

Linguistically establishing discourse context: two case studies from Mayan languages

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1 Introduction

In her recent article, “On the methodology of semantic fieldwork”, Matthewson (2004) describes in detail the primary¹ method of direct elicitation for researcher’s disposal: truth-value and felicity judgment tasks (henceforth, simply ‘judgment tasks’). In these tasks, the researcher presents the native speaker consultant with two things: a **sentence** that the researcher already knows to be grammatical in the language under investigation, and a **context** against which the truth/felicity of the sentence is to be judged. By ‘context’ here, we mean simply the presumed facts of the world and the conversation within which the sentence is uttered. We see this illustrated in (1-2) for the two languages we will work with below: Yucatec Maya and Kaqchikel.²

¹Matthewson, in fact, makes the stronger claim that “these are the only legitimate types of semantic judgment”.

It should be noted as well that Matthewson also accepts the validity of grammaticality judgments themselves, but classifies this as a syntactic judgment, rather than a semantic one.

²Abbreviations used for Yucatec Maya glosses: IMP: imperfective aspect, PFV: perfective aspect, STAT: ‘status’ suffixes, TOP: topic marker, For agreement morphology, we follow the terminological tradition among Mayanists,

- (1) a. **Context:** Another speaker has asked you whether it is going to rain.

b. **Sentence whose felicity is to be judged:**

K-in tukl-ik-e' yan u k'áax-al ja'.
 IMP-A1 think-STAT-TOP will A3 fall-STAT water
 ≈ 'I think it's going to rain.'

- (2) a. **Context:** We have to examine some weavings very closely. One worker looks through half of them one by one. The other looks through the other half one by one.

b. **Sentence whose truth is to be judged:**

Ka'i' samaj-el-a' x-Ø-ki-nik'o-**la'** ri kem.
 two work-AG-PL COM-B3s-A1p-look.through-PLRC DEM weaving
 'Two workers looked through the weavings one by one.'

In this paper, we examine in detail one particular aspect of these tasks: the choice of what language to use for presenting the *context* to the consultant. Note that for the sake of illustration, our example contexts in (1-2) are written here in English, which is neither the language under investigation nor the prevalent language of wider communication in our two case studies. While we recognize that practical and/or sociolinguistic factors (discussed in §2) may prove determinate in any given case, our primary focus is on the more purely linguistic factors which influence this decision. To this end, we present two in-depth case studies from Mayan languages – attitude reports and parentheticality in Yucatec Maya (§3) and distributive pluractionality in Kaqchikel (§4) referring to Set A (≈ Ergative) and Set B (≈ Absolutive) markers, e.g. A3 = 3rd person Ergative. Abbreviations used for Kaqchikel glosses: A: Set A (≈ Ergative), AG: agentive nominalization, B: Set B (≈ Absolutive), COM: completive aspect, DAT: dative, DEM: demonstrative, PL: plural derivation, PLRC: pluractional derivation. Note that for both Yucatec Maya and Kaqchikel, we follow the respective standard orthographies. We refer the reader to the primary works cited in each case study for more details.

– illustrating linguistic factors which may favor one language or the other. Both case studies come from the authors’ own fieldwork experiences. In particular, the (alphabetically) first author has worked regularly with speakers of Yucatec Maya in Mexico and the United States since 2007. The (alphabetically) second author has been doing linguistic fieldwork in Kaqchikel-speaking communities in Guatemala since 2005. (Hereafter, first author and second author will be used to single out the authors in alphabetical order.)

What we hope to show with these case studies is that there is a complex array of linguistic factors one must consider in choosing the language in which to present the discourse scenario. That is to say, there is no hard and fast rule or algorithm to determine what language ought to be used to establish the discourse context for judgment tasks. Therefore, our central conclusion is a methodological one:

(3) Best practices for linguistically establishing discourse contexts in judgment tasks:

1. Researchers should disclose what language was used to establish the discourse context.
2. Researchers should disclose the reasons why a given language was chosen, especially when these reasons are purely linguistic in nature.

Before proceeding, a brief piece of terminology is needed. There are two possible choices of which language³ to use to establish the discourse context: the language which is itself under investigation or some other language spoken by both the research and native speaker consultant. Following Matthewson’s lead we will refer to this first language as the object language—OL—as it is the

³The possibility of establishing the discourse context by non-linguistic means is discussed in §2.

object of study. We will refer to the second language as the ‘language of wider communication’—LWC—following Grenoble & Whaley (2006)’s work on language revitalization.

