

## Chapter 12

# Special clitics and the right periphery in Tsotsil

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This paper documents the distribution of the definite enclitic =*e* in Tsotsil (Mayan), a clitic which occurs on the right periphery of utterances. On the basis of this distribution, it is argued (contra some restrictive theories of clitic placement) that =*e* cannot reach its surface position in the syntax, but must be positioned by the phonology. The property of =*e* which determines its placement is its obligatory association with the prosodic peak of the intonational phrase, a peak which is located at the right edge of that phrase. The relation of =*e* to several other elements which likewise occur at or near the right periphery of the intonational phrase in Tsotsil is considered, and a possible historical scenario which can account for the properties of =*e* is suggested.

## 1 Introduction

This paper has two goals. The first is to document more fully than has been done previously the distribution of the definite enclitic =*e* in Tsotsil (Mayan), a clitic which is restricted to the right periphery of utterances, (§2-§3).<sup>1</sup> The second is to suggest that =*e* is a special clitic in the sense of Anderson (2005) (following Zwicky 1977): “a linguistic element whose position with respect to the other elements of the phrase or clause follows a distinct set of principles, separate from those of the independently motivated syntax of free elements in the language” (31–32). The property of =*e* which makes it “special” is the extent to which it may be separated from the phrase in which it is licensed (§4).<sup>2</sup> In the analysis proposed here, this separation results from the requirement that =*e* function as the prosodic peak of the intonational phrase in which it occurs (§5), a requirement which can place it at a significant remove from its syntactically-motivated position. The requirement of prosodic prominence is unusual for a clitic. Anderson (2005) emphasizes the fact that clitics cannot be defined by the absence of “accent”, as a clitic can bear an

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<sup>1</sup> The distribution of this enclitic is noted in Aissen (1992: 61) but without much supporting data or discussion. It is also discussed in Skopeteas (2010) as part of a broader treatment of terminal clitics in Mayan languages.

<sup>2</sup> This property is emphasized in Skopeteas (2010).



accent if it happens to fall in an accented position within a larger prosodic constituent. But cases in which a clitic is *required* to occupy such a position – and will reorder in order to reach it – have not, to my knowledge, been documented. §6 speculates on how =*e* might have come to be associated with the phonological properties that force it to its surface position.

The fact that =*e* can occur outside the syntactic domain in which it is syntactically licensed poses a challenge to theories which hold that clitics reach their surface positions through syntactic operations, e.g., Bošković (2000) and Bermúdez-Otero & Payne (2011). For them, even clitics which are pronounced in prosodically determined positions nonetheless reach those positions in the syntax, with the role of phonology limited to filtering the outputs of a possibly overgenerating syntax. §4 suggests that this view is difficult to maintain in the case of =*e*. It thus adds to a body of work which has argued that phonology can determine word order, especially in the case of weak elements (Halpern 1995; Chung 2003; Agbayani & Golston 2010; Agbayani, Golston & Ishii 2015; Bennett, Elfner & McCloskey 2015).

## 2 The definite enclitic in Tsotsil

### 2.1 The basics

All dialects of Tsotsil have at least one enclitic which is associated with definite determiners, as well as with several other elements. The dialects differ with respect to how many such clitics they have, how many determiners they have, and what other elements the clitics associate with. Under discussion here is the dialect of Zinacantec Tsotsil (Z Tsotsil). Z Tsotsil has one such clitic, =*e*.<sup>3</sup> Among other elements, =*e* is associated with both of the definite determiners, *li* (PROXIMATE) and *ti* (REMOTE) (this association is indicated in examples by an overbar).<sup>4</sup>

- (1) a. I-bat la ti vinik=e.  
           CP-go CL DET man-DEF  
           ‘The man went (they say).’ (Laughlin 1977: 28)

<sup>3</sup> Tsotsil is spoken in Chiapas, Mexico by some 400,000 people. Claims made here about Zinacantec Tsotsil are based on a large body of text material and work with five native speakers over a number of years. Texts include naturally occurring speech, texts originally written in Tsotsil, and texts translated from Spanish to Tsotsil (the New Testament, cited as NT). Grammatical examples are almost all taken from texts; unpublished sources are cited as AUTHOR. Examples cited as ungrammatical have been checked with several speakers and their impossibility is consistent with the patterns seen in the text material.

<sup>4</sup> Like other Mayan languages, Tsotsil is verb-initial, usually V(O)S. It is also a head-marking language with ergative alignment. Affixes glossed ERG, ABS, GEN express  $\phi$  features of arguments on agreeing nouns and verbs. Absolutive 3rd singular has no exponent and is not indicated in examples. Orthographic symbols have the expected values except for *x* = [ʃ], *j* = [x], *ch* = [tʃ], and ' = [ʔ] (except in symbols for ejectives, *p'*, *t'*, *ts'*, *ch'*, *k'*).

- b. Buy    li    j-ve'el=e?  
           where DET GEN.1-meal-DEF  
           ‘Where is my meal?’ (Laughlin 1977: 57)

The deictic distinctions made by determiner+enclitic are fairly subtle and both determiners can be translated by English ‘the’. More salient distinctions are made by incorporating deictic adverbs into the DP. As these examples suggest, =*e* occurs in a “final” position and I sometimes refer to it as a TERMINAL CLITIC. This distinguishes it both from second position clitics (e.g., the reportative clitic *la* in (1a)) and from terminal elements which are not clitics (e.g., those discussed in §5.2).

### 2.1.1 Licensing

There is a dependency between the definite determiners and =*e*: the determiners almost always co-occur with =*e*. Written texts rarely omit it, and speakers judge sentences without it to be “incomplete”. In spoken language, =*e* is sometimes omitted, perhaps due to performance factors, to register, to individual speaker style, or to some other factor. The claims made here hold for relatively careful speech and for written texts. Other elements which license =*e* include a set of deictics which function as demonstratives and adverbs, as well as certain subordinators. The lexical elements which license =*e* in Z Tsotsil are shown in Table 1. The determiners *li* and *ti* figure in many of the temporal adverbs and

Table 1: =*e* licensors in Zinacantec Tsotsil

Category	Items
Definite determiner	<i>li</i> (PROX) <i>ti</i> (DISTAL)
Spatial demonstrative/adverb	<i>li'</i> ‘(this) here’ <i>le'</i> ‘(that) there’ <i>taj</i> ‘(that) over there’
Temporal adverb	<i>lavi</i> ‘today’
Subordinators	<i>ti</i> (complementizer) <i>ti mi</i> ‘if’ ( <i>ti</i> ) <i>k'alal</i> ‘when’ ( <i>ti</i> ) <i>yo'</i> ‘place where’

subordinators listed in Table 1: in the third category, *lavi* ‘today’ is derived from *li avi*; in the fourth, the complementizer *ti* may be the determiner, serving to nominalize a clause; *mi* is the polar question particle, but always occurs with *ti* when it introduces the protasis to a conditional; *k'alal* ‘when, the time when’ frequently occurs in collocation with

*ti*, as does *yo'* ('place where'). I assume then that *=e* realizes the feature [+DEF] in this dialect.<sup>5</sup> Examples (2a,b) show *=e* licensed by elements other than determiners:

- (2) a. Och-an ech'el li' ta ch'en=e!  
 enter-IMP DIR here in cave-DEF  
 'Enter the cave here!' (Laughlin 1977: 71)
- b. K'alal i-k'ot ta s-ch'en=e...  
 when CP-arrive P ERG.3-cave-DEF  
 'When he arrived at his cave...' (Laughlin 1977: 72)

Aside from the qualification noted in fn. 5, elements which are not [+DEF] do not license *=e* in Tsotsil. This includes lexical categories (nouns, verbs, adjectives), related semi-functional categories like auxiliaries, and functional categories like the indefinite article, prepositions, negation, focus markers, coordinators, etc. Thus, *=e* does not occur in the position marked by the asterisk in any of the following examples as none of them contains an appropriate licensor.

