The discourse particle *wal* in Yucatec Maya: uncertainty and negativity across sentence types*

**Contents**

1 Introduction 2

2 Background 4

2.1 Prosody and information structure in Yucatec Maya . . . . . . . . . . . . . 5
2.2 Discourse particles in Yucatec Maya . . . . . . . . . . . . . . . . . . . . . 6

3 Introducing the discourse particle *wal* 8

3.1 The morpheme *wal* as a discourse particle . . . . . . . . . . . . . . . . . 8
3.2 Further properties of *wal* . . . . . . . . . . . . . . . . . . . . . . . . . . 11

4 *wal* in declaratives 13

4.1 Unstressed uses with declaratives . . . . . . . . . . . . . . . . . . . . . . 13
4.2 Stressed uses with declaratives . . . . . . . . . . . . . . . . . . . . . . . 15

5 *wal* in imperatives 19

5.1 Warning uses with imperatives . . . . . . . . . . . . . . . . . . . . . . . 19
5.2 Is that a warning or a threat? . . . . . . . . . . . . . . . . . . . . . . . . 21
5.3 Permission/offer uses with imperatives . . . . . . . . . . . . . . . . . . . 23

6 Relating the uses of *wal* 24

6.1 Unstressed *wal* across sentence types . . . . . . . . . . . . . . . . . . . 25
6.2 Stressed *wal* across sentence types . . . . . . . . . . . . . . . . . . . . 28
6.3 Relating the two *wals* . . . . . . . . . . . . . . . . . . . . . . . . . . . . 30

7 Conclusions 34

*[Acknowledgments redacted for review]*
1 Introduction

Across languages, various researchers (e.g. Vuillermet (2018), Angelo & Schultz-Berndt (2016), Lichtenberk (1995)) have described morphemes that have come to be known as ‘apprehensives’. While there are of course many important points of cross-linguistic variation, apprehensives are described as modals that convey epistemic possibility (roughly that a state of affairs $p$ might be true) as well as a negative evaluative or similar attitudinal component (roughly that $p$ is undesirable or to be feared). One defining property of apprehensives, as discussed by Lichtenberk (1995) for the apprehensive ada in Toqabaqita (Austronesian ISO 639-3: m1u), is that they are “mixed” modals in the sense that these epistemic and negative evaluative meanings are expressed simultaneously, as in (1).

1

(1) Ada ’oko mata’i.
    APPR 2sg:SEQ be.sick
    ‘You may be sick’


In this paper, I examine a morpheme which also can be used to express both epistemic possibility and negative evaluative meanings, the discourse particle wal in Yucatec Maya (ISO 639-3: yua). Despite expressing these two meaning components, I draw on both primary fieldwork and textual examples to show that when we consider the full range of uses of wal, a quite different picture emerges. First, I argue that wal in simple declarative sentences does not convey these two meanings simultaneously, but rather conveys one or the other depending on the intonation with which it is realized. We dub these two variants “stressed” and “unstressed” based on informal phonetic intuitions of the two.


The orthography used for Yucatec Maya examples is 1984 standard orthography established by the Academia de la Lengua Maya de Yucatán. It differs from the IPA in the following non-obvious ways: orthographic $j$ is used for IPA [h], $x$ for [ʃ], $b$ for the implosive [ɓ], $y$ for [j], and $r$ for [ɾ]. For vowels: $a$ for short toneless vowels [a], $aa$ for long low tone [aː], $a’a$ for creaky voice [ə], and an acute accent on the first vowel grapheme $a$ for long high tone [á].

Naturally occurring data and data from previous literature are cited as such. All other data from elicitations conducted by the author. See §2 for details regarding the speakers consulted.
As seen in (2), the unstressed or deaccented use of \textit{wal} – henceforth \textit{wal}\textsubscript{uns} – in a declarative conveys only the speaker's uncertainty, with no negative evaluative implication present. Indeed, given the positive valence of \textit{ki’} ‘tasty’, a negative sentiment would be contradictory absent some sort of very unusual scenario.

(2) **Uncertainty Scenario:** At a restaurant, A states that he is hungry, but does not know what to order because all of the dishes on the menu are of interest. B thinks that the sikil p’aak (pumpkin seed dip) here is good but is uncertain:

\begin{verbatim}
Le sikli p’aako’ jach ki’ wale’.
le sikli p’aak=DEF very tasty wal=TOP
‘Maybe the sikil p’aak is tasty.’
\end{verbatim}

In contrast, the stressed or accented use of \textit{wal} – henceforth \textit{wal}\textsubscript{str} – in a declarative, as in (3), conveys only the negative evaluative message, with no uncertainty. Unlike in (2), there is no intrinsic emotional valence to there being a dog, but rather the use of \textit{wal} itself causes it to be clear that the speaker thinks the dog is to be feared or disliked (or at least that the addressee should regard it as such).

(3) **Warning Scenario:** The speaker knows there is a potentially dangerous dog around the corner.

\begin{verbatim}
Te’ela’ yan jun t’uul peek’ wale’.
te’el=there yan jun t’uul peek’ wal\textsubscript{str}=TOP
‘There’s a dog over there [Watch out!]’.
\end{verbatim}
encodes (e.g. whether the sentence is true for declaratives). In the case of \textit{wal}_{str}, the unresolved problem is how to address a negative prospective situation in the context with the sentence’s illocutionary update being interpreted separately and related only by inference to the contribution of \textit{wal}_{str} itself. In addition to helping better understand the seemingly quite different uses that \textit{wal} has in YM, the account therefore contributes to the growing body of literature showing a cross-linguistically consistent role played by intonational variation in discourse particles (e.g. Rojas-Esponda 2015), even in languages where the role of intonation more broadly is quite distinct.

The road map for the rest of the paper is as follows: §2 provides background on Yucatec Maya with a focus on intonation and discourse particles; §3 introduces the formal properties of \textit{wal}, situating it within the language-internal category of discourse particles and discussing its synchronic and diachronic connection to other elements of the language; §4 and §5 present the core claims about the uses of \textit{wal} in declaratives and imperatives; §6 develops unified accounts of the unstressed and stressed variants of \textit{wal} across sentence types and explores the synchronic and diachronic relationship between the two; §7 concludes.

2 Background

Yucatec Maya (YM) is one of 30 languages in the Mayan family, spoken by approximately 750,000 people throughout the Yucatán peninsula and in diasporic communities elsewhere. Despite being one of the more widely spoken of the Mayan languages and enjoying a substantial and growing body of media of different kinds in the language, YM has very low rates of monolingualism (only 5.3% are reported to be monolinguals according to census data reported in INEGI (2009)). Additionally, while there remain speakers in all age groups, the percent of speakers who speak it in younger age groups is lower and there is therefore some worry as to the long-term health of the language.

In this paper, we make use of both elicited and naturally-occuring textual data. Naturalistic data come from various published sources across different genres including novels, a literary magazine, newspaper articles, blog posts, etc. Sources for each such example is noted alongside the example. Elicited data was collected from bilingual college students and other native speaker consultants at the Universidad de Oriente (UnO) in Valladolid, Yucatán during fieldwork conducted in the summers of 2013 and 2014. The data here tend to represent varieties spoken in Eastern Yucatán, primarily in and around Val-
ladolid. That said, the data shown here are common across all varieties of the language to my knowledge. Unless a citation is present, all data is elicited using using context-relative felicity judgment tasks of the sort described by Matthewson 2004. In cases where the relevant context is self-evident from the example itself, we omit it for brevity’s sake.

In terms of its grammar, YM is a consistently head-marking language with split-ergative agreement conditioned by the overt Aspect/Modal marker in a given clause. While these Aspect/Modal markers are semantically quite distinct from, say, Tense in English (see Bohnemeyer 2002 for comprehensive discussion), they are syntactically quite analogous in that matrix and other finite clauses obligatorily have exactly one such morpheme present in most cases. In terms of word order, YM is typically regarded as having VOS as a basic word order (though see Gutiérrez-Bravo & Monforte y Madera 2010 for claims that SVO is basic) despite the fact that this order with both arguments overtly realized is extremely rare. VOS is considered basic because preverbal arguments are consistently associated with particular information structural categories, namely Topic and Focus. For postverbal argument order, while VOS is typically considered basic. See Skopeteas & Verhoeven (2005), Gutiérrez-Bravo & Monforte y Madera 2010, and Verhoeven & Skopeteas (2015) for detailed discussion of word order in YM.

Since this paper is concerned principally with the interactions of intonation and what we will argue in §3 is discourse particle, we turn now to review these two aspects of Yucatec Maya grammar.

2.1 Prosody and information structure in Yucatec Maya

As we have just noted, the most striking expression of information structure in Yucatec Maya, like all Mayan languages, is through the frequent use of preverbal syntactic positions marking topic and focus (Aissen 2017 for a recent overview of topic and focus across the Mayan family). Within these two positions, foci occur immediately before the verb and A/M marker and explicitly indicate the presence in prior discourse of a set of competing alternatives with which the focal element contrasts. Topics precede foci and are prosodically separate from the rest of the clause in which they occur, accompanied by the intonational boundary clitic =e’ and a significant pause following (Avelino 2009, Skopeteas & Verhoeven 2005).²

²This is a slight oversimplification since each intonational phrase can only host one clitic and there are several other clitics such as PROXIMAL =a’ and DISTAL =o’ which replace =e’ when their use conditions are met.
Whereas topics are prosodically distinguished from other sentential elements by a pause following them, foci have no clear prosodic correlate (aside from placing the focused element in intonational phrase-initial position). In particular, extensive work has shown that the presence/absence of pitch accents systematically does not encode information-structural notions like topic and focus (Kügler & Skopeteas 2007, Kügler et al. 2007, Verhoeven & Skopeteas 2015). Conversely, we can conceive of this finding as follows: Yucatec Maya does not show evidence for post-focal/givenness-driven deaccenting analogous to that of English and German. Whereas variation between stressed/accented or unstressed/deaccented realizations of lexical items in these languages obligatorily conveys information about the state of the discourse, such variation is not Yucatec Maya is not meaning-bearing in this way.