There are several reasons we prefer this term to other available options. First, as Matthewson notes, her term of choice—‘meta-language’—is already a technical term in formal semantics and logic and therefore may lend itself to confusion. Second, while our term of choice does convey something about the status of the two languages in most fieldwork situations, it avoids the assumptions implicit in terms like ‘contact language’, which seems inappropriate to describe native speaker linguists, since no situation of ‘contact’ is present. We believe that even for native speaker linguists, there may well be semantic/pragmatic research questions where the use of LWC is nonetheless preferable, especially given the widespread bilingualism in many such scenarios.

2 Practical and sociolinguistic factors

As discussed in depth by Matthewson (2004), researchers dating at least to Harris & Voegelin (1953) have suggested that elicitation must always be conducted in the object language in order to avoid influencing the results. Matthewson argues convincingly that this concern is overstated, stating that the use of LWC to establish the discourse context “has only a negligible influence on the consultant”. The central point she makes is that there does not seem to be any evidence that speakers in translation tasks provide sentences which are *ungrammatical* in OL, rather than ones which may be *less frequent* or may have particular pragmatic functions (whether or not these are shared with the original sentence in LWC). This latter possibility does mean that the results of a translation task likely do not provide reliable evidence regarding the frequency of particular structures or word orders. It also is one of the reasons why Matthewson cautions repeatedly that

“translations should always be treated as a clue rather than a result”. However, neither of these caveats gives us reason to doubt that translation tasks from LWC into OL are reliable ways to produce grammatical sentences of OL.

Moreover, even if there were evidence that speakers do in fact produce ungrammatical sentences in OL in translation tasks, this does not necessarily mean that OL must be used to present the discourse context in a truth value/felicity judgment task. Unlike a translation task, judgment tasks do not particularly ask speakers to attend to the details of the *language* used to construct the context, but rather to the *information* it conveys. As we will see in the two case studies we present below, the ability to control this information in a fine-grained way is one of the main factors dictating the choice of which language to use for presenting the context.

Having established that there is no inherent reason why either OL or LWC must be used across-the-board, we turn now to a more detailed examination of the factors that may be relevant for this decision in a given case. Before introducing our two case studies, we first briefly discuss practical and/or sociolinguistic factors which may supersede the linguistic ones in certain circumstances. By practical/sociolinguistic factors, we simply mean factors relating to the circumstances of the particular investigation and investigators in question, i.e. ones which may not be intrinsic to the topic being examined and which may or may not be relevant to potential replications. Given this, we will briefly discuss some of these factors here, though we refer the reader to more general introductions to linguistic fieldwork (e.g. Bowerman (2008); Newman & Ratliff (2001); Sakel & Everett (2012)), as many of these issues are not particular to fieldwork in formal semantics/pragmatics. Before proceeding, we will also briefly discuss the potential for non-linguistic presentation of discourse contexts, which we argue is limited primarily by practical considerations.

2.1 Non-linguistic presentations of discourse context

While we are focused primarily on the choice of which language to use in presenting discourse contexts, we would be remiss not to address a third possibility for presenting discourse contexts: non-linguistic methods such as pictures, videos, figurines, etc. For certain areas of semantic/pragmatic research, this method may well be ideal. However, there are several limitations to non-linguistic presentation of discourse contexts which make it impractical, and maybe even impossible for certain kinds of semantic/pragmatic fieldwork. First, creating videos or animations for establishing contexts non-linguistically can be quite cumbersome logistically compared to creating a brief dialogue of paragraph of text. Obviously, the degree to which this is the case will vary significantly depending on the phenomenon under investigation. For instance, the contributions by Bar-el (2013) and Burton & Matthewson (2013) in this volume show that presenting contexts visually can be quite fruitful for certain investigations.

While the logistics of showing a movie or animation are far less challenging than in the days before laptops and other modern technologies, there may be unforeseen cultural challenges to this methodology. For example, DuBois (1980) describes the many challenges faced in showing the famous “Pear Film” to speakers of Sakapultek (a K’ichean branch Mayan language of Guatemala). The pear story is a six minute film about a group of children who steal some pears, with no dialogue. The researcher asks the participant to narrate the story found in the film in his or her language. Among these challenges was the fact that many of the prospective consultants in the community were members of evangelical Protestant sects that had prohibitions on watching movies (along with dancing and certain other activities), thus straining relations with community members.