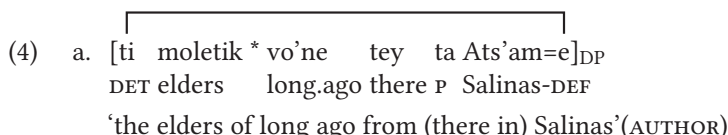
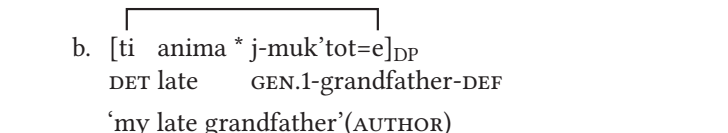
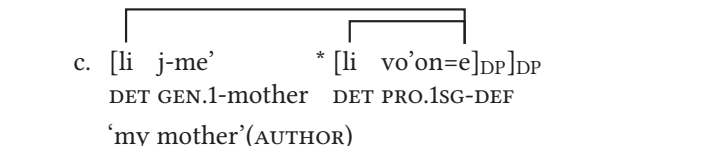
- (3) a. S-nup la ta be jun tseb un \*.  
 ERG.3-meet CL on path INDF girl PAR  
 'He met a girl on the path.' (Laughlin 1977: 306)
- b. I-k'opoj la tal ta vinajel \*.  
 CP-speak CL coming P heaven  
 'He spoke on arriving in heaven.' (NT: Mark 1,11)
- c. Ta xa x-'och k'ok' ok'ob \*.  
 ICP CL ASP-enter fire tomorrow.  
 'The war will start tomorrow.' (Laughlin 1977: 119)

## 2.1.2 Terminal position: 1st approximation

Examples (1)-(2) suggest that *=e* occurs at the right edge of the phrase headed by its licensor. We will need to revise this, but it is true that *=e* in DP's, for example, must follow all post-head material in the phrase, including modifiers (4a,b) and possessors (4c). There are no other possible positions for *=e* in these examples – in particular, it

<sup>5</sup> *=e* sometimes occurs without an overt licensor, but still associated with a definite interpretation. Nominal cases include 1st and 2nd person pronouns (in certain syntactic positions), proper names (occasionally), and headless relatives with definite interpretations (frequently). These are all clearly definite, so association with a [+DEF] head seems unproblematic. Certain semantically dependent clauses can also end in *=e* without an overt licensor being present (e.g., a determiner or subordinator). These usually present background (given) information and correspond, for example, to English *when* or *since* clauses. Whether *=e* in these cases should be viewed as the realization of a [+DEF] feature or some other related feature is unclear. The clausal cases are not directly relevant to present concerns since *=e* is never separated in these from the domain in which it is licensed (the entire clause). Hence I leave them aside.

absolutely cannot attach to the head noun nor to the first prosodic word in the phrase (these positions are marked with asterisks).

- (4) a.   
 [ti moletik \* vo'ne tey ta Ats'am=e]<sub>DP</sub>  
 DET elders long.ago there P Salinas-DEF  
 'the elders of long ago from (there in) Salinas' (AUTHOR)
- b.   
 [ti anima \* j-muk'tot=e]<sub>DP</sub>  
 DET late GEN.1-grandfather-DEF  
 'my late grandfather' (AUTHOR)
- c.   
 [li j-me' \* [li vo'on=e]<sub>DP</sub>]<sub>DP</sub>  
 DET GEN.1-mother DET PRO.1SG-DEF  
 'my mother' (AUTHOR)

(4a-c) come from texts in which the DP is a topic. These occur “external” to the clause and are thus isolated from the effects of other elements which (as we will see below) interact with the position of *=e*.

### 2.1.3 Coalescence

An important property of *=e* is COALESCENCE. In (4c), the larger DP contains two licensors, each of which should be matched by *=e*. One (the first *li*) is the head of the larger DP (the possessum), the other (the second *li*) is the head of the embedded DP (the possessor). The right edge of the two DP's coincide and only a single clitic is possible at this edge. This is a general property of terminal clitic systems in Mayan; even when multiply licensed, only a single such clitic occurs (within the relevant domain) (Skopeteas 2010).

### 2.1.4 Clitic vs. affix

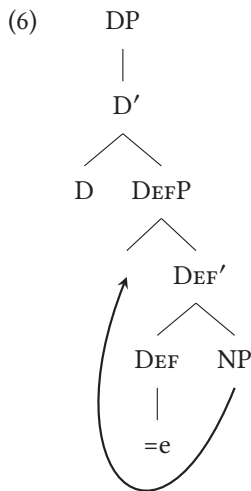
Though it is generally accepted that “clitic” is a cover term for a diverse set of elements and not a formal grammatical category, the term is still used descriptively. To motivate the use of the term “clitic” to refer to Tsotsil *=e*, I survey some of the criteria that have been used in the past to distinguish clitics from (ordinary) affixes (Zwicky & Pullum 1983). All of these align *=e* more closely with “clitics” than with inflectional affixes. [1] it imposes no selectional restrictions on the host, but may attach to members of any lexical category that falls in the appropriate right-edge position. In addition to nouns, these include verbs, as in (5c), adjectives, particles (see §5.2), and even second position clitics like the reportative clitic *la* in (5a); [2] there are no arbitrary gaps in the possible *X=e* combinations; [3] the form of the host is not sensitive to the presence of the clitic (the clitic triggers no allomorphy and does not participate in lexical phonology); [4] there

are no semantic idiosyncracies associated with  $=e$ ; and [5]  $=e$  attaches outside all other suffixes, e.g., noun plurals, (5b), and agreement suffixes, (5c).

- (5) a.  $\overbrace{\text{a ti vo'ne la=e} \dots}$   
 TOP DET long.ago CL-DEF  
 ‘as for long ago (they say)’
- b.  $\overbrace{\text{ti jeneral-etik=e}}$   
 DET general-PL-DEF  
 ‘the generals’
- c.  $\overbrace{\text{li tak'in ta j-ta-tikotik=e}}$   
 DET money ICP ERG.1-find-1PL.EXCL-DEF  
 ‘the money that we could find’

At the same time,  $=e$  is prosodically more like an affix than other clitics in the language. Tsotsil has various “simple” clitics, i.e., syntactic words which are prosodically weak. Like other words in the language, all of these have an onset, e.g., the interrogative polarity particle *mi*, the definite determiners *ti*, *li*, negation *mu*, second position modal and aspectual clitics (*xa*, *to*, *me*, *la*). In contrast though,  $=e$ , like many inflectional affixes, lacks an onset. Further, except for the second position clitics, the simple clitics all precede their complements, while  $=e$  follows everything in its phrase.

If “clitic” is not a formal grammatical category, then the properties of  $=e$  must follow from its analysis as a word or affix. There are a number of possible analyses that could be considered. We could analyze it as a prosodically deficient word which heads its own phrase within the DP, as shown in (6).