Aside from providing general background on the language, these prosodic details are of particular relevance for understanding the two prosodic variants of wal which we discuss below. Although we label the two variants ‘stressed’ and ‘unstressed’ for convenience, we have just seen that this sort of variation is not attested for lexical material. Within Yucatec Maya grammar, then, the interaction between intonation and wal is therefore a surprising finding. However, as we discuss in more detail in §5.3, there is an emerging consensus in the recent literature on discourse particles that even in languages where intonational variation in the realization of discourse particles is acoustically similar to that of lexical material, its semantic/pragmatic contribution is often distinct. We note this here as a caution to the reader that the ‘stressed’ and ‘unstressed’ forms we discuss in what follows are not related to meaningful intonational categories in the grammar of the language more broadly in the way that a reader familiar with intonation in many other languages might assume.

2.2 Discourse particles in Yucatec Maya

“Discourse particle” is a semantically diverse category consisting of elements which express the epistemic or other attitudinal state of the speaker and/or their interlocutors, their stance towards a given proposition or question, or otherwise positions a given discourse move within the surrounding conversation. Of course, many elements of different categories potentially fit with this quite vague semantic/pragmatic characterization, not all of which are regarded as discourse particles.

In many languages, the category of discourse particle can be made more precise by reference to particular syntactic or other formal properties. For example, discourse particles
occur in the German middle-field, as second position clitics in Tagalog, and clause-finally in Japanese. As the preceding list makes clear, while such formal considerations may provide a language-specific criterion, these criteria differ substantially across languages. In some Mayan languages, such as Ch’ol (Vázquez Álvarez 2011, pp.172-175) and Tojol-a’bal (Curiel 2007, pp.36-37), discourse particles can be defined as elements that must occur in second position within a clause.

In Yucatec Maya, we can identify a small class of discourse particles, as in (4). While these elements frequently occur in second position, several recent works have shown that this is merely a tendency; they in fact can be realized in various linear positions, so long as certain, relatively small prosodic units are not broken up (e.g. particles may intervene between the verb root and preceding set A agreement marker).  

(4) Discourse particles in Yucatec Maya:

<table>
<thead>
<tr>
<th>Particle</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>bin</td>
<td>reportative</td>
</tr>
<tr>
<td>bakáan</td>
<td>mirative</td>
</tr>
<tr>
<td>túun</td>
<td>‘then’</td>
</tr>
<tr>
<td>wáaj</td>
<td>polar question</td>
</tr>
<tr>
<td>xan</td>
<td>additive</td>
</tr>
<tr>
<td>lo’obal</td>
<td>frustrative</td>
</tr>
<tr>
<td>wal</td>
<td>‘maybe’, ‘watch out’,...</td>
</tr>
</tbody>
</table>

For example, Verhoeven & Skopeteas (2015) demonstrate this sort of flexibility in linear position for the polar question particle wáaj, as in (5a). AnderBois (2018) shows a similar flexibility in (5b) for the mirative bakáan and (5c) for the reportative bin. Crucially, for all of these particles, the linear position has no discernible effect on the contribution of the sentence or the particle in discourse.

(5) a. T–a xokaj (wáaj) óox p’éel (wáaj) áanalte’–o’ob (wáaj) jo’oljéak PFV–A2 read (POLQ) three CLF (POLQ) book–PL (POLQ) yesterday (wáaj).

(5) b. ‘Did you read three books yesterday?’  Verhoeven & Skopeteas (2015:13)

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3N.B. this does not appear to a morphological restriction since certain ‘low’ adverbs such as manner adverbs can productively occur in this same position.

4Although the root on which it is presumably based historically loob ‘bad, damage’ has various uses for all speakers, the use as a frustrative particle with an intonationally flexible distribution appears to be more variable across speakers. Additionally, Hanks (1984) reports a similar particle element, lobil, ungrammatical in particle uses for the native speakers consulted here. We leave detailed investigation of these issues to future work.
b. K–u jantik (bakáan) puut (bakáan) le áak (bakáan)=o’.
   IPFV–A3 eat (MIR) papaya (MIR) DEF turtle (MIR)=DIST‘Oh, the turtle is eating papaya!’ AnderBois (2018:175)

c. Ma’ (bin) t–u máansaj (bin) u examen (bin) Carmen (bin)=i’.
   NEG (REP) PFV–A3 pass (REP) A3 exam (REP) Carmen (REP)=NEG.CLP ‘Carmen didn’t pass the exam (they say).’ AnderBois (2018:176)

Beyond the flexibility in linear position, discourse particles in Yucatec Maya (with the exception of the polar question particle wdaaj) exhibit no clear interaction with clause type. That is to say, they are permissible not only in declaratives, but also in interrogatives, imperatives, and various minor sentence types (cf. AnderBois (2018) for mirative bakáan, AnderBois (2017) for reportative bin).

In sum, we have seen that Yucatec Maya has a small closed-class set of discourse particles characterized by their flexible prosodically determined positioning and syntactic independence the sentence in which they occur, specifically with regards to clause type.

We turn now in §3 to introduce the morpheme wal, showing that it fits this profile.

3 Introducing the discourse particle wal

In this section, we introduce the basic properties of wal, arguing that it shows the same major properties of discourse particles within Yucatec Maya as well as discussing briefly a few further basic properties common to all its uses.

3.1 The morpheme wal as a discourse particle

Similar to the other discourse particle just seem, wal exhibits considerable flexibility in it’s linear position, as illustrated in the elicited data in (6).

\begin{equation}
(6) (%wal_{uns}=e’) tán (wal_{uns}) u (\*wal_{uns}) k’áax–al (?wal_{uns}) ja’ (wal_{uns})=e’\ \\
wal=TOP \quad PROG (wal) \quad A3 (wal) \quad fall–STATUS (wal) \quad water (wal)=TOP \quad ‘Maybe it’s raining.’
\end{equation}

Although it shows the same range of possibilities as other discourse particles, it should be noted that (anecdotally) wal does tend to occur in clause-final position (save for the intonational boundary clitics discussed below), whereas the other particles above occur most frequently in second position (a difference we return briefly in §3.2). Despite this apparent difference in the frequency of the possible options, wal is accepted in elicitation tasks in this position, and amply attested in non-final position in natural texts as well:
(7) a. U pak’iko’ob wal ya’ab tamane’ le ku piits’o’.
   u pak’–ik–o’ob wal_{uns} ya’ab taman=e’ le k–u piits’=o’
   A3 plant–STATUS–A3PL wal much cotton=TOP DEF IPFV–A3 harvest=DIST
   ‘They planted a lot of cotton, and then harvested.’ Monforte et al. (2010:136)

b. Lelo’ antes k yaantal wal to’one’.
   lel=o’ antes k yaan–tal wal_{uns} to’on=e’
   DEF=DIST before a1pl exist–PROC wal PRO:1PL=TOP
   ‘This might have been before we were there’ Can Canul & Gutiérrez-Bravo
   (2016:135)

In addition to flexibility in linear position, we find as well the other major property of
discourse particles in YM: a lack of formal constraints on its occurrence across sentence
types, as seen in (8).\textsuperscript{5} Beyond the three major sentence types cross-linguistically – declar-
atives, interrogatives, and imperatives – wal is also possible in minor sentence types such
exhortatives, optatives, and ostensives. The conclusion, therefore, is that wal exhibits no
clear formal restrictions, similar to other discourse particles in the language.