Beyond this extreme example, consultants may have trouble understanding the concept of videos, in particular that the events portrayed in them are supposed to be treated as real. For example, in working to elicit evidentials using videotaped scenarios, Wilson Silva (p.c.) reports that a native speaker consultant of Desano (a Tukanoan language spoken in the Vaupés River basin) would consistently use the hearsay evidential, rather than considering the source of the evidence within the video itself. That is, the degree to which speakers mentally situate themselves within the context of the film may vary across cultures, speakers, etc.

Second, careful thought must be given to the question of what aspects of the scenario consultants are paying attention to. Presenting the context non-verbally forces the researcher to include certain information which could otherwise be omitted and makes it more challenging⁴ to ensure that consultants are paying attention to the aspects of the context which are important to the researcher (see Müller et al. (2011)) for an example of this sort from the acquisition literature). The variation across consultants, languages, and cultures in tasks such as the “pear stories” (e.g. Chafe (1980)) also highlights the impracticality of this task for the investigation of particular linguistic forms. Indeed, it is for precisely this reason that the pear stories are useful tools for investigating other higher-level topics such as linguistic and cultural variation in narrative structure.

The above two concerns regarding non-visual presentation of the discourse context do not necessarily argue against the use of non-linguistic discourse contexts altogether. However, they do suggest that they will often be impractical for many researchers and that their use in semantic/pragmatic fieldwork may be somewhat limited. A third concern, however, is far more significant in our view. As researchers in semantics/pragmatics, we are often interested in expressions

⁴There are of course ways of meeting these challenges in some cases, see Bar-el (this volume) and Burton and Matthewson (this volume) for discussion of some such methods.

which are intrinsically related to discourse itself (e.g. the shared or private knowledge of speakers, what has been discussed in prior discourse, etc). That is to say that in cases where the relevant contextual information is crucially *linguistic* in nature, non-linguistic presentation of the discourse context may be quite difficult or even impossible.

Even for contextual information which is not intrinsically linguistic, we often wish to investigate the sensitivity of linguistic expressions to things like *mental states*, which are often not readily represented non-verbally, at least not without devices like ‘thought bubbles’, which (i) might be culturally dependent and (ii) could themselves be more complicated than meets the eye (cf. Abusch (2012)’s work on the intricacies of individual and temporal reference in even simple comics without thought bubbles or the like).

In many cases, the necessary context which we really wish to provide are mental representations of previous discourse and therefore is subject to both worries. For example, in Case Study 1, the crucial context is a Question Under Discussion, or QUD, which is a shared mental representation of the issues being considered by a group of speakers at a given moment in conversation (i.e. the goals of the conversation) as determined in part by prior conversation. In this case, then, the use of non-linguistic means to establish the discourse is likely to be quite fraught (we return to this particular case briefly in §3.2). To sum up, although non-linguistic presentation of discourse contexts may well be a possible and even preferred method in certain cases, there are both practical and substantive reasons why it may be infeasible or impossible in many cases too.

2.2 Practical and sociolinguistic factors favoring the use of OL

The first and most obvious practical reason to use OL is if the native speaker consultant is not fluent or is otherwise uncomfortable using a LWC. For instance, the second author has done elicitation with a woman from Santiago Sacatepéquez (Pa K'im) who speaks Spanish, but came to the language late in life and just does not like it much. She is proud to be Kaqchikel and explicitly dislikes that conversations often “default” to Spanish. To illustrate her feelings, the second author once introduced her in Kaqchikel to a fellow linguist who only spoke Spanish. When the linguist replied to her “please to meet you” in Spanish, the woman turned her shoulder to him and continued the entire conversation in Kaqchikel. It would be impossible to work with this speaker in LWC, not because she would not necessarily understand, but because she would not want to do the work through the medium of Spanish. Regardless of any purely linguistic reasons to present contexts in LWC, this would be a case where OL is clearly to be preferred for sociolinguistic reasons.

Beyond this, the use of the OL for talking about the linguistic data at hand (i.e. for metalinguistic uses) frequently yields more speaker commentary in OL, which is often illuminating and can reveal new phenomena to investigate. In principle, it would be possible to present discourse contexts in LWC, but use OL for metalinguistic discussion. However, such a split does not seem to be a likely state of affairs. In our experience, it generally is the case that whatever language is used for the discourse context (and other sorts of meta-linguistic discourse such as describing the task itself) is the language that the consultant will most naturally use for metalinguistic discussion (though of course individual consultants will vary in their preference).