Here, *=e* heads a DEF<sub>P</sub> which is selected by D and which itself takes a NP complement. We could account for the phrase-final position of *=e* by assuming that *=e* requires that its specifier be filled, and that the NP complement raises to its left to satisfy this requirement (this would follow proposals of Cinque 2005 and Simpson 2005, who account for the phrase-final position of demonstratives in various languages via leftward movement of NP within DP).<sup>6</sup> Another possibility would be to analyze *=e* as inflectional morphology which spells out a definiteness feature associated with the noun phrase on the rightmost terminal of that phrase, much as Miller (1991) analyzes the French deictic clitics *-ci* and *-là*. A third possibility is to analyze *=e* as a phrasal affix, analogous to the treatment that Anderson (2005) proposes for the English genitive marker *'s* and somewhat tentatively for definitive accent in Tongan. In this approach, *=e* would be introduced post-syntactically by the phrasal morphology as spell-out of the feature [+DEF] on DP and its surface position would be determined by a constraint operating within an OT constraint system. Any of these approaches will have to confront the issues discussed in the next section; how well each would fare is not a question I address here. Going forward, I will assume the analysis sketched in (6), according to which *=e* is a prosodically deficient word which is introduced in the syntax.

Under any of these analyses, *=e* is licensed within the phrase headed by its licensor, usually DP, and I take this phrase to be the “syntactic domain” of the clitic. The puzzle that gives rise to this paper is the fact that *=e* does not in fact always close the phrase in which it is licensed but often occurs considerably further to the right. I argue below that this is because *=e* can occur only at the right edge of an intonational phrase (iP), an edge which is often located further to the right than the right edge of the phrase in which *=e* is licensed. The evidence for this is presented in §3; in §5, I consider *why* *=e* is constrained in this way.

### 3 Prosodic constraints on *=e*

Although *=e* frequently appears at the right edge of the phrase in which it is licensed, the larger descriptive generalization about its position is not syntactic, but prosodic (Aissen 1992; Skopeteas 2010):

- (7) *=e* occurs at the right edge of the iP which contains its licensor.

Descriptions of Z Tsotsil characterize prosodic prominence at two levels – the word and the phrase. At the word level, stress falls on the initial syllable of the root; at the phrase level, it falls on the final syllable of the iP (Laughlin 1975,23; Haviland 1981,14) (stress being predictable, it is not marked in the orthography). I assume then that the final syllable of the iP is its prosodic peak.<sup>7</sup> A detailed phonetic study of intonational

<sup>6</sup> Note that this movement would violate the anti-locality constraints proposed in Pesetsky & Torrego (2001) and Abels (2003) which preclude movement of the complement of a head (a phrase head in Abels' account) to the specifier of that head.

<sup>7</sup> The association of prosodic prominence with the final syllable of the iP is reported for other Tsotsil dialects (Cowan 1969: 4; Delgaty & Sánchez 1978: 11) as well as for the sister language Tseltal (Shklovsky 2011; Polian 2013); see Bennett (2016: §6.1) for an overview of lexical and phrasal stress in Mayan.

phrasing in Tsotsil does not yet exist, but some preliminary observations are possible. The final syllable is associated with characteristic boundary tones. The most common pattern involves a rise in pitch on the vowel of the final syllable, with the larger context determining whether that rise is sustained throughout the syllable or followed by a fall (relevant factors include whether the *ɪ*P is final in the utterance or not (as in the case of topics, for example, §3.2)). The final syllable of the *ɪ*P is sometimes followed by a significant pause and when it is, the vowel of that syllable is often lengthened.

Some of these properties are evident in Figure 1, taken from a naturally-produced narrative by a Z Tsotsil speaker; this example occurs utterance-finally and shows a final fall.

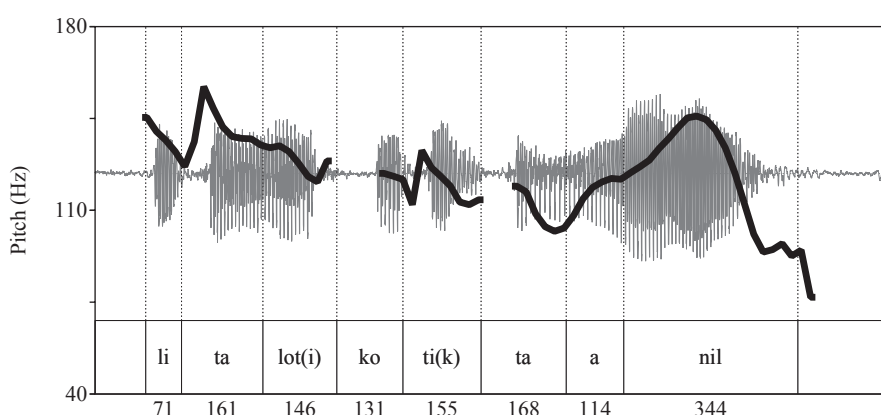


Figure 1: Pitch track and waveform for (8).

- (8) L-i-tal-otkotik                      ta anil.  
 CP-ABS.1-come-1PL.EXCL in hurry  
 ‘We came in a hurry.’ (AUTHOR)

A key observation is that because *=e* aligns with the right edge of the *ɪ*P, then, whatever else it is, it is the final syllable of the *ɪ*P. It thus carries the boundary tone, and is often followed by significant pause and lengthened. This is illustrated in Figure 2, which is based on (9), from the same narrative as Figure 1; this phrase is also utterance-final.

- (9) ... te      ta s-na                      li Maryan Papyan=*e*.  
                  there P   GEN.3-house DET Mariano Papyan-DEF  
                  ‘...there in the house of Mariano Papyan.’ (AUTHOR)

The analysis proposed in §5 hinges on the obligatory association between *=e* and the prosodic peak of *ɪ*P.



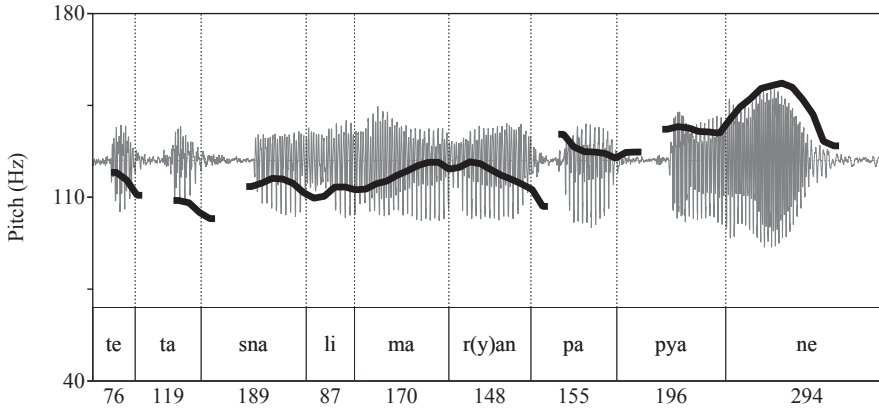


Figure 2: Pitch track and waveform for (9).

As in other languages, utterances consisting of a simple clause are parsed as a single *iP*. There are also two structures in Z Tsotsil which are associated with obligatory *iP* breaks, resulting in utterances with multiple *iP*'s, and therefore multiple positions for *=e* under (7): an external topic is parsed as an *iP* separate from that of the following comment clause and an extraposed *CP* is parsed as a *iP* separate from that the preceding matrix clause.<sup>8</sup> Other complements, as well as relative clauses, are usually not extraposed and they are prosodically integrated into the *iP* of the matrix clause. In this section we provide support for (7), starting with simple clauses (§3.1), then considering structures with multiple *iP*'s (§3.2-§3.3), and finally syntactically complex structures which map to a single *iP* (§3.4). §3.5 suggests an algorithm for mapping syntactic structure to prosodic structure.

