- play =3INFOR  
 ‘It wasn’t Maria who performed (someone else did).’  
 c. Nũ ro=n bet Yiaghdon ye’enn=n?  
 who to=N PERF/B.sell Y. plate=N  
 ‘Who did Yiaghdon sell the plates to?’  
 d. Á [dj- ianid =u]?  
 Q CONT- understand =2SG  
 ‘Do you understand?’ (Solá-Llonch 2021:10-11)

Auxiliaries are also obligatorily preverbal elements. Like verbs, they take TAM prefixes, but unlike verbs, they do not allow argument clitics. The sentence in (5) contains an example of the auxiliary *djalazha* ‘ought to’.

- (5) [Dja- lazha (\*=bë)] [tás =bë].  
 CONT- ought =3INFOR IRR/G.sleep =3INFOR  
 ‘He ought to sleep.’

Verbs and auxiliaries in Lachirioag Zapotec never surface as a bare stem, but always occur with at least one Tense-Aspect-Mood (TAM) prefix (Solá-Llonch 2021).<sup>3</sup> Verbs can occur with up to two TAM prefixes: one primary and one secondary. Primary prefixes, which are obligatory and convey primarily aspectual information, are the first element of the verbal word and secondary prefixes, which are optional and convey movement- and repetition-related information, occur between the primary prefix and the verb stem. The example in (6) shows the verb *djtas* ‘sleep’ with the perfective primary prefix *b-* and the venitive (i.e., movement towards speaker) secondary prefix *d-*.

- (6) Pelz [b- d- tas =e].  
 P. PERF/B- VEN- sleep =3FOR  
 ‘Pelz came and slept.’ (Solá-Llonch 2021:23)

There are five primary prefixes: continuative, neutral, perfective, irrealis, and incomplete motion, the last of which can only occur with verbs of motion (e.g., ‘go’ or ‘come’) or with a movement-related secondary prefix:

- (7) a. Maur [dj- guy =bë] nil=na.  
 M. CONT- cook =3INFOR nixtamal=that  
 ‘Maur is cooking the nixtamal.’  
 b. Maur [n- guy =bë] nil=na.  
 M. NEUT- cook =3INFOR nixtamal=that  
 ‘Maur has the nixtamal cooked.’  
 c. Maur [b- guy =bë] nil=na.  
 M. PERF/B- cook =3INFOR nixtamal=that  
 ‘Maur cooked the nixtamal.’  
 d. Maur [gú- guy =bë] nil=na.  
 M. IRR/G- cook =3INFOR nixtamal=that  
 ‘Maur will cook the nixtamal.’  
 e. Z- d- ríd =a’.  
 INCOM- VEN- show =1SG  
 ‘I come and give a presentation.’ (Solá-Llonch 2021:17, 35)

The irrealis prefix additionally has two allomorphs which are given in (8) below. These two prefixes occur in complementary syntactic distribution. In (8a), the *g-* irrealis allomorph occurs with a preverbal argument and in (8b), the *wa-* irrealis-marked verb occurs clause initially. In general, *wa-* irrealis verbs do not occur with

<sup>3</sup>There is a small class of locative/existential verbs that can occur without any verbal prefixes, which are often analyzed as occurring in the neutral aspect by default (e.g., Sonnenschein 2004).

any preverbal elements except for the polar question particle *á* and *g*-irrealis verbs can only occur with a preverbal element, except for the polar question particle, where it requires another preverbal element in addition to *á*.

- (8) a. Maur [g- áu =bë] yet=n.  
M. IRR/G- eat =3INFOR tortilla=N  
'Maur will eat the tortilla.'
- b. [W- áu] Maur yet=n.  
IRR/WA- eat M. tortilla=N  
'Maur will eat the tortilla.'

Solá-Llonch (2021) argues that the *wa*- irrealis prefix occurs in matrix clauses, while the *g*- irrealis prefix only occurs in embedded clauses, and that all preverbal elements (save the question particle) involve clefting.

### 3 Conditional constructions

Conditional constructions involve two clauses, a subordinate clause (the antecedent) and a matrix clause (the consequent). They indicate that the truth of the consequent clause relies in some way upon the truth of the antecedent clause (Palmer 1986; Bhatt & Pancheva 2017). There are four notable kinds of (non-counterfactual) conditionals discussed in the literature that I will cover here: hypothetical, relevance, factual, and *even if*-conditionals (c.f., Bhatt & Pancheva 2017).<sup>4</sup> I first give a representative example of each in (9), before discussing each type in more detail below.