(8) a. **Declarative**
   Te’ela’ yan jun t´uul peek’ wale’.
   te’el=a’ yan jun t´uul peek’ wal_{str}=e’
   there=PROX exists one CLF dog wal=TOP
   ‘There’s a dog over there [Watch out!].’

b. **Imperative**
   Bis le ch’óoy walo’ (bik tu’ubuk tech).
   bis le ch’óoy wal_{str}=o’ (bik tu’ub–uk tech)
   take:IMP DEF bucket wal=DIST ADMON forget–SBJV DAT:2SG
   ‘Take the bucket! Don’t forget!’

c. **Interrogative**
   ¿Xi’ipalalo’ob, ch’úupalalo’ob, táankelemo’ob, ma’atech u t’aniko’ob maaya
   bejla’e’, ba’axten wale’?
   xi’ipalal–o’ob, ch’úupalal–o’ob, táankele–o’ob, ma’atech u t’anik–o’ob
   boy–PL girl–PL young.man–PL NEG A3 speak–PL

\textsuperscript{5}(8f) uses a phonological variant, wel, instead of wal. In a strictly grammatical sense, this variation
appears to be free, not regularly conditioned by any particular morphosyntactic or phonological environment.
We leave it to future work to determine the range of grammatical, sociolinguistic, and/or other factors which
may condition it.
maaya bejla’=e’, ba’axten wal\textsubscript{uns}=e’?
Maya today=TOP why wal=TOP
‘Boys, girls, young men, people are not speaking Maya today, whyever is
that?’ Unknown (2012)

d. Exhortative
X-Sika, ko’ox wal taanaje’ kin wilike’ ts’o’ok a chan ka’anal.
x–Sika, ko’ox wal\textsubscript{uns} taanaj=e’ k–in wilik=e’ ts’o’ok a chan
FEM–Sika go:HORT wal house=TOP IPFV–A1 see=TOP TERM A2 little
ka’anal
tired
‘Sika, let’s go to the house, I see you’re a little tired.’ May May (2007:7)
e. Optative
K´aa a jop wal a xikine’ j-Peedroj.
k´aa a jop wal\textsubscript{str} a xikin=e’ j-peedroj
for A2 kindle wal A2 ear=TOP MASC–Pedro
‘You’d better listen carefully, Pedro.’ Bricker et al. (1998:299)
f. Ostensive evidential
¡Je’el ku taal le waay welo’, chuke’ex, chuke’ex, chuke’ex!
Je’el k–u taal le waay wel=o’, chuk–e’ex, chuk–e’ex,
chuk–e’ex!
grab:IMP–B2PL
‘There goes the pig, grab it, grab it, grab it’ Canul Yah (2008:361)

For the most part, we will find that these various uses either pattern similarly to declarativest (ostensives) or imperatives (exhortatives and optatives). We therefore focus primarily on these two major sentence types, with only occasional discussion of the other more minor sentence types. The one case which does not seem clearly similar to either declaratives or imperatives are interrogatives like (8c). While \textit{wal} in interrogatives is grammatical, the resulting utterances are not ordinary illocutionary questions, but rather are more like rhetorical questions. We leave investigation of \textit{wal} in interrogatives to future work, but note that the apparent effect it has is not unlike the so-called conjectural questions that have been observed cross-linguistically with other epistemic modal or evidential morphemes in interrogatives (e.g. Littell et al. 2010).

Finally, we note that \textit{wal} is possible with the ‘ostensive evidential’ or ‘presentational’ construction in YM, as discussed by Hanks (1984) in his work on this construction, and illustrated in (8f). According to Hanks, this construction functions to direct the addressee’s
attention to some object or state of affairs for which the speaker has direct sensory/experiential evidence, with the specific type of evidence claimed to be encoded by the choice of intonation phrase-final clitic. Such sentences are therefore claimed to be incompatible with expressions of epistemic uncertainty/possibility, such the epistemic possibility modal mën. The felicity of wal in this construction, as Hanks 1984 argues, is therefore evidence that wal does not always encode epistemic possibility (see also Vapnarsky 2012).6

3.2 Further properties of wal

We have just seen that wal patterns with other discourse particles in YM in terms of being prosodically positioned, having a relative lack of formal constraints on this positioning, and occurring freely across different sentence types. Beyond these, there are two further properties of wal to note before we turn to examine its semantic contribution across sentence types: its interaction with intonational phrase-final clitics and, as noted in the introduction, its own intonational realization.

First, wal differs from other discourse particles in that it shows an interaction with intonational phrase-final boundary clitics. Yucatec Maya has a set of four clitics, =a’ PROX, =o’ DIST, =e’ TOP, and =i’ NEG.CL which occur at intonational phrase boundaries including following topics and sentence-final positions. As described in great detail by Hanks (1990), Bohnemeyer (2002), and others, a wide range of different elements of different categories oblige the presence of particular clitics at the end of the intonational phrase in which they occur. For example, sentential negation, ma’ NEG, triggers the presence of =i’ NEG.CL (e.g. in (5c)) and the definite determiner le DEF typically obliges the presence of either =a’ PROX or =o’ DIST (e.g. in (5b)). The clitic =e’ TOP similarly is triggered by particular functional elements such as the A/M marker layli’ ‘still’, and additionally occurs at the right edge of topics regardless of whether they contain such a trigger. The particle wal triggers the clitic =e’ TOP, as seen, for example, in (6) above.

Since various elements trigger intonational boundary clitics, we might expect to find phrase boundaries with multiple clitics stacked up in sequence. What we find, however, is that only one clitic is possible per intonational phrase. In cases where the multiple clitics triggered within the intonational phrase are not identical, which clitic is pronounced depends on the hierarchy { =a’ PROX, =o’ DIST } > =e’ TOP > =i’ NEG.CL (see Bohnemeyer (2002), p.133, for further discussion). Returning to wal, then, we see that this hi-

6While we do not investigate ostensive evidentials any further here, it seems to be the case that only stressed walstr is possible in these sentences.
erarchy predicts correctly that *wal* can occur without \(=e^\prime\) **TOP** just in case some other element selects a higher ranked clitic. We have seen this possibility realized, for example, in (8f) above where the ostentive evidential *je’el* triggers the clause-final clitic \(=o^\prime\) **DIST**, resulting in an output without \(=e^\prime\) **TOP.**

The final fact about *wal* relevant for understanding its role across sentence types is that it varies in its intonational realization in ways that have regular semantic effects. For example, if we consider the exact same string realized in two very different contexts in (9), we find that *wal* in (9a) shows up in what we call an ‘unstressed’ realization, whereas in (9b), it occurs in a ‘stressed’ form:

(9) a. **Unstressed** *wal*\(_{un}\): A child wants to take the bucket to use as a toy. His father says:

\[\text{Bis le ch’óoy walo’}.\]

\[\text{bis le ch’óoy walo}\_\text{un}=o’.\]

\[\text{take:IMP DEF bucket walo}\_\text{DIST} =o’.\]

‘Take the bucket (if you want).’

b. **Stressed** *wal*\(_{str}\): A child is not doing their chore of bringing the water. His father says:

\[\text{Bis le ch’óoy walo’}.\]

\[\text{Bis le ch’óoy walo}\_\text{str}=o’.\]

\[\text{take:IMP DEF bucket walo}\_\text{DIST} =o’.\]

‘Take the bucket! (Don’t forget!)’

While we leave acoustic phonetic analysis to future work, anecdotally, stressed *wal*\(_{str}\) often has higher pitch and amplitude, with a sharper final drop in amplitude. One challenge for analyzing the phonetic realization of *wal* is that, as discussed in §2.1, we do not find analogous differences elsewhere in the language, so it’s not clear there are baseline categories to which to compare the realizations of *wal*. Additionally, it is unclear how, if at all, this distinction interacts with differences in the linear position of *wal*.

Despite these challenges, consultants have clear intuitions about the ‘stressed’ and ‘unstressed’ realizations of *wal* that are quite consistent across elicitation sessions, examples, and consultants. The elicited data I report throughout are based on native speaker intuitions combined with my own impressions of the prosody. For written textual examples,
the variant reported is based on assumptions about the scenarios informally confirmed
with native speaker intuitions on which variant would be pronounced in the situation.

In this section, we have seen that \textit{wal} exhibits a consistent variation in its prosodic re-
alization across contexts. §§4-5 explores in detail the semantic effect of both variants of
\textit{wal} across different sentence types. §6 looks across sentence types to hone in on the ef-
fact of \textit{wal} itself and its interaction with intonation.

4 \textit{wal} in declaratives

We have seen in §3 that \textit{wal} occurs in two intonational variants across different major sen-
tence types, including declaratives and imperatives. In this section, we explore in detail
the use of these two intonational variants of \textit{wal} in declarative sentences.

4.1 Unstressed uses with declaratives

Perhaps the most common use of \textit{wal}, or at least the one that has been most salient to dic-
tionary makers is to indicate uncertainty or epistemic possibility. This use illustrated in
elicited and naturally occurring examples in (10-12).

(10) \textbf{Scenario}: José’s car is stopped alongside the road. Alejandro is walking and asks
him what happened. José says he’s out of gas. José thinks there might be a place
nearby to get gas, but isn’t sure.
Mina’an u kuuchil tu’ux káa áantakech wale’.
min’a’n u kuuchil tu’ux káa áant–ak–ech walo=e’
\textit{There might not be anywhere that can help you.}’

(11) \textbf{Scenario}: At a restaurant, A states that he is hungry, but does not know what to
order because all of the dishes on the menu are of interest. B thinks that the sikil
p’aak here is good but is uncertain:
Le sikli p’aako’ jach ki’ wale’.
le sikli p’aak=o’ jach ki’ waleo=e’
\textit{Maybe the sikil p’ak (pumpkin seed dip) is tasty.’}

(12) Ti’ chéen lechekbalo’on te tu k’ab le che’e’ mixmáak ts’a óoltiko’on, ti’ mix
máak wel k’aja’anene’
‘We were in the tree branches without anyone noticing. I think nobody took notice of me.’

Carrillo Can (2011:90)

Beyond communicating uncertainty, we might wonder if \textit{wal} conveys other inferences, in particular negative evaluative ones. As noted in the introduction, apprehensional morphemes (e.g. Lichtenberk 1995, Vuillermet 2018) represent a robust cross-linguistic category expressing simultaneously both prospective uncertainty/possibility and negative evaluative inferences. Moreover, as we will see in detail below in §4.2, stressed uses of \textit{wal} clearly convey fear, apprehension, or related negative sentiments.

Considering the examples in (10)-(12), however, we see that there is no evaluative inference presence. While (10) happens to have content which is undesirable, (11) is clearly desirable to the addressee and no infelicity arises. The textual example in (12) similarly does not appear to be plausibly undesirable in context, since the speaker is describing attempts to hide himself from view and saying they may have been successful at this goal.