### 3.1 Simple clauses

In utterances consisting of a single clause, regardless of where *=e* is licensed, it appears at the right edge of the *iP* corresponding to the clause. When the licensing phrase itself is clause-final, as in (1)-(2), that phrase has the appearance of being closed by *=e*. But if a clause contains several phrases which are headed by licensors, no phrase which occurs medially can end in *=e*. Adding it in the positions of the asterisks in (10) and (11) is impossible.

<sup>8</sup> Some adverbial clauses are obligatorily parsed as separate *iP*'s and some only optionally. These are not discussed here, but see Aissen (1992: 59).

- (10) S-jipan la ta=ora [ti ok'il \*] [ti t'ul] un=e.  
 ERG.3-tie CL right.away DET coyote DET rabbit PAR-DEF  
 'The rabbit tied Coyote up right away.' (Laughlin 1977: 160)
- (11) I-s-ta la tal [li aniyo \*] ta yut=vo' [li choy] un=e.  
 CP-ERG.3-find CL DIR DET ring P inside.water DET fish PAR-DEF  
 'The fish found the ring in the water.' (Laughlin 1977: 354)

One might think that =e is simply omitted when the licensing phrase does not occur clause-finally. But examples like (12)-(14) show otherwise. Here (and generally), the clause-medial DP *does* license =e but the clitic is delayed to the end of the clause.

- (12) L-i-'abtej-otikotik xchi'uk [li Kumpa Lol]<sub>dp</sub> ta museo-e.  
 CP-ABS.1-work-1PL.EXCL with DET Compadre Lol P museum-DEF  
 We worked with Compadre Lol at the museum. (Laughlin 1980: 25)
- (13) Ch-'och xa [li k'ok']<sub>dp</sub> [ok'ob]<sub>adv</sub> [ta Nibak]<sub>pp</sub>=e.  
 ICP-enter CL DET fire tomorrow P Ixtapa-DEF  
 'The war will begin tomorrow in Ixtapa.' (Laughlin 1977: 119)
- (14) Ta=x-[y]-ak'-ik [ti kantela]<sub>dp</sub> [noxtok]<sub>adv</sub>=e.  
 ICP-ERG.3-give-PL DET candle too-DEF.  
 'They too were offering the candles.' (AUTHOR)

There are two properties to note in these examples. First, =e must be licensed by the determiner since there is no other licenser present; and second, the intervening PP's and adverbs are not part of the DP headed by the licenser. In (12)-(14), they modify the entire sentence (or the predicate), not the head noun. In (14), the adverb *noxtok* 'too, also' is associated with additive focus on the subject 'they' (= shamans in the town under discussion) not the object ('the candles') – the preceding discourse describes shamans from a neighboring town offering candles; the current utterance asserts that the ones in this town too were offering candles. =e attaches then outside its syntactic domain, assuming that domain to be the DP headed by its licenser.

Going back to (10)-(11), the right conclusion, I think, is that both determiners require =e, but that that requirement is satisfied by the single, clause-final enclitic (see also Skopeteas 2010). These cases too then involve coalescence, but in a configuration different from the one illustrated by (4c). In (4c), the right edges of the two DP's which

license *=e* coincide, but here they do not. (10)-(11) actually provide another kind of evidence that *=e* does not always close its syntactic domain: the particle *un* which occurs in both examples (and in many subsequent ones) is not part of the preceding DP, yet whenever it occurs, it separates *=e* from its licensing phrase, (see §5.2 on *un*).

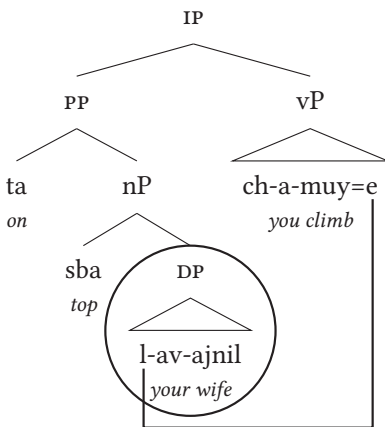
Examples like (15) and (16) provide further evidence that *=e* can occur outside its syntactic domain: they show that when the phrase that licenses *=e* is preposed, *=e* still surfaces in post-verbal position, at the right edge of the clause. (15) is from a narrative in which a mother gives advice to her son, (16) from one about the Kennedy assassination.

- (15) [Ta sba me l-av-ajnil]<sub>pp</sub> ch-a-muy=*e*,  
 on top CL DET-GEN.2-wife ICP-ABS.2-climb-DEF  
 ‘It’s on top of your wife that you should climb [not onto the rafters].’ (Laughlin 1977: 56)

- (16) Ja’ nox [li viniketik]<sub>dp</sub> i-laj-ik ta bala=*e*.  
 FOC only DET men CP-end-PL P bullet-DEF  
 ‘[The women weren’t hit by the bullets], it was only the men that were wounded by bullets.’ (Laughlin 1980: 15)

In (15), a PP has been fronted into focus position, as sketched in (17) (the larger context makes clear that we are dealing with contrastive focus in both (15-16)). Note that a fronted focus does *not* occasion an *iP* break (Aissen 1992).

- (17) = structure of (15)



The licenser for *=e* in (17) is the head of the circled DP, which is embedded quite deeply within the fronted PP, but the enclitic does not close that DP. Instead it surfaces clause-finally. (16) is a cleft construction where the focus occurs preverbally. Again *=e* is licensed

by the head of that DP but occurs clause-finally (the verb phrase which follows the focus does not modify the focus and is presumably not embedded in it).

With respect then to simple, monoclausal structures, examples (12)–(16) show (in various ways) that in Z Tsotsil, =e does not in general close the *phrase* headed by its licenser. A closer approximation is that it closes the *clause* containing the licenser (though we will see shortly that this is not the whole story either). This holds whether the licenser is a determiner or some other element, e.g., a deictic adverb. (18)–(19) show that an =e licensed by a deictic adverb also occurs clause-finally, again separated from the phrase containing the licenser by intervening material (in (19), the adverb functions as the clausal predicate).

- (18) J-tsak-tik                      [lavi] [ta k'in]-e.  
 ERG.1-grab-1PL.INC today P    fiesta  
 'Let's arrest him today at the festival.' (NT: Matthew 26:5)

- (19) Muk' li'                      s-malal=e.  
 NEG here GEN-husband-DEF  
 'Their husbands weren't around here [they had gone to the lowlands].' (Laughlin 1977: 101)

### 3.2 Topics

As in many other languages, external topics in Tsotsil are parsed as separate *ι*P's (by "external topic", I mean one which is attached outside the sentence, often entering into an anaphoric relation with a pronoun inside the sentence) (Aissen 1992). Topics are usually definite in Tsotsil and therefore are almost always closed by =e (the *ι*P break is indicated by "||"):

- (20) Ti                      moletik vo'ne                      tey                      ta Ats'am=e, || i-s-tsob                      la s-ba-ik  
 DET elders                      long.ago there P                      Salinas-DEF                      CP-ERG.3-gather CL GEN.3-RR-PL  
  
 ta snuts-el                      li                      biyaetik=e.  
 P chase-NOMZL DET Villistas-DEF  
 'The elders of long ago (from) there in Salinas gathered to chase the Villistas.'  
 (AUTHOR)
- (21) Ti                      anima j-muk'tot=e                      || x-'ok'                      xa la sutel                      tal.  
 DET late                      GEN.1-grandfather-DEF                      ASP-cry CL CL returning here  
 'My late grandfather returned crying.' (AUTHOR)

### 3.3 Complex clauses with CP complements

CP complements obligatorily extrapose in Tsotsil. While normal order in transitive clauses is VOS, when O is a CP complement, it occurs utterance-finally (Aissen 1992).