- (9) a. **Hypothetical:** If it rains tomorrow, Yiaghdon will stay at home.  
b. **Relevance:** If Maur is hungry, there is a tamal for him on the table.  
c. **Factual:** If Maur is hungry, he should eat.  
d. **Even if:** Even if she takes the medicine, she will still be sick.

Hypothetical conditionals are the prototypical conditional construction, where the antecedent clause specifies the necessary conditions for the consequent clause to be true. The sentence in (10) is an example of a hypothetical conditional in Lachirioag Zapotec, where the antecedent clause is introduced by clause-initial *shí* 'if' and the consequent is optionally introduced by *na* 'then, and'.

- (10) **Shí** [g- ún =n] yiagh gùxe', (**na**) [gá- gane] Yiaghdon yó'o.  
if IRR/G- do =3INAN rain tomorrow then IRR/G- stay Y. house  
'If it rains tomorrow, (then) Yiaghdon will stay at home.'

In factual conditionals, it is presupposed that someone besides the speaker believes that the antecedent clause is true (e.g., *If it is the case that...*). An example in Lachirioag Zapotec is given in (11). Like the hypothetical conditional example in (10), the antecedent is introduced by *shí* and the consequent may optionally be introduced by *na* 'then, and'. What separates (11) from the hypothetical conditional *If Maur is hungry, then he will eat* is the auxiliary *djalazha* 'ought to'.

<sup>4</sup>A fifth type of conditional, called a Future Less Vivid (FLV) conditional, is discussed in the section on counterfactual constructions (section 4). In many languages, including Lachirioag Zapotec, FLV and CF conditionals receive the same type of marking (Iatridou 2000).

- (11) Shí [dj- don] Maur, (na) [dja- lazha] [g- áu =bë].  
 if CONT- be.hungry M. then CONT- ought IRR/G- eat =3INFOR  
 ‘If Maur is hungry, (then) he ought to eat.’

Relevance conditionals carry the assertion that the consequent clause is true regardless of the truth of the antecedent. In (12), the tamal exists and is on the table regardless of whether or not Maur is hungry. What characterizes relevance conditionals is that the antecedent is used to express the conditions in which the consequent is relevant, not true. While *shí* ‘if’ is used to introduce the antecedent in (12), the consequent cannot begin with *na* ‘then, and’.

- (12) Shí [dj- don] Maur, \*(na) xhǒ to tmal che=bë lo mes.  
 if CONT- be.hungry M. then EXIST one tamal of=3INFOR on table  
 ‘If Maur is hungry, then there is a tamal for him on the table.’  
 (Okay if *na* is interpreted as the homophonous distal demonstrative *na* ‘that’.)

*Even if*-conditionals are called such because the antecedent is introduced by the phrase *even if* in English. This antecedent is exhaustive; it marks the end point of some scale and the consequent is then asserted to be true for all points on that scale. In Lachirioag Zapotec, the antecedent of an *even if*-conditional is marked by the word *ninks*, which is formed from the emphatic adverbial clitic =*ks* and negation morpheme *nin* that is also found in *ninto* ‘nothing’ (lit. ‘not one’). The conditional marker *shí* is optional when *ninks* is present, but *na* ‘then, and’ cannot be used to introduce the consequent.

- (13) **Nin=ks** (shí) [yí’a =bë] djmedju=n, \*(na) [w- ak =z] [dj-  
 NEG=EMPH if IRR/G.drink =3INFOR medicine=N then IRR/WA- be =Z CONT-  
 we =bë].  
 be.sick =3INFOR  
 ‘Even if she takes the medicine, she will still be sick.’

The fact that hypothetical and factual conditionals can have consequent-initial *na* ‘then, and’ and relevance and *even if*-conditionals cannot is a crosslinguistic property of these kinds of conditionals; *then* (or *na*) in the consequent is infelicitous when the consequence of the conditional is asserted to be true (Bhatt & Pancheva 2017). Additionally, consequent-initial *na* ‘then, and’ may only occur in hypothetical and factual conditionals if the antecedent clause precedes the consequent (14). Consequent-antecedent clause order is possible, but for *na* ‘then, and’ to surface in the consequent, it must do so consequent-finally (15).

- (14) a. (\***Na**) [gá- gane] Yiaghdon yó’o shí [g- ún =n] yiagh gùxe’.  
 then IRR/G- stay Y. house if IRR/G- do =3INAN rain tomorrow  
 ‘(\*Then) Yiaghdon will stay at home if it rains tomorrow.’  
 b. (\***Na**) [dja- lazha] [g- áu =bë] shí [dj- don =bë].  
 then CONT- ought IRR/G- eat =3INFOR if CONT- be.hungry =3INFOR  
 ‘(\*Then) He ought to eat if he is hungry.’
- (15) [Wá- tas] Maur (**na**) shí [dj- un =n] yiagh gùxe’.  
 IRR/WA- sleep M. then if CONT- do =3INAN rain tomorrow  
 ‘Maur will sleep (then) if it is raining tomorrow.’