We also see that there is no constraint on temporal orientation either, with examples describing past, present, or future time reference all possible.

While \textit{wal} in these uses conveys uncertainty or possibility and is readily translated as such in these uses, it nonetheless exhibits important differences with more straightforward epistemic possibility modals such as English \textit{might} or YM \textit{mín} (see Vapnarsky (2018), AnderBois (in prep) for discussion of \textit{mín} itself). One important difference with both English \textit{might} and YM \textit{mín} is that \textit{wal} cannot mark incompatible propositions in coordinations or juxtapositions, as seen in (13).

(13) \#Ganarnaj le trii walo’ (chen ba’ale’) ma’ ganarnaj wale’.

\#ganar–naj le trii waluNS=ö’, (chen ba’ale’) ma’ ganar–naj waluNS=e’
win–STATUS DEF tri waluDIST just but NEG win–STATUS waluTOP

Intended: ‘Maybe the tri (the Mexican soccer team) won, (but) maybe they didn’t.’

Another clear difference with many possibility modals such as English \textit{might} is that it is not possible to semantically embed \textit{wal}unS, as illustrated in (14). Whereas the English translation allows for \textit{might} to be interpreted within the relative clause, YM \textit{wal}unS always indicates uncertainty at the matrix level. This latter interpretation does not describe the
context given, supporting the claim that \( \text{wal}_{\text{uns}} \) cannot be semantically embedded in the same way that \( \text{might} \) can.

(14) **Context:** I am an employer looking for students to apply for a job and I come at the end of class to explain what the job is, how much it pays, etc. after class ends. Since I haven’t explained the details, nobody knows if they want to apply yet, but the teacher announces:

\[ \#\text{Tuláakal le u k’áato’ob le meyaj walo’ je’el u beytal u p’ataloobe’}. \]

\[ \#\text{tuláakal le u k’áat–o’ob le meyaj walo=}=o’ je’el u beytal u all DEF A3 ask–PL DEF job walo=DIST surely A3 be.able A3 p’at–al–o’ob=e’ stay–STATUS–PL–TOP} \]

Intended: ‘Everyone who might want the job should stay.’

One further type of use which fits under the uncertainty/possibility umbrella are ‘politeness’ uses, since such uses are common for many epistemic modals cross-linguistically. YM \( \text{wal} \) is commonly used in order as a hedging strategy to avoid committing oneself to controversial opinions, as in (15), or making promises one might not be able to keep, (16).

(15) **Context:** A polite attempt to get the leader, Rosendo, to yield the floor.

\[ \text{Síi ma’ ti jun túulo’ wale’ Rosendo}. \]
\[ \text{síi ma’ ti jun túul=}=o’ walo=}=e’ Rosendo \]
\[ \text{yes NEG PREP one CLF=DIST walo=TOP Rosendo} \]
\[ \text{‘But maybe this should not be just one person [speaking], Rosendo.’} \]

Vapnarsky (2012:5)

(16) **Tak tujel k’iin wale’**.

\[ \text{tak t–u–jel k’iin walo=}=e’ until PREP–A3–different day walo=TOP} \]
\[ \text{‘Until another day perhaps.’ (i.e. ‘See you later!’)} \]

Such cases could conceivably be regarded as cases of pretense, that is, instances where the speaker acts as though they are uncertain of the truth of the proposition in question. The account we develop in §6, however, does not require any such pretense to be assumed.

### 4.2 Stressed uses with declaratives

We have just seen that unstressed \( \text{wal} \) in declaratives conveys uncertainty but does not convey a negative evaluation of any kind. In this section, we consider stressed \( \text{wal} \), find-
ing essentially the opposite. Stressed *wal* conveys undesirability, fear, or apprehension, but no longer convey uncertainty. Functionally, such uses often have the effect of conveying warnings or threats, but they need not involve uncertainty about whether the state of affairs described obtains nor do they require that any avertive action be expressed or even be possible. That is to say, *wal* is possible not only in cases where the speaker thinks the addressee should act to avoid the undesirable state of affairs, but also in cases of ‘idle warnings’, where the addressee can at best only act to prepare themself for the situation described (cf. Lichtenberk (1995)’s “in-case” uses of apprehensional morphemes).

The examples in (17-18) illustrate warnings of the former type – henceforth, “avertive” warnings – since the context makes clear that the addressee can avert the state of affairs described, and even explicitly exhorts the addressee to do so in the case of (17).

(17) Yan k k’e’eyel wale’ –ki ko’ox.

> Yan k k’e’ey–el wal= e’ –ki. ko’ox
> ‘We’re going to be punished!’ he said. Let’s go!’

Carrillo Can (2011:134)

(18) Tumeen wa ka p’átak je’ebix le ts’uulo’obo’ yaan wal u p’ekta’ale’.

> Tumeen wa ka p’áat–ak je’ebix le ts’uul–o’ob=o’ yaan wal u p’ek–t–a’al=e’
> ‘If they charge interest and treat him like a white person, it will be returned.’

Dirección general de educación indígena (2010:23)

Conversely, (19-20) do not present situations where an avertive action is possible; if the chile is spicy, it’s spicy. The addressee can avoid eating it of course, but this does not effect the truth of the proposition the sentence itself introduces (see AnderBois & Dabkowski (t.a.) for analysis of the relationship between avertive and in-case uses of apprehensional morphemes in other languages). Nor is the speaker in such examples recommending an action to avoid downstream consequences of the state of affairs described. For example, the vendor in (19) is presumably not suggesting that the speaker refrain from buying the chiles, but merely letting the addressee know what they are in for.

(19) **Scenario:** A local woman selling chiles at the market. As a local, she knows all the chiles well. She warns the foreign visitor:

> Le habanero’o’ jach páap wale’.
le habanero’=o’ jach páap wal=e’
DEF habanero=DIST very spicy wal=TOP
‘It’s very spicy [Watch out!]’

(20) **Scenario:** We are on the street and you see a dangerous-looking dog:

Te’ela’ yan jun túul peek’ wale’.

‘There’s a dog over there [Watch out!].’

Rather than a warning per se, *wal* can also yield a threat in cases where world knowledge happens to suggest this. Typically, this is in cases with a first person subject, as in (21) (see Vuillermet (2018:22) and Epps (2008:631) for similar claims for apprehensives in Ese Ejja and Hup respectively). This need for specific content to produce a speech act of threatening, as opposed to a mere warning, stands in contrast to the imperative examples in §4, which we will see communicate threats under clearly defined grammatical conditions, rather than depending on specific content to achieve this effect.

(21) **Scenario:** A father to his naughty son:

Je’ in topkech wale’ ¿Ta wu’uyaj? ¡U’uy t’áan!

‘[I’m warning you] I’m going to beat you. Did you hear me? Do what I say!’

Looking at the warning uses of *wal* we have seen, it is clear that while warning uses can happen to involve uncertainty, they do not require it. This is clearest in the case of idle warnings, where the event or state in question is one which cannot be avoided, sometimes because it already obtains. We conclude, therefore, that *wal* does not encode uncertainty or possibility of any kind.

Considering all declarative uses, I have argued that *wal* conveys either uncertainty, when unstressed, or a negative evaluative meaning (often a warning), when stressed. We therefore predict that a context supporting uncertainty, but with no negativity, *wal* must be unstressed. Conversely, for a context supporting a negative evaluative meaning, but with no uncertainty, we expect *wal* must be stressed. Finally, *wal* should be infelicitous altogether in a context supporting neither of these inferences. We see these predictions borne out in the minimal triple in (22-24). The context in (22) only makes salient the speaker’s uncertainty, and *wal* must be unstressed. The context in (23) precludes uncertainty, but
makes salient the potential negative consequences, and therefore allows only stressed \textit{wal}. Finally, (24) gives no support to either inference and we indeed find that the inclusion of \textit{wal} is simply infelicitous.

(22) \textbf{Uncertainty context:} A Yucatecan woman is selling chiles to a gringo. Since she is local and works at the market, she normally knows the chiles, but this time she has a new variety she does not know. It looks like it could be spicy, but since it’s new, she is unsure.
Le iiko’ jach páap wale’.

a. \#\textit{Le iik}=o’ jach páap \textit{wal}_{str}=e’
   \textit{DEF chile}=DIST very spicy \textit{wal}=TOP
b. \textit{Le iik}=o’ jach páap \textit{wal}_{uns}=e’
   \textit{DEF chile}=DIST very spicy \textit{wal}=TOP

‘Maybe this chile is spicy.’

(23) \textbf{Warning context:} A local woman is at the market, selling chiles to a gringo. Since she is local, she knows all the types of chiles very well. Since the customer is not local, she gives him the warning:
Le iiko’ jach páap wale’.

a. \textit{Le iik}=o’ jach páap \textit{wal}_{str}=e’
   \textit{DEF chile}=DIST very spicy \textit{wal}=TOP
   ‘This chile is very spicy [Watch out]!‘

b. \#\textit{Le iik}=o’ jach páap \textit{wal}_{uns}=e’
   \textit{DEF chile}=DIST very spicy \textit{wal}=TOP
   Intended: ‘This chile is very spicy [Watch out]!‘

(24) \textbf{Neutral context:} A woman is selling chiles in the market. The woman is from the area and is therefore quite knowledgeable about local chiles. The buyer is also from the area and therefore presumably also knowledgeable about them and therefore in search of spicy chiles.