- (22) I-y-il            ti s-me'            un=e    ||  
 CP-ERG.3-see DET GEN.3-mother PAR-DEF  
 ti    muk'=bu ta s-sa'            y-ajnil    ti s-krem    un=e .  
 COMP NEG            ICP ERG.3-see GEN.3-wife DET GEN.3-son PAR-DEF  
 'His mother saw that her son was never going to find a wife.' (Laughlin 1977: 55)

Extraposition is associated with an obligatory *iP* break and, as expected, the matrix and CP complements form separate domains for clitic placement: the =e licensed by the first determiner closes the first *iP* and the one licensed by the second closes the second *iP*.

Extraposition of CP complements also occurs in ditransitive clauses. While the THEME precedes the GOAL when both are nominal, the THEME follows the GOAL when it is a CP:

- (23) Ikalbe li kumpa Lol un=e    || ti yu'un chicham xa un=e.  
 I.told DET compadre Bob PAR-DEF COMP because I.was.dying CL PAR-DEF  
 'I told Compadre Bob that I was feeling awful.' (Laughlin 1980: 30)

Again, extraposition forces an *iP* break between the matrix clause and its extraposed complement. And as above, the two clauses form separate domains for clitic placement.

### 3.4 Prosodically integrated subordinate clauses

While CP complements extrapose, there are other embedded clauses which do not and thus remain in their base position. These include *iP* complements (selected by verbs of perception and some other higher predicates) as well as relative clauses. Prosodically these do not form separate *iP*'s, but are integrated into the *iP* of the matrix clause (see An 2007 on languages in which restrictive relatives do not form separate *iP*'s).

Consider the *iP* complement in (24). It remains in its internal position and is followed by the matrix subject:

- (24) Mi ja'uk o=bu y-a'i            [lok' ti y-ajnil \*]<sub>iP</sub> ti vinik un=e.  
 NEG even ever ERG.3-feel leave DEF GEN.3-wife DET man PAR-DEF  
 'The man didn't even feel his wife slipping out.' (Laughlin 1977: 49)

There is no extraposition here and the entire utterance is pronounced as a single *iP*. If =e closed the (smallest) *clause* in which was licensed, we would expect one to surface in the position of the asterisk. But =e is not possible there. Instead, it appears that the enclitic licensed within the complement is delayed until the end of the entire utterance,

where it coalesces with the one licensed by the subject. Consistent with (7), the enclitic licensed within the complement clause is pronounced at the right edge of the  $\text{IP}$  which contains its licensor.

Relative clauses (RC) also generally do not extrapose. Relative clauses with external heads do not occur utterance-internally (if necessary, the sentence is restructured so that they occur utterance-finally or sentence-initially as part of the topic), but headless relatives (or better, “light-headed” relatives involving a determiner + CP) can.<sup>9</sup> In (25) and (26), the RC is sandwiched between the matrix verb and the matrix subject.

- (26) I-y-a'i            la [taj [k'alal ch-lok'   tal taj  
CP-ERG.3-feel CL DET when ICP-leave DIR DET  
  
chon \*]RC] taj ants un=e,  
serpent         DET woman PAR-DEF
- 'That woman felt (the moment) when that snake left.' (Laughlin 1977: 371)

Like IP complements, RC's do not constitute separate IP's, but are parsed together with the matrix clause. Examples (25)-(26) show that an *=e* licensed in such a relative clause is realized not at the edge of the relative clause (marked here by an asterisk), but again at the right edge of the entire utterance where it coalesces with the clitic licensed by the matrix subject.

### 3.5 Summary

The position in which =*e* is pronounced in Z Tsotsil does not coincide with the edge of the phrase in which is licensed, nor even with the edge of the (minimal) clause in which it is licensed. Rather, it coincides with the right edge of *i*P containing its licenser.

While it is not necessary for our purposes to provide an algorithm for mapping syntactic structure to prosodic structure (what is important is that iP breaks fall in certain positions, not why they fall there), there is a simple principle which determines this mapping if we assume that external topics and extraposed clauses are both adjoined at the root of the sentence (Aissen 1992). Assuming that an element X which adjoins to Y is not dominated by Y, then neither topics nor extraposed clauses are dominated by any node. Hence, like simple clauses, the nodes which define these constituents are “undominated”. In this respect they are like root nodes and, following Frank, Hagstrom & Vijay-Shanker

<sup>9</sup> I take the RC to be a CP since it contains a fronted WH expression in (25) and a complementizer in (26).

(2002), I will refer to them as such. With this understanding, the mapping from syntax to *iP* can be characterized as a *match* between a certain syntactic constituent (one dominated by a root node) and a corresponding prosodic constituent (an *iP*) (on MATCH constraints, see Selkirk 2009 and Elfner 2012; on the relevance of the *root* to defining *iP*, see Downing 1970; Nespor & Vogel 1986; Selkirk 2009). The formulation in (27) is based on Bennett, Elfner & McCloskey (2015) and Elfner (2012),

(27) MATCH ROOT

If a root node *R* in a syntactic representation *S* dominates all and only the set of terminal elements  $\{a, b, c, \dots, n\}$ , then there must be in the phonological representation *P* corresponding to *S* an *iP* which dominates all and only the phonological exponents of  $a, b, c, \dots, n$ .

When MATCH ROOT is satisfied in Tsotsil (as it appears always to be), simple clauses and some complex structures are parsed as single *iP*'s; extraposed CP's and topics are parsed into their own *iP*'s.

In §5, I develop an account of clitic placement in Tsotsil in which the syntax positions *=e* at the edge of the phrase in which it is licensed, per (6), and the phonology accounts for its subsequent dislocation to the right edge of *iP*. This attributes a more significant role to the phonology than some theories of clitic placement permit. Hence before turning to the phonological account, I consider the prospects for accounts in which phonology plays at most a filtering role in the placement of *=e* in Tsotsil.

## 4 A syntactic account?

While recognizing that the positioning of some clitics is sensitive to prosodic constituency, some recent theories of clitic placement propose that the role of phonology is limited to filtering outputs from the syntax. Consider, for example, Bošković (2000)'s account of second-position clitics in Serbo-Croatian. Bošković argues that these clitics attach to the first prosodic word within an *iP*. This is a prosodic generalization, but in his account, the prosody does not directly determine the position of second-position clitics. Rather, clitics reach their surface positions through syntactic mechanisms. Since syntactic mechanisms sometimes place clitics in other than "second" position, PF filters out derivations in which the clitics do not suffix to the initial prosodic constituent in the *iP*. Bermúdez-Otero & Payne (2011) propose that all cases of prosodic conditioning of clitic placement can be handled in the same way, i.e., clitics are positioned by a possibly over-generating syntax, with ill-formed configurations filtered out at PF.

The problem posed by *=e* is clear. If its syntactic domain is the phrase headed by its licensor (typically, *DP*), then the syntax should place *=e* somewhere within that domain. However, we have seen that *=e* can occur outside the phrase in which it is licensed, indeed outside the clause in which it is licensed. In fact, it *must* occur outside that phrase (or clause) when it is not *iP*-final. The only option for an account of clitic placement in which phonology does no more than filter outputs from the syntax is to extend the

syntactic domain of  $=e$  (or the [+DEF] feature which it realizes) beyond the phrase in which it is licensed.