It should be noted that in all of the conditional constructions described thus far, only verbs with the *g*-irrealis allomorph may occur in antecedent clauses (16a). The *wa*-irrealis allomorph cannot appear with clause-initial *shí* ‘if’, which is why (16b) is ungrammatical. This is expected given that only the *g*-irrealis allomorph occurs in embedded clauses; antecedent clauses are adverbial clauses joined to the matrix (consequent) clause (Bhatt & Pancheva 2017). As the sentence in (15) shows, consequent clauses are able to contain a *wa*-irrealis verb.

- (16) a. Shí [chúgu =bë] pastel=n, na [g- áu =dju =n].  
 if IRR/G.cut =3INFOR cake=N then IRR/G- eat =1SG.INCL =3INAN  
 ‘If he cuts the cake, then we will eat it.’
- b. \* Shí [wá- chugu =bë] pastel=n, na [g- áu =dju =n].  
 if IRR/WA- cut =3INFOR cake=N then IRR/G- eat =1SG.INCL =3INAN

In the data given thus far, conditionals in Lachirioag Zapotec match the crosslinguistic tendencies that have been noted for these constructions. Conditional constructions are indicated by marking the antecedent clause, which is the most common strategy for marking conditionals (Bhatt & Pancheva 2017). Conditional markers are often temporal *wh*-pronouns or interrogative complementizers (such as English *if*), so it is unsurprising that the conditional marker *shí* ‘if’ is also used to introduce embedded polar questions (17).<sup>5</sup>

- (17) [Gu- nab] Maur **shí** [g- ún =n] yiagh gùxe’.  
 PERF/GU- ask M. if IRR/G- do =3INAN rain tomorrow  
 ‘Maur asked if it is going to rain tomorrow.’

Palmer (1986) claims that all conditional constructions are non-factual in that neither the antecedent nor the consequent clause indicates the occurrence of an event, only that the truth (or relevance) of one clause is dependent upon the other. He makes a further distinction between real and unreal conditionals; the former, which were the focus of the current section, describe possible events and the latter describe impossible events. The next section discusses how unreal conditionals (a.k.a. counterfactual conditionals) are expressed in Lachirioag Zapotec.

#### 4 Counterfactual constructions

Lachirioag Zapotec forms counterfactual (CF) conditionals via additional morphology encliticized onto the conditional marker. The most commonly elicited counterfactual morpheme is =*na*, shown in (18).

- (18) Shí=**na** Maur=**na** [we =bë] benen=n, na [gut =bë].  
 if=NA M.=that PERF/GU.drink =3INFOR poison=N then PERF/GU.die =3INFOR  
 ‘If Maur had drunk the poison, then he would have died.’

The clitic =*na* attached to *shí* in (18) is what derives the CF interpretation; the sentence in (18) without the clitic =*na* is a non-CF conditional with an epistemic interpretation (19) (Palmer 1986; Iatridou 2000). When =*na* occurs in an antecedent

<sup>5</sup>I have also elicited from another consultant a few instances of another conditional marker *zhkat* ‘if’ which so far appears to function the same as *shí*; this is likely related to the word *kat* ‘(non-past) when’.

clause containing an irrealis verb (in contrast to the perfective verbs in (18) and (19)), then it derives a future-oriented counterfactual, also known as a Future Less Vivid (FLV) conditional; this is discussed further in section 4.1.

- (19) Shí Maur=*na* [we =bë] benen=*n*, na [gut =bë].  
 if M.=that PERF/GU.drink =3INFOR poison=*N* then PERF/GU.die =3INFOR  
 ‘(It is necessarily the case that) if Maur drank the poison, then he (must have) died.’

Like with regular conditionals, *ninks* ‘even if’ can occur at the beginning of the counterfactual antecedent; however, *shí* is not optional as it is in regular *even if*-conditionals. Note that there are actually two conditional markers in the sentence in (20), one at the beginning of the antecedent (*ninks shí*) and one at the end of the consequent (*shína*). This is an example of (what I am calling) “CF-doubling”, a common phenomenon in counterfactuals in Lachirioag Zapotec that is discussed further in section 4.2.