\#\textit{Le iiko’ jach páap wale’}.

a. \#\textit{Le iik}=o’ jach páap \textit{wal}_{str}=e’
   \textit{DEF chile}=DIST very spicy \textit{wal}=TOP
   Intended: ‘This chile is spicy.’

b. \#\textit{Le iik}=o’ jach páap \textit{wal}_{uns}=e’
   \textit{DEF chile}=DIST very spicy \textit{wal}=TOP
   Intended: ‘This chile is spicy.’
Summing up, we see that while *wal* is associated with inferences of both uncertainty and negativity, these inferences are tied to the intonation of *wal*. This contrasts starkly with apprehensional morphemes in other languages, which are mixed modals, simultaneously expressing inferences of both sorts.

5 *wal* in imperatives

We have seen that *wal* in declarative sentences makes different contributions depending on whether it occurs in its stressed, *wal*\textsubscript{str}, or unstressed, *wal*\textsubscript{uns}, variant. In this section, we turn to another major sentence type, imperatives, and observe a parallel pattern. Concretely, we show that *wal*\textsubscript{uns} in imperatives results in speech acts like permissions and offers, rather than directive speech acts like commands. Stressed *wal*\textsubscript{str}, on the other hand, does essentially the same thing as in declaratives: it highlights a state of affairs as being undesirable for the addressee, in effect issuing a warning or threat.

5.1 Warning uses with imperatives

Similar to what we have seen in declaratives, stressed *wal*\textsubscript{str} in imperatives conveys a warning or threat to the addressee. What is different here is that the imperative sentence itself does not encode the undesirable state of affairs, but rather encodes a precautionary or avertive action that the addressee ought to undertake to avoid or prepare for that negative outcome. That is to say, the imperative tells the addressee what to do, and the inclusion of *wal*\textsubscript{str} makes explicit that there would be negative consequences for not heeding this.

(25) **Context:** Lupe wants to reach a book on a high shelf. Since she doesn’t have a step, she tries to use Miguel as a stool and tells him to get down on all fours:

Ma’ p’eek wale’.

ma’ péek \( \Rightarrow \) *wal*\textsubscript{str}=e’

NEG move:IMP *wal*=TOP

‘Don’t move or else!’

(26) **Context:** José’s grandmother has asked him to take his sister to the market. José says he has other plans and that he can’t take her. The grandmother says:

Bis wale’.
While \( wil_{str} \) communicates the existence of negative consequences, crucially the utterances do not specify their precise nature. We return to this dynamic below in §4.2. This is the opposite of \( wil_{str} \) in declaratives, where the precautionary/avertive action is left un-stated and the undesirable state of affairs is explicit in the sentence. Looking beyond the sentence, while not obligatory, the undesirable state of affairs is frequently also expressed overtly through a juxtaposed declarative clause as in (27-29). The reverse is also true (e.g. in (17) above), but anecdotally, this seems to be true less frequently than in the case here (one reason for which will be discussed in §4.2).

(27) **Context:** I see my friend Juan in the street in front of my house and a jaguar approaching. I say:

\[
\text{Oken wale', yaan balam te'elo'.}
\]

\[
\text{ok–en} \quad \text{wil}_{str}=\text{e'} \quad \text{yaan balam te'el=0'}
\]

\[
\text{enter–IMP wil=TOP exist jaguar there=DIST}
\]

‘Come in! There’s a jaguar over there.’

(28) **Context:** A mother hears the cawing of the chickens and yells to her small son:

\[
\text{K'al uts wale' Wiwi! Yo'osal mun janta'al.}
\]

\[
\text{k'al} \quad \text{uts} \quad \text{wil}_{str}=\text{e'} \quad \text{Wiwi! Yo'osal mun jant–a'al}
\]

\[
\text{close:IMP good wil=TOP Wiwi for NEG eat–PASS}
\]

‘Close it well, Wiwi! In order that they [the chickens] aren’t eaten’

Vapnarsky (2012:6)

(29) –Ko’ox tun wale’ suku’un le ba’ala’ ma’ uts’ –ku yawat nuxi Pasuch.

\[
\text{Ko’ox tun \text{wil}_{str}=\text{e'} suku'un le ba'al=a' ma' uts' –k–u yawat nuxi}
\]

\[
\text{go:HORT then wil=TOP brother DEF thing=PROX NEG good IPFV–A3 cry old}
\]

\[
\text{Pasuch Pasuch}
\]

‘Let’s go then, brother, that thing [that I just saw] isn’t good – cried old Pasuch.’

Canché Briceño (2009:173)

Finally, we note that beyond imperatives proper, another imperative-like construction – exhortatives formed with \( ko'ox \) – allow for \( wil_{str} \) with similar effects:

(30) Ko’ox meyaj wale’.
ko’ox meyaj wal$_{str}=e’$’
go:HORT work wal=TOP
‘Let’s go work [hurry up!].’

Hanks (1984:165)

(31) ¡Ko’on’e’ex wale’ áake’ex je’e ku taal Yum K’áak’o’!
kono’e’ex wal$_{str}=e’$’ áake’ex je’e k–u taal yum k’áak’=o’
‘Leave, turtles, the fire god is coming!’

Sánchez Chan (1999:4)

5.2 Is that a warning or a threat?

In the examples of stressed $wal_{str}$, we have seen both cases where the utterance serves
as a warning and others where it seems more like a threat (i.e. a warning about the in-
tent of a speaker or another agent). For declaratives, threat uses arise just in case the con-
tent happens to be appropriate for this, mostly with first person subjects. For imperatives,
however, threat uses arise more generally, being found consistently whenever the impera-
tive with $wal_{str}$ is not followed by a declarative spelling out an undesirable state of affairs
not due to the speaker. For example, (25-26) from above both convey not only that a bad
thing will happen if the addressee fails to perform the specified precautionary action, but
also that the speaker would be responsible for bringing about the unspecified undesirable
state of affairs.

One way to support this intuition is to create contexts where a threat is inappropriate,
such as the following context in which an employee talks to their boss. The social dy-
namic makes a threat seem unlikely and the imperative with $wal_{str}$ alone, (32a), is deemed
odd or perhaps simply rude or insubordinate. In contrast, the same sequence is felicitous
in (32b) when followed by a declarative stating the undesirable consequence, with speak-
ers reporting no sense of the insubordination found in (32a). That is to say, that warning
one’s boss is socially acceptable in a way threatening is not and (32a) is inappropriate by
virtue of communicating not just an unspecified warning, but more specifically a threat.

(32) **Context:** A worker in a store is talking to the boss:

a. K’al le joonaj walo’.
   
   #?K’al le joonaj wal$_{str}=o’$
close:IMP DEF door wal=DIST
   ‘Close the door or else!’

b. K’al le joonaj walo’ yo’osal ma’ okok le ja’o’.
K’al le joonaj walstr=o’ yo’osal ma’ ok–ok le ja’=o’
close:IMP DEF door wal=DIST for NEG enter–SBJV DEF water=DIST
‘Close the door or else the water will come in!’

While this dynamic may seem somewhat ad hoc, we in fact see a similar pattern with English imperatives with or else. A disjunction of an imperative with a declarative can be either a warning or a threat depending on its content, as in (33a). In contrast, a ‘unary’ disjunction with or else, i.e. one lacking a declarative disjunct following, can only be interpreted as a threat regardless of the scenario, (33b). While we leave a principled explanation of this aspect of walstr to future work, the presence of a similar restriction in a different language suggests that such an explanation should be sought.

(33) a. Close the door or else the water will come in! ~⇒ WARNING
    b. Close the door or else! ~⇒ THREAT

Beyond showing a similar restriction to threat uses in the absence of a negative declarative clause, this parallel is notable in that it arises in English with a form of disjunction. Unlike many Mayan languages, Yucatec Maya has a non-borrowed means for expressing disjunction using the disjunctive coordinator wáa/wa, as in (34).

(34) Tu yuk’aj le sa’o’ Juan wáa Daniel.
    t–u yuk’–aj le sa’=o’ Juan wáa Daniel
    PFV–A3 drink–STATUS DEF atole=DIST Juan or Daniel
    ‘Juan or Daniel drank the atole.’ AnderBois (2012:357)

Since disjunctive wáa/wa is already attested in colonial documents such as the Diccionario Motul, Martinez Hernandez (1929), as well as in other Yucatecan languages, the exact diachrony remains somewhat speculative. However, we know cross-linguistically that expressions of uncertainty or possibility are common (see, e.g. Mauri (2008)). It therefore seems plausible to assume that the disjunctive wáa/wa is grammaticalized from the discourse particle wal9, especially since YM shows various cases of coda l-deletion elsewhere.

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8 The morpheme wáa also appears in a variety of other ‘alternative-evoking’ uses besides disjunction: as a polar question clitic, in non specific wh-indefinites, and heading conditional antecedents and embedded interrogatives (cf. English if). See AnderBois (2012) for further discussion of these connections and detailed analysis of the connection between disjunction and the polar question use.

9 We return to this in §6.3, but the presence of negativity in stressed uses of wal also finds a parallel of sorts in English disjunction. Imperative and Declarative (IaD) constructions can involve either positive or negative consequences. In constrast, closely related IoD constructions with or in place of and have been claimed to be universally negative by Russell (2007) et seq.
To sum up, we have seen in this section that *wal* in imperatives gives rise to warnings or threats of the potential consequences of not complying with the action described by the imperative.