Conceived syntactically, the dependency between the position in which  $=e$  is licensed and the position in which it is pronounced can span a significant amount of syntactic structure – it crosses clause-boundaries including ones which define relative clauses. There are various ways that apparent long-distance dependencies are handled, depending both on the nature of the dependency and on the particular syntactic model – long-distance movement (Transformational Grammar), a sequence of local movements (Minimalism), feature percolation (GPSG/HPSG) and others (Alexiadou, Kiss & Müller 2012). It is beyond the scope of this article to develop a syntactic analysis of  $=e$  placement, but we can point out two properties of the phenomenon that any such analysis must account for. One is that the top of the dependency is limited to root (undominated) nodes:  $=e$  can spell out only at the right edge of an undominated node, and not at the right edge of any other node. If movement or percolation are involved, they must therefore be to the root, whether that node corresponds to a simple clause, a topic, or an extraposed complement. The other is that the bottom of the dependency can be located *anywhere* within the structure dominated by the root. In particular, it can be located within a constituent which is otherwise an island for extraction, for example within a PP, as in (15/17) (see Aissen 1996 for evidence that PP's are islands for extraction), or a relative clause, (25)–(26) (see Aissen 1992).

It is instructive to consider a particular analysis which would position  $=e$  in its low, syntactically-licensed position and account for its appearance at the right edge of IP's through late, prosodically-conditioned linearization. Bermúdez-Otero & Payne (2011) mention this as a possible analysis for cases in which a clitic attaches to a prosodically defined domain, like the second position clitics in Chamorro (Chung 2003). They point to Linear Syntax (Kathol 2004), a theory of linearization embedded in HPSG, as a possible framework for implementation. Linear Syntax imposes precedence relations on sisters but, in order to handle discontinuities, permits those relations to be “passed up” the tree and then “shuffled” with relations among higher elements. In this way, elements from an embedded domain may be separated from one another by elements that belong to higher syntactic domains. In the case at hand,  $=e$ , linearized, for example at the right edge of the phrase in which it is licensed, could be separated from that phrase at higher levels, extending its syntactic domain to a higher constituent.

The question for this account is just what constraints it imposes on the upward “percolation” of precedence relations. In a language which does not in general permit scrambling, which nodes pass precedence relations upwards and which do not? The most obvious challenge is posed by the fact that an  $=e$  licensed somewhere within a relative clause or a PP cannot surface within those phrases if they are not utterance-final, but must surface in the matrix. In the shuffling account of examples like (15/17) and (25)–(26), the precedence relation between  $=e$  and the rest of the licensing phrase (its specifier, under (6)) would be obligatorily passed up through the relative clause or PP and then shuffled with precedence relations among elements in the matrix clause. Since PP's and relative clauses are otherwise impermeable in Tsotsil, one must wonder why Shuffling, but not other syntactic operations, can access elements within them.



On the other hand, it is a prosodic fact, independent of anything about *=e*, that PP's and relative clauses in Tsotsil do not form separate *iP*'s. Hence the fact that an *=e* licensed within them surfaces outside them when they are not utterance-final follows from the prosodic generalization in (7). In short, if the relation between *=e* and the phrase in which it is licensed is conceived as a syntactic dependency, its properties are unexpected. But if the relation is instead phonological and holds within an *iP* at a point when syntactic structure is no longer relevant, the distribution of *=e* and its relation to the licensing phrase begin to make sense.

## 5 A prosodic account

### 5.1 Association with prosodic prominence

I outline here an account of *=e* in Z Tsotsil. This account shares with Anderson's 2005 approach to clitic placement the assumption that the surface position of *=e* is determined post-syntactically through an optimization that evaluates alternative positions of the clitic against a set of ranked constraints (Prince & Smolensky 1993/2004). It differs from Anderson in that *=e* is not itself subject to a constraint which aligns it with the edge of a constituent. Rather the position of *=e* is motivated by an inherent lexical property, namely its association with the prosodic prominence that characterizes the right edge of *iP*'s in the language. In this, I closely follow Henderson (2012)'s account of certain "status" suffixes in K'iche' (also Mayan),<sup>10</sup> which surface only at the right edge of *iP*. These suffixes attach only to verbs and surface only when the verb occurs *iP*-finally, (28a). Otherwise, the suffix is suppressed, (28b) (accent marks here represent the prosodic peak of the utterance):

- (28) a. X-in-tij-ó.  
           CP-ERG.1SG-eat-SS  
           'I ate it.'
- b. X-in-tij           le   súb'.  
           CP-ERG.1SG-eat DET tamalito  
           'I ate the tamalito.' (Henderson 2012: 775–776)

Henderson notes that status suffixes are simply omitted from phrase-medial verbs, rather than being displaced to *iP*-final position (see 28b) and attributes this to the fact that the suffix is an affix (not a clitic) and attaches only to verbs. He raises the issue of what would happen if the element in question were a clitic. The distribution of Tsotsil *=e* instantiates exactly this case: *=e* is not tied to any particular word class and thus faithful realization carries it away from the position in which it is licensed.

The lexical entry for *=e* is shown in (29), where the asterisk indicates association with the prosodic peak of *iP*:

<sup>10</sup> These suffixes mark the transitivity status of the predicate and make other distinctions related to mood and dependency.

- (29) \*
- |
- e*

I also adopt Henderson's constraint set, it being as well-suited to Tsotsil =*e* as it is to the K'iche' status suffixes. The constraints fall into three groups. The first two concern the location of prosodic prominence in the *iP* and are independent of the distribution of =*e*. An alignment constraint (McCarthy & Prince 1993) locates the peak of prosodic prominence at the right edge of the *iP*, (30). CULMINATIVITY (31) limits such peaks to one per *iP* (Hayes 1995).

- (30) ALIGN<sub>r</sub>: A peak of prominence lies at the right edge of the *iP*.

- (31) CULM(INATIVITY): Every prosodic domain has exactly one peak of prominence.

The second two are faithfulness constraints on the morphology-to-phonology correspondence (Prince & Smolensky 1993/2004; McCarthy & Prince 1995). REALIZE MORPH (32), a general constraint, calls for faithful parsing of morphemes in the phonology (Kuris 2001). IDENT PROM (33) is the key constraint here: it requires that the lexical association of =*e* with prosodic prominence be preserved in the output (Henderson 2012).<sup>11</sup>

- (32) REALIZE M(ORPH): Every morpheme in the input has a phonological exponent in the output.
- (33) IDENT PROM: if morpheme *M* has prominence *P* in the input, then *M'*, the phonological correspondent of *M*, has prominence *P* in the output.

Tableau (34) shows the effect of these constraints on the evaluation of an input, that of (12), in which the syntactically determined position for =*e* does not correspond to the right edge of an *iP*. The input in Tableau (34) is a morphophonological representation in which syntactic terminals have been spelled-out and in which the hierarchical structure of syntax has been replaced by precedence relations and prosodic structure. =*e* is a morphophonological element. Its position is syntactically determined per (6) and its association with the prosodic peak is indicated in the input by the asterisk, a morphological diacritic. Candidates for the output are fully linearized phonological representations, parsed into prosodic constituents. Prosodic prominence in the *iP* is marked by an acute accent.

The optimal candidate is [b], which violates none of the constraints shown. However, it does violate one which is not shown, LINEARITY, which penalizes outputs which diverge from the precedence relations of the input (McCarthy & Prince 1995).<sup>12</sup> LINEARITY must be lower ranked than any of the four constraints shown in Tableau (34).

<sup>11</sup> I have slightly reworded IDENT PROM from Henderson to emphasize the distinction between *M* in the input and its correspondent *M'* in the output.

<sup>12</sup> The high-ranked constraint MATCH ROOT (27) prevents =*e* from moving "too far", by requiring that it be realized within the same *iP* as its licensor.