- (20) **Nin=ks** \*(shí) le=bë [we =bë] benen, kũ  
 NEG=EMPH if pro=3INFOR PERF/GU.drink =3INFOR poison NEG  
 [gut =bë] shí=**na**.  
 PERF/GU.die =3INFOR if=*NA*  
 ‘Even if she had drunk poison, she would not have died.’

While *=na* is the most common CF morpheme that I have elicited, there are two others that also occur; like *=na*, they primarily encliticize onto the conditional marker. In (21a), there is the clitic *=nak*, which may optionally appear with the clitic *=r*. In (21b), the CF morpheme is *=lga*.

- (21) a. Shí=**nak**(=*r*) Maur=*na* [we =bë] benen=*n*, na [gut  
 if=*NAK*(=*R*) M.=that PERF/GU.drink =3INFOR poison=*N* then PERF/GU.die  
 =bë].  
 =3INFOR  
 ‘If Maur had drunk the poison, then he would have died.’  
 b. Shí=**lga** [nu =a’] to selular, na guk [b- wízh =a’]  
 if=*DUBT* NEUT.hold =1SG one phone then PERF/GU.can PERF/B- call =1SG  
 rè’.  
 2SG  
 ‘If only I had had a phone, then I would have been able to call you.’

While *=na*, *=nak(r)*, and *=lga* all function as CF markers, they have different distributions. For example, both *=na* and *=nak(r)* but not *=lga* may occur in the counterfactual in (22), while *=nak(r)* and *=lga* but not *=na* may occur in (23).

- (22) a. Shí=**na**/**nak**(=*r*) Maur=*na* [we =bë] benen=*n*, na  
 if=*NA/NAK*(=*R*) M.=that PERF/GU.drink =3INFOR poison=*N* then  
 [gut =bë].  
 PERF/GU.die =3INFOR  
 ‘If Maur had drunk the poison, then he would have died.’  
 b. \* Shí=**lga** Maur=*na* [we =bë] benen=*n*, na [gut  
 if=*DUBT* M.=that PERF/GU.drink =3INFOR poison=*N* then PERF/GU.die  
 =bë].  
 =3INFOR

- (23) a. **Shí=lga/=nak(=r)** [nu =a'] to selular, na guk  
 if=DUBT/NAK(=R) NEUT.hold =1SG one phone then PERF/GU.can  
 [b- wízh =a'] rè'.  
 PERF/B- call =1SG 2SG  
 'If only I had had a phone, then I would have been able to call you.'
- b. \* **Shí=na** [nu =a'] to selular, na guk [b- wízh  
 if=NA NEUT.hold =1SG one phone then PERF/GU.can PERF/B- call  
 =a'] rè'.  
 =1SG 2SG

Note that the counterfactuals in (22) and (23) are actually of different types.<sup>6</sup> The sentences in (22) are standard counterfactuals, where the time of the antecedent (i.e., the time that the poison is drunk) precedes the time of the consequent (i.e., the time that the poison drinker dies). The sentences in (23), on the other hand, are examples of backtracking counterfactuals, where the consequent time precedes the antecedent time (Ward 2014). The verb in the antecedent *nu* 'hold' is stative, thus preventing the event of the antecedent from being interpreted as an action that would have been completed before the event of the consequent. To make this clearer, here is the context that was used to elicit (23a):

- (24) a. **Speaker A:** Why didn't you call me yesterday?  
 b. **Speaker B,** who recently lost their phone: If only I had had a phone [now], I would have been able to call you [yesterday].

The examples in (22) and (23) suggest at least one major difference between *=na* and *=lga*: they occur in different types of counterfactuals. Although the question of what exactly are the differences are between all three CF markers is something that will be put aside for the purposes of this paper, a major part of the answer will likely lie in the origin of the CF markers themselves (section 4.1). The CF markers also display different behavior when it comes to CF-doubling, which is the focus of section 4.2.

#### 4.1 Counterfactual morphology

There are three morphemes which are used to express counterfactuality in Lachirioag Zapotec: *=na*, *=nak*, and *=lga*. The most commonly elicited CF clitic is *=na*, which has two possible origins found elsewhere in the language. There is the conjunct *na* meaning 'then, and' (25). This is the same *na* that is used to introduce consequent clauses in some conditionals. In addition, there is a second homophonous *na* 'that, there,' which functions as both a distal demonstrative and a location adverb (26).

- (25) Maur [gu- dapa =bë] le yichagh Pelz **na** [ba- chuld =bë].  
 M. PERF/GU- smack =3INFOR on head P. then PERF/B- faint =3INFOR  
 'Maur hit Pelz's head and [Pelz] fainted.'
- (26) a. Guy nil che Pelz=**na**.  
 PERF/GU.cook nixtamal of P.=that  
 'That nixtamal of Pelz's cooked.'