5.3 Permission/offer uses with imperatives

Whereas *wal* in imperatives intuitively serves to ‘strengthen’ the imperative by highlighting potential negative consequences for not heeding it, *wal* does quite the opposite, ‘softening’ them to permissions or offers. Often, such uses are found in cases where the speaker has some sort of social authority over the addressee and therefore might otherwise be taken to be issuing a command. We see such uses illustrated in (35-37).

(35) **Context:** I see that my friend José is outside, but is not coming in or ringing the doorbell. I say:

Oken wale’.  
ok–en *wal*=e’  
enter–IMP *wal=*TOP  
‘Enter (if you want)!’

(36) **Context:** A boss is talking to an employee. He knows the employee loves to sweep the floor more than anything else and says:

Míist le piiso’ walo’ (wáa a k’áate’).  
míist le piiso’ *wal*=o’ (wáa a k’áat=e’)  
sweep:IMP DEF floor *wal=*DIST if A2 want=TOP  
‘Sweep the floor (if you want).’

(37) **Context:** Someone has said that they are hungry. The addressee replies:

Ko’ox welo’ ka jáan tsikbal ten bix úuchik a wojéeltik a k’uchul weye’.  
Ko’ox *wal*=o’ ka jáan tsikbal–t–Ø ten bix úuchik a w–ojéel–t–ik  
a k’uch–ul wey=e’  
A2 arrive–STATUS here=TOP  
‘Let’s go (to eat) and you can tell me real quick how you got here.’

Carrillo Can (2011:98)

As in the case of declaratives, we can further confirm the role of intonation by looking at one and the same sentence across different scenarios:

(38) **Permission Context:** A child wants to take the bucket to use as a toy. His father says:
(Wáa a k’áate’) bis le ch’óoy walo’.

a. #(wáa a k’áat=e’) bis le ch’óoy wal_{str}=o’.
   if A2 want=TOP take:IMP DEF bucket wal=DIST
   Intended: ‘Take the bucket (if you want).’

b. (wáa a k’áat=e’) bis le ch’óoy wal_{uns}=o’.
   if A2 want=TOP take:IMP DEF bucket wal=DIST
   ‘Take the bucket (if you want).’

(39) **Warning scenario:** A child is not doing their chore of bringing the water. His father says:

Bis le ch’óoy walo’ (bik tu’ubuk tech).

a. bis le ch’óoy wal_{str}=o’ (bik tu’ub–uk tech)
   take:DMP DEF bucket wal=DIST ADMON forget–SBJV DAT:2SG
   ‘Take the bucket! Don’t forget!’

b. #bis le ch’óoy wal_{uns}=o’ (bik tu’ub–uk tech)
   take:DMP DEF bucket wal=DIST ADMON forget–SBJV DAT:2SG
   Intended: ‘Take the bucket! Don’t forget!’

To summarize, while stressed $wal_{str}$ in imperatives creates stronger, more urgent imperatives, unstressed $wal_{uns}$ produces ‘softer’ imperatives which are addressee-oriented, such as permissions and offers. We turn now to explore in more detail the parallels between the role of $wal$ in declaratives and imperatives.

6 Relating the uses of $wal$

In the previous two sections, we have seen that the surface effect of $wal$ seems to vary based on its interactions with two cross-cutting factors: (i) intonation, and (ii) sentence type. The effect of sentences with $wal$ across these four conditions is briefly summarized in (40):

(40) **Summary of uses of $wal$:**

<table>
<thead>
<tr>
<th></th>
<th>Unstressed $wal_{uns}$</th>
<th>Stressed $wal_{str}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declarative</td>
<td>Uncertainty</td>
<td>Undesirable situation</td>
</tr>
<tr>
<td>Imperative</td>
<td>Permission/offer</td>
<td>Avertive or preparatory action</td>
</tr>
</tbody>
</table>

In this section, we turn to understand this picture and in particular, to understand what aspects of this empirical picture are attributed to the meaning of $wal$ itself, its intonation, and the semantic effects of the sentence type itself. One central question we address is
whether a single meaning for \textit{wal} can be assigned across all its uses or whether distinct (but hopefully related) meanings for \textit{wal} are needed.

We tackle these questions by providing a unified account of unstressed \textit{wal}_{uns} across sentence types, §6.1, as well as a unified account of stressed \textit{wal}_{str} across sentence types, §6.2. In both cases, the accounts are presented only informally, as a detailed formal semantic/pragmatic account is beyond the scope of this paper. Finally, in §6.3, we address the question of the synchronic and diachronic relationship between the stressed and unstressed variants.

6.1 Unstressed \textit{wal} across sentence types

Starting with declaratives, we have shown that unstressed \textit{wal}_{uns} does not convey undesirability or a warning of any kind, but instead conveys uncertainty or epistemic possibility. At the same time, however, we noted two important differences with other epistemic possibility modals: the infelicity of conflicting claims marked with \textit{wal}_{uns} (i.e. ‘maybe so, maybe not’ cases), (13), and their inability to be semantically embedded, (14). We propose to account for these aspects of \textit{wal}_{uns} by taking it to convey the speaker’s uncertainty about whether the speech act/illocutionary update the sentence encodes ought to be performed.

For declaratives, then, this speech act is most typically assertion, which is commonly taken to at least include the speaker’s commitment to the truth of the sentence’s content. The lack of a semantically embedded interpretation then follows from the fact that the effect we propose for \textit{wal}_{uns} is taking place at the discourse level and therefore concerns the entirety of the discourse move. The account therefore predicts that declaratives with unstressed \textit{wal}_{uns}, unlike epistemic possibility modals, should be felicitous in contexts where their propositional content is certain, but the speaker is uncertain of their overall discourse contribution. This prediction is borne out by examples like (41-42) in which the context establishes the speakers certainty but where the speaker is uncertain of whether the propositional content indeed resolves the question posed by the interlocutor.

(41) \textbf{Context:} Alejandra and Beto are talking about a petition and who signed it. Beto saw María write the petition for certain, but isn’t sure if María is a teacher or not.

\textbf{a.} Alejandra: Tu ts’íibtaj u k’áaba’ jun t’úul kanasaj?
\texttt{t–u ts’íibt–aj u k’áaba’ jun t’úul ka’ansaj?}
\texttt{PFV–A3 write–STATUS A3 name one CLF teacher}
‘Did a teacher sign their name?’
b. Beto: Pues, Maariya ts’íibt wale’.
   pues, máariya ts’íibt waluns=e’
   well María write:AF wal=TOP
   ‘Well, María did [but I’m not sure if she’s a teacher]’

(42) **Context:** Alejandra and Beto are talking about an event at the university. Beto saw a student leave early, Juan, but can’t remember if Juan is a Linguistics student or an Anthropology student.

a. Alejandra: Máakalmáak xoknáalil ti’ lingüística bin aantes le tsikbaló’
   máakalmáak xoknáalil ti’ lingüística bin aantes le tsikbal=’?
   which student PREP linguistics go:PFV before DEF talk=DIST
   ‘Which linguistics student went before the talk?’

b. Beto: (Pues), Juan bin wale’.
   (Pues,) Juan bin waluns=e’
   well Juan go:PFV wal=TOP
   ‘(Well,) Juan did [but I’m not sure if he studies linguistics].’

In both of these examples, the propositional content of the rest of Beto’s utterances is not in doubt in the discourse context. However, the potential ultimate conversation effect – resolving the question posed by Alejandra – is in doubt and this is sufficient to license waluns. Such examples highlight the idea that while the effect of waluns often appears similar to epistemic modals, it achieves this effect by providing an ‘illocutionary hedge’, rather than contributing to propositional content itself.

For imperatives, examining the relative contributions of waluns and the imperative itself requires first more careful consideration of the meanings of imperative sentences themselves. While there are some minor points of cross-linguistic variation, recent formal semantic (e.g. Kaufmann (2012), Condoravdi & Lauer (2012)) and typological (e.g. Aikhenvald (2010), Aikhenvald & Dixon (2017)) literature has emphasized the polyfunctionality of imperatives, that is, the fact that imperatives are used to perform a variety of different direct speech acts including not only commands and other directives, but also offers, permissions, advice, wishes. This is true in YM too, as illustrated in (43):

(43) a. **Command**
   K’al le naajo’.
   k’al le naaj=’o’
   close:IMP DEF house=DIST
   ‘Close the door!’
b. **Offer**

    Ko’oten janal.
    ko’ot–en    janal
    come:IMP–IMP eat

    ‘Come eat!’

  c. **Warning**

    Ma’ jantik le iiko’. Yaan a meetik teech k’aas.
    ma’    jant–ik    le    ii{k}=’o'.    yaan    a    meet–ik    teech    k’aas
    NEG    eat–STATUS    DEF    chile=DIST    FUT    A2    do–STATUS    DAT:2SG    damage

    ‘Don’t eat that chile! You will harm yourself.’

d. **Advice**

    W´aa wi’ijeche’ jaant w´aa ba’ax.
    w´aa    wi’ij–ech=e’    jaant    w´aa    ba’ax
    if    hungry–B2SG=TOP    eat:IMP    or    what
    ‘If you’re hungry, eat something or other’

e. **Wish**

    Ki’ich sayab ja’il kuxtal siij u puksi’ik’al in mek’tan kaj ti’ ka’an.
    ki’ich    sayab    ja’–il    kuxtal    siij–s–∅    u    puksi’ik’al    in    mek’tan
    beautiful    spring    water–REL    life    flow–CAUS–IMP    A3    heart    A1    family
    kaj    ti’    ka’an
    town    from    sky

    ‘Oh beautiful spring of water of life, flow from the sky to the heart of my
town.’