As in the case above, the use of the LWC may at times be met with hostility or otherwise make consultants less comfortable than would the use of OL. Depending on the researcher’s fluency in

OL, the use of LWC as a basis for translation of the context into may be inescapable. However, once a given context has been translated into OL, it may again be possible to simply present the context in OL, avoiding the need for LWC. This may make the use of OL somewhat more challenging logistically, but does not in principle force the use of LWC.

One final potential practical reason for favoring the use of OL is if language documentation is a concurrent goal of the research. In addition to producing more metalinguistic commentary in the OL as discussed above, this method may aid documentation in two further ways. First, if the researcher is not fluent in OL, the translation of the contexts themselves provides additional material in the language. Second, to the extent that it is true that the choice of OL for the discourse context does produce more natural (though equally grammatical) target sentences, as discussed in the beginning of this section, the resultant sentences may provide a more natural picture of the language as it is used. That said, translations are less than ideal forms of language documentation, so this benefit may not be worth the time and other resources it takes.

2.3 Practical and sociolinguistic factors favoring the use of LWC

Just as we saw for OL, perhaps the most compelling practical factor favoring the LWC is the level of fluency of the researcher in OL. If the researcher is less than fluent in OL, this may result in unnatural or unintelligible discourse contexts in OL. While this problem is surmountable in principle by predetermining the felicity of the discourse contexts in OL, this may prove a significant burden in practice. Relating to this is the fact that even if the researcher is fully bilingual, it is generally (though not always) the case that crucial linguistic constructions used in the discourse context have been more well studied in LWC. In such a case, the use of OL may result in a discourse

context which contains unintended ambiguities or otherwise fails to produce exactly the intended meaning.

Consider Kaqchikel, for instance. Though the second author is a good second language speaker, building a context that required carefully manipulating the discourse properties of definite DPs would be too difficult for him to do in OL. The difficulty is that the definite article in Kaqchikel has a wide distribution. It can co-occur with names, the indefinite article, and in some first-mention NPs. While English and Spanish allow some of these co-occurrences, it is not hard to find examples that just do not sound right when they are directly translated into either of these languages. The fact is that the second author just does not understand the meanings of definite DPs well enough, from either a formal or informal perspective, to be sure that all of the relevant factors could be controlled for. Here it would be safer to use LWC. By taking the other route, we would risk creating an infelicitous discourse context or one whose properties are not completely understood.

2.4 Indeterminacy of practical and sociolinguistic factors

In some cases, the aforementioned practical and/or sociolinguistic factors may well force the researcher's hand as to which language is to be used for the discourse context. However, since many fieldwork situations are characterized by heavy bilingualism, these factors will frequently not provide a definitive answer. In cases where these factors are not determinate, then, purely linguistic factors have an important, yet complex, role to play.

As we will see in the two case studies, there is no single procedure for determining whether to use OL or LWC. Rather, the researcher must give careful thought to the inventory of linguistic features in the two languages which is relevant for the particular question at hand. We believe

that the decision of which language to use for linguistically establishing the discourse context is rooted in Jakobson (1959)'s oft-quoted observation that "languages differ essentially in what they *must* convey and not in what they *may* convey". That is, the language chosen will oblige the researcher to include certain information in the discourse context. If the researcher wishes to omit this information from the context (i.e. wishes to underspecify the context), then this will force the use of one language or the other. Conversely, if the language chosen lacks a grammaticized way of encoding a particular kind of information, it may be cumbersome (though possible in principle) to include this information in the discourse context. In the remainder of this paper, we present two case studies illustrating these two pressures.

3 Case study 1: Attitude reports in Yucatec Maya

Thus far, we have discussed a variety of practical and sociolinguistic factors which can influence the choice of how to present discourse contexts to speakers. While researchers certainly must keep these factors in mind, we turn now to our principle focus: the purely *linguistic* factors which influence this decision. As noted in the introduction, these factors are often intertwined with the particular semantic/pragmatic research question being addressed. For this reason, we find that detailed case studies will be the best way to demonstrate the key issues involved. §5 will make some attempt to generalize across various cases, but as stated at the outset, our principal claim is simply that the choice of which language is to be used for establishing discourse context is a vital part of the research methodology of any given study and therefore ought to be disclosed and discussed in semantic/pragmatic fieldwork.