(34) Tableau for (12)

	[...li Kumpa Lol=e* ta museo] <sub>i</sub> ... DET compadre L-DEF P museum	ALIGN <sub>i</sub>	CULM	IDENT PROM	REALIZE MORPH
a.	[...li kumpa lol=é ta museo] <sub>i</sub>	*!			
b.	[...li kumpa lol ta museo=é] <sub>i</sub>				
c.	[...li kumpa lol=e ta museó] <sub>i</sub>			*!	
d.	[...li kumpa lol-é ta museó] <sub>i</sub>		*!		
e.	[...li kumpa lol ta museo] <sub>i</sub>				*!

- (35) LIN(EARITY): The precedence structure of the input is consistent with that of the output and vice versa.

When the input has two enclitics, they coalesce in the output.

- (36) S-jipan la ta=ora [ti ok'il [ti t'ul] un=e.  
 ERG.3-tie CL right.away DET coyote DET rabbit PAR-DEF  
 'The rabbit tied Coyote up right away.' (Laughlin 1977: 160)

Taking the input to (36) to be [...ti ok'il=e\* ti t'ul=e\*]<sub>i</sub>, we can see that the optimal output, [b] in (38), violates none of the four constraints (30)-(33): the prosodic peak is aligned with the right edge of the *i*P, there is only a single prosodic peak, the prosodic prominence associated with =e in the input is preserved in the output, and every morpheme in the input has a phonological exponent in the output. The association of input morphemes to phonological exponents, however, is many-to-one, as indicated by the subscripts on =e in input and output. Hence the optimal candidate, [b] (=36), violates the Anti-Coalescence constraint, UNIFORMITY (McCarthy & Prince 1995), as well as LINEARITY. Like LINEARITY, UNIFORMITY is ranked below the other constraints shown.

- (37) UNIF(ORMITY): No element in the output has multiple correspondents in the input.

(38) Tableau for (36)

	[...ti ok'il=e* <sub>1</sub> ti t'ul=e* <sub>2</sub> ] <sub>i</sub> ...DET coyote-DEF DET rabbit-DEF	ALIGN <sub>i</sub>	CULM	IDENT PROM	REALIZE MORPH	LIN	UNIF
a.	[...ti ok'il=é <sub>1</sub> ti t'ul=é <sub>2</sub> ] <sub>i</sub>	*	*				
b.	[...ti ok'il ti t'ul=é <sub>1,2</sub> ] <sub>i</sub>					*	*
c.	[...ti ok'il ti t'ul=é <sub>2</sub> ] <sub>i</sub>				*		
d.	[...ti ok'il=e <sub>1</sub> ti t'ul=é <sub>2</sub> ] <sub>i</sub>			*			
e.	[...ti ok'il=é <sub>1,2</sub> ti t'ul] <sub>i</sub>	*				*	*
f.	[...ti ok'il ti t'ul] <sub>i</sub>				**		
g.	[...ti ok'il ti t'ul=é <sub>1</sub> =é <sub>2</sub> ] <sub>i</sub>		*			*	

Candidates not shown include variations on [g] in which one =e or the other does not realize the prosodic prominence of the *i*P, i.e., [...ti t'ul=e<sub>1</sub>-é<sub>2</sub>]<sub>i</sub> and [...ti t'ul-é<sub>1</sub>=e<sub>2</sub>]<sub>i</sub>. Both violate IDENTPROM and the second one violates ALIGN<sub>i</sub> as well.

Some additional facts, not yet presented, show that **REALIZE**MORPH must be indexed for particular morphemes and that the one which indexes  $=e$  is ranked below **ALIGN**<sub>L</sub>, **CULMINATIVITY** and **IDENT**PROM. The definite enclitic  $=e$  is not the only morpheme in Zinacantec Tsotsil which is lexically associated with the prosodic peak of *iP*. The other is an epistemic particle, *a'a*, which Laughlin (1975) classifies as an “exclamation” and translates *indeed!*, *surely!*, *certainly!*, *of course!*. *a'a* does not require licensing, though statistically, it tends to occur in utterances with 1st and/or 2nd person arguments and is likely cognate with a reduplicated form of the terminal clitic *a'* ‘PROXIMATE’ in Yucatec. Relevant here is that *a'a* occurs in the same position as  $=e$ , i.e., at the right edge of *iP*, with its second syllable functioning as the prosodic peak of *iP*.

- (39) a. Ta'ajebal      li    j-ve'el-tik              a'a.  
    almost.cooked DET GEN.1-meal-1PL.INC EXCLAM  
    ‘Our meal certainly is about cooked.’ (Laughlin 1977: 285)
- b. Ta j-ti'              lavi    a'a.  
    ICP ERG.1-eat today EXCLAM  
    ‘Of course I'll eat it today.’ (Laughlin 1977: 283)
- c. Ik'-o              le'    a'a!  
    take-IMP DEM EXCLAM  
    ‘Take her!’ (Laughlin 1977: 126)
- d. A    li    Pineda= $e$     mas mas ts'akal              a'a.  
    TOP DET Pineda-DEF more more afterwards EXCLAM  
    ‘Pineda was later, of course.’ (Laughlin 1977: 116)

$=e$  and *a'a* compete with one another, with priority given to realization of *a'a*. Thus  $=e$  must be omitted when *a'a* occurs. (39a-c) contain various elements (underlined) that otherwise require  $=e$  (see Table 1). Here though, *a'a* entirely precludes realization of  $=e$ .

As an epistemic operator, I assume that *a'a* occupies a position in the syntax; its exact location cannot be determined since it is pronounced only at the right edge of *iP*. Assuming that  $e^*$  and *a'a*<sup>\*</sup> can both be present in the input, one or the other must “disappear”. Which is preserved is determined by the ranking of morpheme-specific **REALIZE**M constraints. In Zinacantec Tsotsil, **REALIZE**(*a'a*<sup>\*</sup>)  $\gg$  **REALIZE**( $=e^*$ ). The overall ranking of the constraints under discussion then is shown in Figure 3.

## 5.2 Notes on the right periphery

I close this section by discussing the relation between the terminal elements  $=e$  and *a'a*, and two other elements which “pile up” at the right periphery. The ordering of the four is shown in (40):

- (40)
- |           |            |              |
|-----------|------------|--------------|
| <i>un</i> | $=e/a'a$   | <i>che'e</i> |
| PAR       | DEF/EXCLAM | ‘then’       |

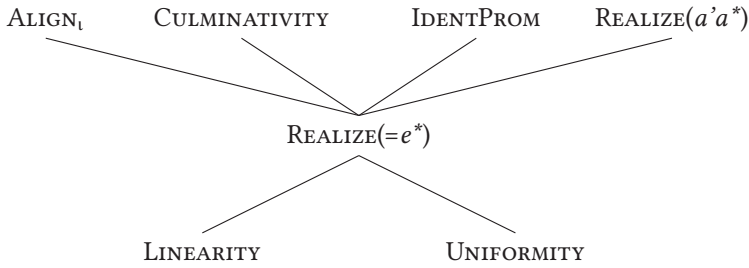


Figure 3: Constraint ranking

The particle *un* occurs in many of the examples cited above. No meaning (propositional or otherwise) has yet been identified for it. Some speakers have the intuition that it contributes some nuance of meaning to the sentence; others say that the sentence just “sounds better” with it. *un* has a distribution similar to that of *=e* and *a'a*: like them, *un* occurs at the right periphery of root sentences and of topics, and it can separate a matrix clause from its extraposed complement. Also like them, it occurs in no other positions. Unlike *=e*, it is not lexically licensed.