    Noh Tzec (2015:4)

While there are many different ways of classifying imperatives, one first distinction
that can be made is between imperatives which are uttered based on the speaker’s goals
and desires, such as commands, and those like offers which are rooted in the addressee’s
goals and desires (see, e.g. Poletto & Zanuttini (2003)’s account of discourse particles
in imperatives in Badiotto, a variety of Ladin ISO 639-3: 11d). Based on declaratives
above, we claimed that waluus conveys the speaker’s uncertainty about whether the speech
act/illocutionary update the sentence encodes ought to be performed. Such uncertainty
makes sense in imperatives based on the addressee’s goals and desires since the speaker
may well be uncertain about them while making suggestions about what they might be or
how they might be reached.

For imperatives rooted in the speaker’s own desires, however, such uncertainty seems
incoherent given that it occurs together with the imperative. This is what explains the
restrictions on the use of \( \text{wal}_{\text{uns}} \) in imperatives discussed above. Whereas addressee-oriented imperatives like (44) can use \( \text{wal}_{\text{uns}} \) to convey that the speaker is uncertain about whether the preference in question should be adopted, speaker-oriented imperatives like (45), are infelicitous with \( \text{wal}_{\text{uns}} \). Note that this generalization goes beyond the informal characterization of “softening”; no matter how gentle the father in (45) aims to be, they are still imposing a preference on the child and have no uncertainty about this preference.

(44) **Addressee-oriented imperative context:** I see that my friend José is outside, but is not coming in or ringing the doorbell. I say:

\[ \text{Oken wale’}. \]

\[ \text{ok–en } \text{wal}_{\text{uns}} = \text{e’} \]

\[ \text{enter–IMP } \text{wal} = \text{TOP} \]

‘Enter (if you want)!’

(45) **Speaker-oriented imperative context:** A child is not doing their chore of bringing the water. His father says:

\[ \text{Bis le ch’óoy walo’ (bik tu’ubuk tech)}. \]

\[ \text{#bis le ch’óoy wal}_{\text{uns}} = \text{o’ (bik tu’ub–uk tech)} \]

\[ \text{take:IMP DEF bucket } \text{wal} = \text{DIST ADMON forget–SBJV DAT:2SG} \]

‘Take the bucket! Don’t forget!’

In sum, we have argued that \( \text{wal}_{\text{uns}} \) conveys the speaker’s uncertainty about the illocutionary update the rest of the sentence encodes. For declaratives, this illocutionary uncertainty most typically approximates epistemic uncertainty, though we have also seen cases where a speaker is uncertain of an assertions relevance or unwilling to state something for reasons unrelated to their anything epistemic. Since imperatives update shared effective preferences, illocutionary uncertainty produces a range of distinct effects depending on the context. We turn now to analyze stressed \( \text{wal}_{\text{str}} \) across declaratives and imperatives.

### 6.2 Stressed wal across sentence types

Thus far, we have argued that across sentence types, unstressed \( \text{wal}_{\text{uns}} \) encodes the speaker’s illocutionary uncertainty, i.e. their uncertainty about whether to perform the update the rest of the sentence encodes. The contribution of an utterance with \( \text{wal} \), then, is to make a “meta-commentary” on the appropriateness of a given move in a discourse, in particular to highlight the speaker’s uncertainty over whether it should be made.

\( \text{wal}_{\text{str}} \), on the other hand, is quite different. It conveys that there exists a state of affairs, possible or actual, which the speaker considers to be undesirable for the addressee.
Whereas $\text{wal}_\text{uns}$ communicated about the effect of the clause containing it, the effect of $\text{wal}_\text{str}$ occurs in addition to its effect. That is to say that whereas an utterance containing $\text{wal}_\text{uns}$ makes a single discourse move, one with $\text{wal}_\text{str}$ introduces two separate moves, the one the sentence otherwise encodes and the one $\text{wal}_\text{str}$ adds. Crucially, though, $\text{wal}_\text{str}$ has no direct semantic interaction with the content of the sentence in which it occurs. It merely makes an additional not-at-issue contribution to the conversation.

Declaratives with $\text{wal}_\text{str}$, then, commit the speaker to there being an undesirable state of affairs and at the same time (typically) make an assertion. The connection between the two is not semantically specified, but instead left to pragmatic inference and therefore may vary in its directness. In an example like (46), repeated from (17), the content of the declarative is itself the undesirable state of affairs to which $\text{wal}_\text{str}$ refers. In contrast, in (47), repeated from (3), the link between the proposition asserted and the undesirable state of affairs is less direct. The mere presence of a dog is not itself undesirable per se, but could lead to an undesirable state of affairs, which $\text{wal}_\text{str}$ serves to highlight. In the absence of $\text{wal}_\text{str}$, (47) would run the risk of failing to convey to the addressee that the speaker considers the dog to be a danger to the addressee (in contrast to (46), where the propositional content itself makes this quite clear).

(46) **Direct link to undesirable situation:**

`Yan k k’e’ey–el wale’–ki ko’ox.`

`‘We’re going to be punished!’ he said. Let’s go!’` Carrillo Can (2011:134)

(47) **Indirect link to undesirable situation:**

`Te’ela’ yan jun túul peek’ wale’.`

`‘There’s a dog over there [Watch out!]’`

Imperatives with $\text{wal}_\text{str}$, then, commit the speaker to there being an undesirable state of affairs and at the same time perform an ordinary imperative speech act such as offering advice or a warning, as seen in (48), repeated from (32b).

(48) **K’al le joonaj walo’ yo’osal ma’ okok le ja’o’**.

`‘Close the door or else the water will come in!’`
As for the nature of the negative situation to be avoided, things are slightly more com-
plicated than for declaratives. In cases like (48), a declarative clause explicitly character-
izing this negative prospective state is juxtaposed to the clause containing \textit{wal}\textsubscript{str} itself.
The clause with \textit{wal}\textsubscript{str} therefore does not give any indication of what the situation is be-
Yond that it is to be avoided. Recall, however, that when no adjacent clause describes the
situation, as in (49), the only interpretation available is that of a threat, i.e. the negative
situation can only be the potential future actions of the speaker.

\begin{verbatim}(49) K’al le jooaj walo’.
  '?K’al le jooaj walo'\textsubscript{str}=o'
  close:IMP DEF door wal=DIST
  ‘Close the door or else!’
\end{verbatim}

The details of the negative situation that comprises this threat are left for the addressee
to infer, but this restriction to future actions within the speaker’s control (i.e. to threats) is
unexpected. As noted above, however, this unexpected restriction is not unique to \textit{wal}\textsubscript{str}
but can also be found in English \textit{or else} constructions despite their numerous other dif-
fferences. Vuillermet (2018) also describes a similar restriction to threat uses (at least as
a default) in apprehensional morphemes in Hup and Ese Ejja (though interestingly, she
notes that some languages such as Matses show the opposite restriction). We leave it to
future work to provide a principled explanation synchronically and/or diachronically for
this restriction of \textit{wal}\textsubscript{str} in imperatives.

In sum, we have argued that stressed \textit{wal}\textsubscript{str} uniformly conveys the existence of an un-
derirable state of affairs.

\subsection*{6.3 Relating the two \textit{wals}}

Thus far, we have developed analyses for the two intonational variants of \textit{wal} – stressed
\textit{wal}\textsubscript{str} and unstressed \textit{wal}\textsubscript{uns} –which appear quite different. \textit{wal}\textsubscript{str} highlights a prospective
negative situation alongside whatever move the rest of the sentence contributes, allowing
the addressee to infer the connection between the two. \textit{wal}\textsubscript{uns} highlights the speaker’s un-
certainty about the move that the rest of the sentence makes. In this section, we explore in
more depth potential relationships between these. While we ultimately conclude a unified
synchronic analysis is not possible, we show that the relationship between then is not ar-
bitrary and explore a potential diachronic explanation for the discrepancies between \textit{wal}\textsubscript{str}
and \textit{wal}.
Drawing inspiration from Davis (2011)’s work on Japanese discourse particles, one way we might begin to try to unify the two variants of *wal* is by appealing to the notion of ‘decision problems’ (see also van Rooy 2003). Davis characterizes discourse contexts as including for each agent a decision problem, i.e. a salient set of potential actions from which that agent must choose. We can therefore characterize the contributions of *wal*_{uns} and *wal*_{str} as follows. *wal*_{uns} highlights an open decision problem about whether a given discourse move ought to be made and/or accepted, what we have described above as illocautionary uncertainty. *wal*_{str} on the hand, highlights an open decision problem about what to do about a prospective negative situation. The discourse move contributed by the rest of the sentence helps provide additional information about the negative situation and/or what actions might be taken in response to it.

This attempt at recasting both analyses as referencing different kinds of decision problems makes salient that both variants of *wal* have a common core: highlighting an open decision problem. At the same time, however, this comparison also makes clear precisely where the two variants differ: *wal*_{str}’s negative evaluative component. *wal*_{str} doesn’t just highlight any old open decision problem in the context, it specifically conveys that the decision problem concerns a pending negative situation which can only be averted by re-solving the decision problem in particular ways. For example, the context in (50) presents a salient decision problem – what to order – but one which does not concern any actual or prospective negative situation no matter how it is resolved.