3.1 The phenomenon

The first case study reports on ongoing research by the first author on the syntax, semantics, and pragmatics of attitude reports in Yucatec Maya (YM)⁵. See AnderBois 2011, 2012 for further detail on these constructions and their analysis.

In addition to several other constructions which we do not consider here, YM has the two kinds of attitude reports seen in (4). Descriptively, we will refer to examples like (4a), where the topic marker *-e'* does not appear, as BARE CLAUSE reports and refer to examples like (4b), where it does appear, as TOPIC + CLAUSE reports.

- (4) a. K-in tukl-ik yan u k'áax-al ja'.
 IMP-A1 think-STAT will A3 fall-STAT water
 ≈ "I think it's going to rain." BARE CLAUSE
- b. K-in tukl-ik-e' yan u k'áax-al ja'.
 IMP-A1 think-STAT-TOP will A3 fall-STAT water
 ≈ "I think it's going to rain." TOPIC + CLAUSE

In terms of the surface string, then, the two sentences differ only the absence or presence of the clause-final clitic *-e'*. Outside of attitude reports, *-e'* occurs in a wide variety of topic constructions in the language, including individual topics, (5a), temporal topics, (5b), and conditional antecedents, (5c).

- (5) a. A kiik-e' t-in wil-aj jo'oljeak.
 A2 older.sister-TOP PFV-A1 see-STAT yesterday
 'As for your big sister, I saw her yesterday.' Brody (2004)
- b. Jo'oljeak-e' t-in wil-aj a kiik.
 Yesterday-TOP PFV-A1 see-STAT A2 older.sister
 'Yesterday, I saw your big sister.' Brody (2004)

⁵See §3.2 for demographic and sociolinguistic information about the language.

- c. Wáa k-u jant-ik ba'al Juan-e' k-u weenel.
 if IMP-A3 eat-STAT thing Juan-TOP IMP-A3 sleep
 'If Juan eats something, he falls asleep.'

In terms of their semantics, the two types of attitude reports in (4) appear to have approximately the same truth-conditions. This rough equivalence is supported by the results of a translation task from Spanish. When speakers were presented with a Spanish sentence *Pienso/Creo que va a llover* 'I think/believe that it will rain.', they produced either (4a) or (4b) in similar frequency to one another. Based on such observations, previous literature (Hanks, 1990; Bohnermeyer, 2002; Verhoeven, 2007; Gutiérrez-Bravo, 2010) has taken TOPIC + CLAUSE and BARE CLAUSE attitude reports to be equivalent in their semantics and has further assumed that they are equivalent in their syntax as well. That is to say, that the presence or absence of *-e'* has been treated as a case of more or less free variation.

While these assumptions are, of course, consistent with the data thus far, there is reason to expect that any semantic differences between the two forms would be non-truth-conditional in nature. Indeed, this seems to be quite clearly the case for individual topics, as the comparison between (6) – where no topic is present – and the topicalized sentences in (5a) and (5b) makes clear. The propositional content of all three sentences is identical.

- (6) T-in wil-aj a kiik jo'oljeak
 PFV-A1 see-STAT A2 older.sister yesterday
 'I saw your older sister yesterday.'

Brody (2004)

As Matthewson (2004) argues in detail, however, non-truth-conditional meaning is often ignored by speakers in translation tasks. Therefore, the apparent truth-conditional equivalence of the TOPIC + CLAUSE and BARE CLAUSE constructions revealed by the translation task is also consistent with there being a systematic non-truth-conditional difference in the semantics of pairs

like (4).

Outside of attitude reports, topics both within YM and across languages are often described as being “backgrounded”. There are a variety of different ways of understanding what is meant by this term and there of course cross-linguistic variation in how topics behave. Here, we pursue the specific hypothesis that the topic marker *-e*’ in YM marks information that is “backgrounded” in the sense of being semantically *not-at-issue*. We adopt the now commonplace assumption that discourse is structured around a hierarchically organized set of Questions Under Discussion or QUDs (e.g. Roberts 1996). The basic idea is that whether or not a given utterance responds to an overt question, speakers rely on the assumption that there is nonetheless some implicit question whose resolution is their immediate goal. This allows us in turn to characterize *at-issueness* in terms of the QUD as follows (see Simons et al. 2011; AnderBois et al. 2011, and others for related discussion):

- (7) Only semantically **at-issue** content can felicitously respond to the (immediate) QUD.