<sup>6</sup>Thanks to Jessica Rett for pointing this out to me.



- b. **Na** [n- un] Maur to yó'o.  
 there NEUT- do M. one house  
 'Maur has a house built over there.'

The second option seems more likely, given that the use of location morphology in counterfactuals has been observed in other languages like Burmese, which uses the word *khe* 'in another place' (27).

- (27) a. m<sup>w</sup>ei chau? **khe** re.  
 snake scare KHE DECL  
 '(I) scared a snake [in another place before I arrived here].'  
 b. shei θau? **khe** yin, nei kaun la ge lein-me.  
 medicine drink KHE if, stay good come KHE predictive-IRR  
 'If he took the medicine, he would have gotten better.' (Nevins 2002:442, cited via Karawani 2014)

The second CF clitic =*nak* looks as though it may be related to =*na*, but there is reason to believe that this is not in fact the case. First, there is no suffix or enclitic =*k* found elsewhere in the language which could attach to =*na* to form =*na=k*. Second, the clitic =*r* can only attach to =*nak* (28a) and cannot attach to =*na* (28b), which suggests that these are different words.

- (28) a. Shí=**nak**=r [we =bë =n], na [gut =bë].  
 if=NAK=R PERF/GU.drink =3INFOR =3INAN then PERF/GU.die =3INFOR  
 'If he had drunk it, then he would have died.'  
 b. Shí=**na**(\*=r) [we =bë =n], na [gut =bë].  
 if=NA=R PERF/GU.drink =3INFOR =3INAN then PERF/GU.die =3INFOR

There is also the fact that =*nak* is identical to the copula *nak* (29).

- (29) Kul [n- **ak** =bë] to wased benn.  
 K. NEUT- be =3INFOR one teaching person  
 'Kul is a teacher.' (Solá-Llonch 2021:18)

It is not rare for copulas to be involved in constructing conditionals and counterfactuals (Bhatt & Pancheva 2017). The Chadic language Polci, for example, uses the copula *kən* to mark conditionals (30). Similar phenomenon have been observed in English, Gómálá, and Japanese (Takubo 2011; Nicolle 2017).

- (30) [Gǎrbà **kən** ndzəŋ ʔo: wú] [de kə fǔ:-m].  
 Garba COP cut meat COMPL INJ 2SG.SBJ tell-1SG  
 'If Garba slaughters an animal, tell me.' (Caron 2006:78, cited via Nicolle 2017)

The clitic =*r*, which sometimes optionally and sometimes obligatorily attaches to =*nak*, appears to be an adverbial clitic that indicates specificity. For example, it may attach to the wh-word *nǔ* 'who' to create a meaning of 'which' (31) or *ga* 'where' to express 'which place/way' (32).

- (31) a. Nǔ=n [b- red =bë]?  
 who=N PERF/B- see =3INFOR  
 'Who did she see?'

- b. Nũ=r wi=n [b- red =bë]?  
 who=R orange=N PERF/B- see =3INFOR  
 ‘Which oranges did she see?’
- (32) a. Ga=n zia Yiaghdon?  
 where=N go Y.  
 ‘Where did Yiaghdon go?’
- b. Ga=r=n zia Yiaghdon?  
 where=R=N go Y.  
 ‘Which way did Yiaghdon go?’

Interestingly, it may also attach to the distal demonstrative *na* ‘there’ in preverbal position (33). According to my consultants, *nar* ‘right over there’ picks out a specific location while *na* ‘there’ is more general.

- (33) Na=r [ya- se] [ya- chu]!  
 there=R PERF.AND- stand PERF.AND- cough  
 ‘Go stand right over there and cough!’

Assuming that the clitic =*na* is related to the demonstrative *na* ‘that, there’ and given that =*r* can attach to a preverbal distal demonstrative, we might expect that it should be able to attach to *shína*. The fact that it cannot suggests that counterfactual *shína* and *shínak* possibly occur in different syntactic environments and =*r* can only occur in the latter environment.

The third counterfactual morpheme, =*lga*, functions as a dubitative adverbial enclitic. This enclitic commonly appears on verbs (34a), on fronted arguments (34b), on preverbal adverbials (34c), and on negation (34d). Its appearance expresses doubt about the element it is attached to. For example, in (34b), the implication is that the speaker believes that Maur will buy something, but that they are not sure whether this will be plates or something else.