Aissen (1992) analyzed *un* as an enclitic which aligns with the right edge of *ιP*. While it is true that *un* always occurs very near the right edge of *ιP*, it does not occur right-most when any of the other elements in (40) is present. While it is not yet clear what is responsible for its appearance and position, I assume that it is not lexically associated with the prosodic peak in *ιP* and that its position is therefore not determined by IDENT-PROM. For one thing, as observed in Skopeteas (2010), it does not coalesce with *=e* (nor with *a'a*). One possibility is that it is present already at Spell-Out at the right edge of *ιP*. It would then be present in the *input* to evaluations like those in (34) and (38), and the constraint ranking in Figure 3 would position *e* and *a'a* to its right. Another possibility is that *un* is introduced by the phonology for eurhythmic reasons, e.g., to improve the prosodic structure of the utterance, perhaps at lower levels of the prosodic hierarchy. I leave further development of these ideas for a later time.

The other element in (40) is *che'e*, which occurs only in the absolute final position. *che'e* is a discourse particle which Laughlin (1975) translates as ‘then’ (roughly Spanish *pues*):

- (41) L-i-bat      xa li      vo'on=e      che'e,  
 CP-ABS.1-go CL DET PRO.1SG-DEF then  
 ‘Me, I went, then.’ (Laughlin 1977: 131)

*che'e* can co-occur with *=e* and when it does, the high boundary tone appears to be realized on the last syllable of *che'e*, not on *=e*. It seems then to be a counterexample to the descriptive generalization that *=e* is always the prosodic peak of the *ιP* in which it occurs.

A plausible scenario is that *che'e* is incorporated into the *ιP* which ends in *=e* after the point at which the constraints discussed above have had an effect. Fleshing this out a little, *che'e* might be syntactically adjoined to the root and mapped into its own *ιP* (like topics and extraposed clauses). This *ιP* being however subminimal (two syllables, one word), *che'e* is incorporated into the preceding *ιP* (on the tendency to avoid short *ιP*'s or sequences of *ιP*'s of different length, see Nespor & Vogel 1986 and Dehé 2009). The result here is to push *=e* back from the edge, and for the boundary tone to fall on the final syllable of *che'e*. An account along these lines assumes that the constraints in Figure 3 apply within the domain of *ιP*'s that result from the initial prosodic parsing and do not reapply at a later stage when prosodic restructuring of multiple *ιP*'s occurs. If they did, *=e* would be reordered again, to the right of *che'e*. How such an account with its implied serial optimization fits into the larger theory of the syntax-phonology interface remains to be seen.

## 6 An historical scenario

Definite markers which close the phrase in which they are licensed are not uncommon (Dryer 2013).<sup>13</sup> It is plausible then that the definite enclitic *=e* in Z Tsotsil might, at an earlier stage, have been the final element in the noun phrase, a position in which it would not necessarily have functioned as the prosodic peak of *ιP*. Here I offer a suggestion for how *=e* might have come to be associated with that peak, an association which now sometimes forces it out of its licensing phrase.

The basic idea is simple: the syntax usually determines an utterance-final position for the *phrase which licenses =e*. Hence even without intervention from the phonology, *=e* would have found itself in most cases at the right edge of the utterance. As such, it would become statistically associated with the prosodic peak of the *ιP* and this could have been reanalyzed as a lexical property.

There are several reasons why the syntax usually puts the *phrase which licenses =e* in utterance-final position. A number of them come down to the fact that certain grammatical relations in Tsotsil are almost always instantiated by definite noun phrases and the syntax determines a position for these relations at the right edge of the utterance anyway. These include especially subjects, possessors, and topics. The usual ordering of these elements is shown in (42). Starting with topics, as we have already seen, the topic precedes its associated clause and always constitutes its own *ιP*. As the final element in the topic then, *=e* automatically falls at the right edge of *ιP*.

- (42)
- Topic X
  - V-O-S
  - Possessum - Possessor

Basic word order in Tsotsil is usually described as VOS, with the subject in clause-final position. Transitive subjects (as well as active intransitive ones) are almost always defi-

<sup>13</sup> Languages with such markers include Wolof (Niger-Congo, Torrence 2013), Basque (Laka 1996), Angami (Tibeto-Burman, Giridhar 1980, cited in Dryer 2013), and Gaahmg (Nilo-Saharan, Stirtz 2012).

nite, so generally license  $=e$ . Unless the subject is followed by some other element (e.g., an adverb, a PP, an element in a matrix clause),  $=e$  again finds itself at the right edge of  $\iota P$ . Finally, Tsotsil being a head-initial language, the possessor follows its possessum, as in (43).

- (43) L-i-bat      ta [s-na      [li    Xun=e]].  
          CP-ABS.1-go P   GEN.3-house DET Juan-DEF  
          ‘I went to Juan’s house.’

Possessors too are almost always definite, and often end up as the final phrase in an utterance. Here too,  $=e$ ’s position at the right edge of  $\iota P$  is determined by the syntax. In all these cases then,  $=e$  is the last syllable in  $\iota P$ , the position associated with the prosodic peak.

Of course, the phrase which licenses  $=e$  does not always occur utterance-finally – if it did, there would be no motivation for this paper. But in a fragment of written text containing 156 instances of  $=e$ , there were only three in which that phrase did *not* occur utterance-finally. In these cases,  $=e$  was separated from its licensing phrase, as in (12)–(17) above. Thus, if it is true that the position of  $=e$  was originally determined syntactically, it would nonetheless have had a statistical association with the phonological properties that characterize the prosodic peak of  $\iota P$  and reanalysis of this association as a lexical property would have resulted in the situation we see today.

## 7 Conclusion

This paper has attempted to lay out the case for Z Tsotsil  $=e$  as a special clitic – one whose surface position is not always a position it could have reached syntactically. If this is correct, the phonology does something here *other* than select the prosodically optimal position for  $=e$  from among the syntactically possible ones. It must achieve the effect of moving  $=e$  within a prosodically-defined domain. In the analysis proposed here,  $=e$  is not subject to an alignment constraint; rather, it ends up at the right edge of  $\iota P$  because it must function as the prosodic peak of  $\iota P$ , and that peak is located at the right edge of  $\iota P$ . Complying with this requirement sometimes involves reordering the enclitic over a fairly large distance. Since the reordering occurs in the phonology, it is not subject to syntactic locality. It is, though, subject to prosodic locality, as  $=e$  always remains within the  $\iota P$  that contains its licensor (fn. 12).

Tsotsil  $=e$  thus appears to be different from the the second position clitics discussed in Bošković (2000) and Bermúdez-Otero & Payne (2011), clitics which can reach their surface positions by syntactic means. The difference might be understood in terms of the property which determines their surface position. The position of the second-position clitics of Chamorro and Serbo-Croatian is determined by a prosodic alignment condition. But prosodic constituency is introduced in the interface between syntax and phonology and is therefore present before the phonology proper. The placement of second-position clitics can therefore be determined prior to the phonology and without any involvement

of the phonology. On the other hand, if the analysis of Z Tsotsil =*e* suggested here is on the right track, its position cannot be determined until the phonology proper, since it is only in the phonology that the location of prosodic prominence within the *uP* is fixed at the right edge. In this light, the special clitic status of =*e* arises because the condition which makes it “special” – which forces it out of its licensing phrase – references a purely phonological property and not a prosodic edge.

## Abbreviations

ASP	aspect	ICP	incompletive aspect
CL	clitic	P	preposition
CP	completive aspect	PRO	pronoun
DEF	definite terminal clitic	PAR	particle
DIR	directional	RR	reflexive/reciprocal
∃	existential predicate	SS	status suffix
EXCLAM	exclamatory particle		

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