To take a concrete example, AnderBois et al. (2011) claim that appositive relative clauses are semantically (i.e. conventionally) marked as not-at-issue, with main clause material, such as that underlined in (8), being at-issue. The generalization in (7), then, holds that (8) can be felicitously used to respond to a QUD about who is being treated at the hospital, but not respond to a QUD about what disease Tammy’s husband has. This is not to say that all of the at-issue content necessarily resolves a QUD, simply that it has this potential.

- (8) Tammy’s husband, who had prostate cancer, was being treated at the Dominican hospital.

The hypothesis we wish to test, then, is that TOPIC + CLAUSE and BARE CLAUSE reports differ in the QUDs to which they (most) felicitously respond. In particular, our proposal that *-e*’

marks not-at-issue content leads us to expect that the two forms in question will differ in what part of the sentence can naturally be used to respond to the QUD, as seen in (9) (material which is hypothesized to be semantically at-issue is underlined).

- (9) a. K-in tukl-ik yan u k'áax-al ja'.
 IMP-A1 think-STAT will A3 fall-STAT water
 ≈ “I think it's going to rain.” BARE CLAUSE
- b. K-in tukl-ik-e' yan u k'áax-al ja'.
 IMP-A1 think-STAT-TOP will A3 fall-STAT water
 ≈ “It's going to rain, I think.” TOPIC + CLAUSE

To test this hypothesis, consultants were asked to judge the felicity of attitude reports of the two sorts in various discourse contexts which differ in their QUDs. Returning to our central concern of methodology, the question is how the QUD ought to be presented to consultants: in the LWC, Spanish, or in the OL, Yucatec Maya⁶. Before examining the semantic/pragmatic factors influencing this decision in §3.3, we first present a brief discussion of practical and sociolinguistic factors at play.

3.2 Sociolinguistic and practical factors in Yucatec Maya

According to the 2005 census report on indigenous languages (INEGI, 2009), Yucatec Maya (known to speakers as *maaya t'aan* or more commonly, *maaya*) is spoken by an estimated 759,000 speakers throughout the Yucatán peninsula. While there are sizable populations in all three states of the peninsula (Campeche, Quintana Roo, and Yucatán), the census reports that only 5.3% are monolinguals. One notable point of variation in rates of monolingualism is gender: 6.6% of female speakers are monolinguals, whereas only 4.0% of male speakers are monolinguals. The most

⁶The relative impracticality of non-linguistically establishing the QUD in this case is discussed some in §3.3.

significant factor determining rates of monolingualism (and to a lesser extent the total number of speakers) is economic region. Pfeiler & Zámešová (2006) report (based on slightly older data) that the percentage of monolingual speakers is highest in the corn and citrus growing areas, somewhat lower in the livestock and henequen (agave fiber) producing regions, and essentially zero in coastal regions where fishing and, increasingly, tourism are the primary economic activities.

Across all regions, though, intergenerational transmission of the language is on the decline. Children are still learning the language (alongside Spanish), but the rate at which it is being learned is declining (see Pfeiler & Zámešová 2006 for details and discussion of the various reasons for this decline). In sum, while the number of speakers and intergenerational transmission of the language are large enough that the language is considered “safe” according to most criteria for language endangerment, its long-term vitality will depend on achieving a stable bilingualism.

It is certainly possible, therefore, for researchers to find monolingual consultants if this is desired. However, it is also the case that YM-speaking regions of the Yucatán are typified by high rates of bilingualism. Therefore, most potential consultants are accustomed to regularly speaking both languages and more or less equally comfortable in both languages.

The consultants for the case study described here are 7 undergraduate students in the *licenciatura en lingüística y cultura maya* (“Program in Maya Language and Culture”) at the Universidad de Oriente in Valladolid, Yucatán. All 7 consultants were native speakers of YM and are also natively fluent in Spanish. In informal conversations (e.g. between classes, at lunch time), consultants consistently use both languages, with the exact mixture varying significantly by individual and the surrounding social setting. While all of the students in the program are native or heritage speakers of YM, the coursework is conducted primarily in Spanish. The upshot of this is that the consultants for this study are not only fluent in LWC, they are comfortable using LWC to

talk about OL.