- (34) a. [Wá- zi =lga] Maur to ye’enn.  
 IRR/WA- buy =DUBT M. one plate  
 ‘Maur might buy a plate.’
- b. Ye’enn=lga=n sí Maur=n.  
 plate=DUBT=N IRR/G.buy M.=N  
 ‘It might be plates that Maur will buy.’
- c. Ba=lga [gu- tas =te =z =gak] djop wazha’a=na.  
 already=DUBT PERF/GU- sleep =TE =Z =PL two soothsayer=that  
 ‘Maybe those two soothsayers have already fallen asleep later.’  
 (Spanish: ‘A lo mejor ya se durmieron luego los dos chamanes.’)
- d. Kũ=lga [n- ezd =ks =gak =bë].  
 NEG=DUBT NEUT- know =EMPH =PL =3INFOR  
 ‘They may not know anything.’

Karawani (2014) identifies three main strategies that languages use to realize counterfactuality: via dedicated counterfactual markers, using tense or a combination of tense and aspect, or by using location or person morphemes. The behavior

of the three counterfactual morphemes in Lachirioag Zapotec, particularly the behavior of *=na*, does appear to be quite similar to the behavior of dedicated CF markers in languages like Hungarian. Compare the Hungarian sentences in (35) to the Lachirioag Zapotec sentences in (36). When the Hungarian CF marker *-ne/na* appears in the conditional in (35b), it creates counterfactual meaning. The same effect can be observed between the Lachirioag Zapotec sentences in (36), where the presence of the CF marker *=na* in a conditional enforces a counterfactual interpretation.

- (35) a. ha hétfön el-indult, (akkor) péntekre oda-ért  
 if Mon.on away-leave.PST.3SG, (then) Fri.onto there-reach.PST.3SG  
 ‘If he left on Monday, then he got there by Friday.’
- b. ha hétfön el-indult volna, (akkor) péntekre oda-ért  
 if Mon.on away-leave.PST.3SG CF, (then) Fri.onto there-reach.PST.3SG  
 volna  
 CF  
 ‘If he had left on Monday, then he would have gotten there by Friday.’ (Karawani 2014:94)
- (36) a. Shí [we =bë =n], na [gút =bë].  
 if PERF/GU.drink =3INFOR =3INAN then PERF/GU.die =3INFOR  
 ‘If he drank it, then he (must have) died.’
- b. Shí=**na** [we =bë =n], na [gút =bë].  
 if=**NA** PERF/GU.drink =3INFOR =3INAN then PERF/GU.die =3INFOR  
 ‘If he had drunk it, then he would have died.’

Note that in (35) the antecedents of both sentences are in past tense and the presence of a CF marker creates a counterfactual. In the Hungarian sentences in (37), however, both the antecedents are in future tense, indicated by the presence of the future adverb *holnap* ‘tomorrow’, and the presence of the CF marker in (37b) causes it to be interpreted as a FLV conditional. The same occurs in Lachirioag Zapotec: the appearance of the CF clitic *=na* in a future-oriented conditional creates a FLV conditional (38b). FLV conditionals function as future-oriented counterfactuals; although the event they describe has not yet occurred at utterance time, thus causing the event to be interpreted as unlikely rather than impossible, FLV conditionals often receive the same marking as CF conditionals crosslinguistically (Iatridou 2000; Iatridou 2009). This is the case for both Hungarian and Lachirioag Zapotec.

- (37) a. ha holnap el-indul, a jo:vö hétre oda-ér  
 if tomorrow away-leave the following week.onto there-reach  
 ‘If he leaves tomorrow, he will get there next week.’
- b. ha holnap el-indulna, a jo:vö hétre oda-érne  
 if tomorrow away-leave.CF the following week.onto there-reach.CF  
 ‘If he left tomorrow, he would get there next week.’ (Iatridou 2009:1)
- (38) a. Shí rè’ [yíd =u] gùxe’, na [g- ún =a’] medju chi=u.  
 if 2SG IRR/G.come =2SG tomorrow then IRR/G- give =1SG money of=2SG  
 ‘If you come tomorrow, then I will give you money.’

- b. Shí=**na** rè' [yíd            =z =u] gùxe',    na [g-    ún =ti =a']  
 if=NA 2SG IRR/G.come =Z =2SG tomorrow then IRR/G- give =TE =1SG  
 medju chi=u.  
 money of=2SG  
 'If you should happen to come tomorrow, then I would definitely give you money.'