(50) **Scenario:** At a restaurant, A states that he is hungry, but does not know what to order because all of the dishes on the menu. B has had sikil p’aak (pumpkin seed dip) before and therefore knows whether it is tasty. B offers advice to A:

#Le sikli p’aa-0’ jach ki’ *wal*_{str}-e’
DEF sikil p’aak-DIST very tasty *wal*=TOP
‘Sikil p’aak is be tasty.’

We therefore conclude that a unified synchronic analysis of the two variants of *wal* is not possible. Despite this, we find that the connection between the two variants is not altogether random. Setting aside the negativity of *wal*_{str}, the core difference between the two is reminiscent of that found in a number of discourse particles in unrelated languages. While the specific phonetic distinction varies, a number of recent works on discourse particles cross-linguistically has argued for systematic semantic differences correlated with whether the particle is phonetically marked (i.e. uses which are described variously as ‘stressed’, ‘focused’, ‘accented’, or has ‘rising intonation’) or unmarked (‘unstressed’,
Building on proposals for specific particles or languages (e.g. Davis 2011, McCready & Tawilapakul 2015, Rojas-Esponda 2014), authors such as McCready (2015) and Rojas-Esponda (2015) propose a uniform effect of intonation across a variety of particles with intonational variants. Such a proposal is made in greatest detail by Rojas-Esponda 2015, in (51), focusing specifically on particles which target a decision problem or Question Under Discussion (QUD) in the sense of Roberts (1996) (i.e. an issue that discourse participants are presumed to be mutually endeavored to resolve at any point in the discourse implicitly or explicitly).

(51) **Rojas-Esponda (2015:103)’s particle generalization:**

A discourse particle which has a focused and unfocused variant appears focused if and only if the particle signals a change in the QUD or a change in the previous resolution of a QUD.

Since our analysis of *wal* does not reference the QUD per se, we propose a somewhat broader generalization building on Rojas-Esponda 2015’s proposal (see also McCready 2015) as in (52).

(52) **Principle of intonation and discourse particle:**

a. **Intonationally marked uses:** A discourse particle that has intonationally ‘marked’ and ‘unmarked’ variants appears in the ‘marked’ form when it directly updates the discourse context in some way.

b. **Intonationally unmarked uses:** A discourse particle that has intonationally ‘marked’ and ‘unmarked’ variants appears in the ‘unmarked’ form when it modifies or comments on the contribution of the utterance in which it occurs.

The intonationally marked *walstr* on the analysis proposed above fits the characterization in (52a) since it directly contributes to the context of the speaker’s assessment of a state of affairs as being undesirable, leaving the rest of the sentence’s contribution unaltered. In contrast, the proposed analysis of intonationally unmarked *walins* modifies the way that the utterance’s main update updates the context, indicating the speaker’s uncertainty about whether or not it should take place. While detailed cross-linguistic study of interactions between intonation and discourse particles remains in its infancy, the proposed role of intonation here supports the emerging picture from recent literature on other languages.
While pairs of intonationally distinct discourse particles are cross-linguistically common, this is an initially surprising finding in YM since, as discussed in §2.1, YM doesn’t otherwise make use of stress/deaccenting in any meaning-bearing way (e.g. as English or German do). However, it turns out that even in cases like German and Japanese where prosody affects discourse particles and plays a role elsewhere in the language, previous research has been more or less unanimous in finding that the role of intonation in particles is fundamentally distinct from the same intonational cues elsewhere in the same language (Rojas-Esponda 2015 makes this point perhaps most strongly). Therefore, we may take the interaction of *wal* and intonation in YM as another instance of this general pattern, showing that it extends to languages with quite different prosodic properties outside of discourse particles.

While this principle relates the two variants of *wal* in a principled way, it still does not result in a unified compositional semantics for *wal* across both uses. *wal*<sub>str</sub> conveys the speaker’s negative evaluation while *wal*<sub>uns</sub> has no analogous contribution. As noted above, we still must conclude that synchronically, there are simply two different particles *wal*<sub>str</sub> and *wal*<sub>uns</sub> with irreducibly distinct semantics.

Diachronically, however, there is perhaps more room for optimism. As noted in the introduction, a number of related languages have so-called ‘apprehensive’ morphemes, which simultaneously convey negative evaluative and uncertainty inferences. Furthermore, within this domain, we find cases such Fijian *de/dē/dee*, which Lichtenberk (1995:315-318) describes as having undergone a diachronic process of semantic bleaching from apprehensives to an affectively neutral markers of uncertainty.

An attractive hypothesis, then, is that there was an earlier stage in which *wal* uniformly included a negative evaluative component with intonation following the principles in (52). This earlier form of unstressed *wal*<sub>uns</sub>, then, would be an apprehensive, simultaneously conveying that the stated proposition is possible but not certain and undesirable. At a subsequent stage, the semantic bleaching Lichtenberk (1995) posits for Fijian takes place, leaving us with the attested use of *wal*<sub>uns</sub>. Note also that such bleaching for stressed *wal*<sub>str</sub> would be potentially non-sensical, since the resulting meaning would be to point out that there is some state of affairs which is possible.

This potential diachronic trajectory is made plausible by the cross-linguistic considerations mentioned above, but is only a speculation. Unfortunately, it is likely to remain this way since possibility uses with no negative component are found both in the early colonial YM sources such as the Diccionario Motul (Martínez Hernandez 1929) and even
in the most distantly related Yucatecan language, Mopán, as seen in (53). Additionally, I am not aware of cognates beyond the Yucatecan subfamily that would allow for further comparative work.\(^\text{10}\)

\[(53)\] Dios wal tan u yaant–ic–oo’

God wal PROG A3 help–STATUS–B3PL

‘Maybe God will help them’ Mopán, Ulrich & de Ulrich (1976:235)

In this section, we have explored the prospects for a single unified account of *wal* across sentence types and intonational variants. Looking across sentence types, we have proposed uniform meanings for *wal\_uns* and *wal\_str*, which interact in principled ways with the contributions of declarative and imperative illocutionary moods. On the other hand, we have argued that *wal\_uns* and *wal\_str* cannot be unified synchronically since only the latter has a negative evaluative component. Despite the lack of a compositional semantitic unification, we nonetheless hope to have shown that the two variants are nonetheless related in principled ways which are compatible with a plausible (albeit somewhat speculative) diachronic account of their divergence.

7 Conclusions

In this paper, we have presented a detailed account of the morpheme *wal* in Yucatec Maya. While often described informally as an epistemic possibility modal, I have argued that *wal* is far more complex than this. In particular, the particle can be realized in two distinct intonational variants with quite different communicative effects. In its ‘unstressed’ form *wal\_uns*, it communicates uncertainty about the discourse move encoded by the rest of the sentence. For declaratives, this approximates an epistemic possibility modal, though with

\[^{\text{10}}\] An anonymous reviewer provides an alternative speculation: that *wal* may be derived historically from a first person form of a verb of saying *in w–a’al–ik* A1 EP–say–STATUS (‘I say’ being a rough paraphrase for the unstressed use, ‘I’m telling you!’ for the stressed one). While similar in some ways to the account here, this alternative diachrony crucially lacks a mixed modal stage expressing both components. The lack of comparative evidence means that this alternative cannot be definitively confirmed or disconfirmed any more than the proposal here. However, we note that this alternative is quite a bit more abstract in the sense that the most reduced uses of *a’al* as hedges are forms like *in wa’alike’*, *in wa’ake’*, and (less commonly) *wa’ake’* that differ substantially in form. I’m not familiar with any reduced forms along the lines of ‘I’m telling you!’, but analogous full clausal forms in present day YM would be significantly longer. In short, this alternative is not altogether implausible, but requires substantial additional assumptions about phonological reduction to yield the segmental phonetics of *wal*. Moreover, I presume that this would require two separate sets of such assumptions, one for *wal\_uns* and one for *wal\_str*, since on this hypothesis, these would have different sources.
several key differences. For imperatives, where epistemic modals are often ungrammatical, this precludes the possibility of directive force, typically producing offers, suggestions, and other ‘addressee-oriented’ speech acts. In its stressed form, wal\\textsubscript{str}, it communicates the existence of a negative prospective situation in addition to the discourse move contributed by the rest of the sentence.

Beyond providing a detailed account of a particular discourse particle in Yucatec Maya, the picture we have presented is in many ways illustrative of the challenges that discourse particles often present across languages. First, discourse particles often occur across sentence types with superficially quite different meanings. This variation poses an analytical challenge, but also an opportunity to better isolate the contribution of the discourse particle itself, as we have done here. Second, in order to understand the relationship between the different uses of wal, we have needed to draw upon both synchrony and diachrony.

Finally, we have seen that even in a language where intonation – in particular intonational focus/deaccenting – plays little role outside of discourse particles, intonation can interact with discourse particles in crucial ways. Yucatec Maya wal is thus a particularly striking entry in the growing body of literature showing that intonation may interact in different ways with discourse particles than other elements. More specifically, we have suggested that the account we have proposed fits within a broader pattern in which more prosodically stressed/marked variants of discourse particles refer directly to discourse contexts, while prosodically unstressed/unmarked variants provide meta-commentary on the sentence’s own contribution.

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