Given the sociolinguistic situation of YM and the linguistic background of the consultants for this particular study, the use of either Spanish or YM is both practical and culturally appropriate. Therefore, it seems safe to say that practical and sociolinguistic factors are indeterminate in this case. As we noted in the introduction, this sort of widespread bilingualism is far from rare when dealing with endangered and understudied languages. While particular circumstances may lead to one language or the other being strongly preferred, the indeterminacy we see in the case of Yucatec Maya is not at all uncommon.

3.3 The test

Thus far, we have seen that YM has two types of attitude reports which differ superficially in the presence or absence of the topic marker, *-e'*. We seek to test the hypothesis that despite their apparent truth-conditional equivalence, the two forms differ not just in this superficial way, but also in what sorts of QUDs they most readily respond to in discourse (again, see AnderBois 2012 for further details and analysis). To test this hypothesis, then, we need to present consultants with discourse contexts which establish particular QUDs and test which forms are (most) felicitous in these contexts.

Since QUDs need not be implicit, the clearest way to linguistically establish a QUD is to construct a dialogue where Speaker A asks Speaker B an explicit question with the native speaker consultant acting as Speaker B. Before proceeding to the question of whether to use the OL or the LWC (Yucatec Maya or Spanish), we will first briefly discuss the prospects of non-linguistically establishing this context. Since the QUD by its nature is concerned with discourse itself, it cannot

be directly established by non-linguistic means. However, it is possible to present non-linguistic scenarios such that particular issues are more salient and therefore presumably ought to be more likely QUDs in discourses about the scene.

Lewis et al. (t.a.)’s work on the interpretation of attitude reports by English-speaking children uses exactly such a technique. They perform two experiments where children are asked to perform a truth-value judgment task, differing in the non-linguistic context. The non-linguistic context for both experiments involves an animation of a hide-and-seek game where a character on the screen, Swiper, has hidden somewhere. The target sentence would be something like “Dora thinks that Swiper is behind the toy box.” and the child is asked whether the sentence is true or false in the animation. In order to establish different QUDs in the two experiments, then, Lewis et al. (t.a.) manipulate whether there is a single seeker, Dora, or multiple seekers, Dora and some other character. The plausible assumption being made is that when there is a single seeker, children take the most relevant aspect of the animation to be whether or not the seeker is right, while in the case with multiple seekers, the differences between the *beliefs* of the seekers become more salient.

While the study does suggest that it is possible to produce different QUDs non-linguistically, applying this method in a fieldwork setting is subject to the potential drawbacks mentioned in §2.1, and in particular the concern that the QUD is an intrinsically discourse-related notion. While clever scenarios like this hide-and-seek game (or more adult-appropriate variations) may make a given QUD more likely, they potentially introduce uncertainty about what the participant takes the QUD to be. While such complications are likely necessary for working with children, this uncertainty can be avoided with adult speakers by using an overt question to produce the QUD, since the relationship between these is quite direct.

Returning to linguistic means of establishing the QUD, the central question is which language

we should use to do it. Here, there is a clear linguistic reason to favor the use of Spanish, the LWC: it is difficult or impossible to avoid the use of the target constructions in the description of the discourse context itself. To see this, let's first look in depth at the task and results obtained using LWC to establish the discourse context.

Consultants were presented with an overt question in Spanish as the QUD having to do either with the attitudinal object⁷ (in (11-12), the rain itself) or the mental state of some attitude holder. In addition to this background, consultants were presented with a set of four possible responses. First, two additional types of attitude reports, (10), were used as filler items. While we leave the analysis of these forms to future work, they appear to differ truth-conditionally from the two test items as indicated in the glosses.

(10) Filler attitude reports

- a. ??K-in tuklik u k'áax-al ja'.
IMP-A1 think A3 fall-STAT water

'??I plan for it to rain.'⁸

DEPENDENT CLAUSE

- b. K-in tuklik káa k'áax-ak ja'.
IMP-A1 think for rain-SUBJ water

'I think/fear it could rain'

IRREALIS CLAUSE

In addition to these fillers, consultants were presented with the two test items, the TOPIC + CLAUSE and BARE CLAUSE attitude reports. Speakers were then asked⁹ to judge two things:

⁷We use this term rather than "complement clause" to remain neutral here as to its syntax. Indeed, AnderBois (2012) argues that the BARE CLAUSE does involve syntactic complementation, while the TOPIC + CLAUSE does not.