In Hungarian and Lachirioag Zapotec, the presence of a CF marker in a conditional obligatorily causes a CF interpretation of that conditional. When the antecedent indicates a completed event, either by the use of past tense (Hungarian) or through perfective aspect (Lachirioag Zapotec), then the addition of a CF marker creates a regular counterfactual indicating an impossible event (35), (36). When the antecedent indicates an incomplete event, either by the use of a future-oriented adverbial (both) or through irrealis aspect (Lachirioag Zapotec), then the addition of a CF marker creates a FLV conditional indicating an unlikely event (37), (38). Despite the fact that neither Hungarian nor Lachirioag Zapotec use tense (or tense plus aspect) to form counterfactuals, tense and aspect still play a role in how counterfactuals are interpreted.

However, unlike what seems to be the case in Hungarian, the CF morphemes in Lachirioag Zapotec occur outside of conditionals as well: as the copula, a dubitative adverbial clitic, or a distal demonstrative. Fenton (2010) observes that determiners in Teotitlán del Valle and Isthmus Zapotec<sup>7</sup> not only convey spatial but also temporal information. In particular, the non-visible determiner =*ki* in Teotitlán del Valle Zapotec and its cognate *ke* in Isthmus Zapotec function as past tense markers, while other determiners (e.g., the distal, medial, and proximal determiners in Teotitlán del Valle Zapotec) convey present tense. As such, it could be that the use of distal demonstrative in the formation of CF conditionals with *shína* is what provides the “fake” past tense that Iatridou (2000) argues is “the main element responsible for the meaning of counterfactuality” in those constructions (268). The fake past tense serves to distance the events described by the counterfactual from reality.

This begs the question of how the two other CF markers, the dubitative enclitic and the copula, are able to perform this distancing. According to Bhatt & Pancheva (2017), it is very common to see languages using epistemic and optative modality, as well as copulas and topic markers, in conditionals. For example, in the Pama-Nyungan language Arrernte:

- (39) a. Ingwenthe *peke* kwatye urnte-me.  
 tomorrow maybe water fall  
 'Perhaps it will rain tomorrow.'
- b. Kwatye *peke* urnte-me, ayenge petye-tyekenhe.  
 water maybe fall 1SGS come-VB-NEG  
 'If it rains I won't come.' (Bhatt & Pancheva 2017:fn. 7)

In Lachirioag Zapotec, the dubitative adverbial clitic =*lga* expresses disbelief on the speaker's behalf about whatever it attaches to; when it occurs with the conditional marker in *shílga*, it perhaps expresses disbelief that the events described

<sup>7</sup>Teotitlán del Valle Zapotec and Isthmus Zapotec are both Central Zapotec languages.

by the conditional could have happened, thus distancing those events from reality. How the copula-derived =*nak* creates distance between the events of a counterfactual and reality, however, is not so clear and remains a topic for future work.

## 4.2 CF-doubling

Counterfactuals are most commonly expressed using a strategy that I will call “CF-doubling” for the purposes of this paper, where a conditional marker at the beginning of the antecedent is doubled by an additional CF marker at the end of the consequent. In (40), for example, antecedent-initial *shí* is doubled by consequent-final *shína*. In the synonymous sentence in (41), both the consequent and antecedent are marked for counterfactuality with *shína*.

(40) Shí [we =bë =n], na [gut =bë] shí=**na**.  
 if PERF/GU.drink =3INFOR =3INAN then PERF/GU.die =3INFOR if=NA  
 ‘If she had drunk it, then she would have died.’

(41) Shí=**na** [we =bë =n], na [gut =bë] shí=**na**.  
 if=NA PERF/GU.drink =3INFOR =3INAN then PERF/GU.die =3INFOR if=NA  
 ‘If she had drunk it, then she would have died.’

Furthermore, it does not need to be the same counterfactual marker in both clauses. The most common CF marker found in consequent clauses is *shína*, which can be doubled by antecedent-initial *shí* (40), *shína* (41), or *shínak(r)* (42). Consequent-final *shína* is infelicitous with antecedent-initial *shílga* (43); however, given that *shí-shína* doubling is possible (40), and yet would still be ungrammatical in (43), it is likely that the problem is not with the *shílga-shína* doubling in itself, but rather that consequent-final *shína* cannot appear in the conditional in (43) at all.<sup>8</sup>

(42) Shí=**nak(=r)** [we =bë =n], na [gut =bë]  
 if=NAK=R PERF/GU.drink =3INFOR =3INAN then PERF/GU.die =3INFOR  
 shí=**na**.  
 if=NA  
 ‘If she had drunk it, then she would have died.’

(43) \* Shí(=**lga**) [nu =a’] to selular, na [b- wízh =a’] rè’ shí=**na**.  
 if=DUBT NEUT.hold =1SG one phone then PERF/B- call =1SG 2SG if=NA  
 ‘If I had had a phone, I would have called you.’

Antecedent-initial *shílga* is possible, but only if the consequent-final CF marker is *shínak(r)* (44). Antecedent-initial *shína* behaves oppositely; it cannot occur with consequent-final *shínak(r)* but can only be doubled by itself (45).

(44) Shí=**lga** [nu =a’] to selular, na [b- wízh =a’] rè’ shí=**nak(=r)**.  
 if=DUBT NEUT.hold =1SG one phone then PERF/B- call =1SG 2SG if=NAK(=R)  
 ‘If I had had a phone, I would have called you.’

<sup>8</sup>This is further supported by the ungrammaticality of example (23b).

- (45) \* *Shí=na* [we =bë =n], na [gut =bë]  
 if=NA PERF/GU.drink =3INFOR =3INAN then PERF/GU.die =3INFOR  
*shí=nak(=r)*.  
 if=NAK(=R)  
 ‘If she had drunk it, then she would have died.’

CF-doubling in Lachirioag Zapotec parallels CF marking in Hungarian. In examples (35b) and (37b), the CF marker *-ne/na* appears in both the antecedent and consequent clauses. In fact, there is crosslinguistic variation in whether languages allow symmetric (both antecedent and consequent) or asymmetric (only one clause) marking of counterfactuality. Hungarian has symmetric CF marking; other languages with symmetric CF marking are Greek and Hindi (Karawani 2014). However, the Burmese counterfactual in (27b) is an example of asymmetric CF marking since *khe* ‘in another place’ only shows up in the antecedent clause. In Lachirioag Zapotec, the antecedent clause must always contain a conditional marker (e.g., *shí*). To express counterfactuality, there must be a CF marker in only the antecedent, only the consequent, or in both. In other words, Lachirioag Zapotec allows both asymmetric and symmetric CF marking. What is perhaps unique is that there are three CF markers (*=na*, *=nak*, and *=lga*) which display cooccurrence restrictions in cases of symmetric CF marking.

## 5 Conclusion

In summary, Lachirioag Zapotec forms conditional constructions via an overt conditional marker (*shí* ‘if’) at the beginning of the antecedent clause. Like English *if*, this is the same word used to introduce embedded polar questions. Counterfactual conditionals involve an additional CF morpheme encliticized onto the conditional marker, and this CF marker may be *=na*, the most frequently elicited CF clitic that is likely related to the distal demonstrative *na* ‘that, there’, the clitic *=nak*, related to the copula *nak*, or the dubitative adverbial clitic *=lga*. The clitic *=nak* may additionally occur with the clitic *=r*, which indicates specificity. While the antecedent clause must always contain a conditional marker, CF marking may occur in either the antecedent or the consequent or in both.

The difference between regular (non-CF) conditionals and CF conditionals is that the former indicate possible events and the latter impossible events (or highly unlikely ones, in the case of FLV conditionals). In order to express the “unreality” of counterfactuals, languages utilize a variety of strategies including past tense, subjunctive mood, or modal verbs and particles (Palmer 1986; Van Linden 2004; Karawani 2014). This is what unites the three CF markers in Lachirioag Zapotec; while all of them occur in different syntactic (and likely semantic) environments, they are all used to distance from reality the events described in CF conditionals.

There are many places to go from here in the investigation of conditional constructions in Lachirioag Zapotec. First, I have only reported on conditionals formed with the conditional marker *shí* because this is the conditional marker used uniformly by the consultant I elicited most of my data from. However, I have elicited from another consultant a few conditionals where the antecedent clause is introduced by the conditional marker *zhkat*, likely related to the word *kat* ‘(non-past)

when'. In the data that has been gathered so far, *zhkat* appears to behave similarly to *shí*, but I do not know whether it can also appear in CF conditionals, and if it can, whether it can occur with all three CF markers. There is even the possibility that it could occur with a different set of CF markers. Given the abundance of adverbial and modal-esque clitics that may attach to verbs, some with very specific meanings (e.g., =*lolgh*, which indicates that an action involves large amounts of a water-based liquid), it is not unlikely that there are more than three morphemes which may be used to express counterfactuality. A natural next step would be to collect data from more speakers of Lachirioag Zapotec, to compare judgements on the sentences I have already elicited, and to use other data-collection methodologies, especially storyboards targeted towards eliciting counterfactuals.

Ideally, it would also be possible to compare the Lachirioag Zapotec data to conditional and counterfactual constructions in other Zapotec and Otomanguean languages, but so far there has been very little work in this area. This current paper, then, hopefully provides a starting point for future researchers to use when investigating conditional constructions in other Zapotec languages.

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