⁸This example happens to be pragmatically odd because it sounds like the speaker must be god-like in order to control the rain.

⁹These instructions themselves were generally given primarily in Spanish, though for reasons of expedience (i.e. the researcher is more fluent in Spanish than YM and participants were equally fluent in both) rather than anything

(i) the naturalness/appropriateness of each response given a particular QUD, (ii) which response is the best one, again given the QUD. With respect to task (i), speakers varied a good deal with some speakers generally accepting both forms regardless of QUD and others indicating the pattern of judgments indicated below. With respect to task (ii), however, speakers were more or less unanimous that there was an asymmetry between the two reports and that this asymmetry matches the judgment offered by some speakers in task (i). These judgments were as follows:

(11) **Question:** *¿Va a llover?* ('Is it going to rain?')

- a. K-in tukl-ik-e' yan u k'áax-al ja'.
 IMP-A1 think-STAT-TOP will A3 fall-STAT water
 'It's going to rain, I think.' TOPIC + CLAUSE
- b. # K-in tukl-ik yan u k'áax-al ja'.
 IMP-A1 think-STAT will A3 fall-STAT water
 'I think that it's going to rain.' BARE CLAUSE

(12) **Question:** *¿Piensas (tú) que va a llover?* ('Do you think it's going to rain?')

- a. #? K-in tukl-ik-e' yan u k'áax-al ja'.
 IMP-A1 think-STAT-TOP will A3 fall-STAT water
 'It's going to rain, I think.' TOPIC + CLAUSE
- b. K-in tukl-ik yan u k'áax-al ja'.
 IMP-A1 think-STAT will A3 fall-STAT water
 'I think that it's going to rain.' BARE CLAUSE

If the question and therefore the QUD has to do with the rain itself—the attitudinal object—the BARE CLAUSE is dispreferred by all and marked as entirely infelicitous by some.¹⁰ If the

substantive.

¹⁰The fact that the BARE CLAUSE in (11b) is actually rejected does not follow directly from the division of at-issue content. For example, the English gloss we have given to (12b) is felicitous in response to both sorts of QUDs (Simons

question/QUD has to do with the mental state of the speaker herself, the TOPIC + CLAUSE is dispreferred, whereas the BARE CLAUSE is judged optimal.

Taken together, these judgments provide clear support for the hypothesis that TOPIC + CLAUSE and BARE CLAUSE reports differ in their at-issue content, as defined by the QUDs to which they (most) felicitously respond. Had the presence or absence of *-e'* simply been a matter of truly free variation (as other authors seem to suggest), there is no reason to expect that the choice of form would vary with the QUD in the way we have found.

Given the subtlety of these judgments, there are two methodological aspects worth highlighting which are unrelated to the choice of language for the QUD. First, the study used judgments from 7 native-speaker consultants, a relatively large number for traditional fieldwork methods. Second, in addition to judging the felicity of the sentence, speakers were asked to judge the relative felicity of the test items in the context. The results from this additional task strongly suggest that the grammar of all participants differentiates the forms in question, despite the variation in response to task (i).

Having seen the basic empirical results obtained using the LWC, Spanish, to present the discourse context, we can ask ourselves: what would have happened if we had instead used the OL, Yucatec Maya, for this purpose? To do this, we would, of course, have to construct the relevant QUDs in YM. The problem we face, though, is that questions about attitudes necessarily involve the use of attitude reports. And attitude reports in YM necessarily involve one of the constructions under investigation. The result is that questions about attitude reports also make use of either the TOPIC + CLAUSE or BARE CLAUSE forms, as seen in (13). As noted above, consultants do not necessarily attend to the difference between these forms in translation tasks, and therefore may

2007 and references therein). In AnderBois 2012, this infelicity is attributed to pragmatic competition between TOPIC + CLAUSE and BARE CLAUSE forms, rather than semantic at-issueness.

provide either of the two forms or both.

- (13) a. K-a tukult-ik-wáa yan u k'áax-al ja'?
- IMP-A2 think-STAT-Q will A3 fall-STAT water
- ≈ 'Do you think it will rain?' BARE CLAUSE
- b. K-a tukult-ik-e' yan-wáa u k'áax-al ja'?
- IMP-A2 think-STAT-TOP will-Q A3 fall-STAT water
- ≈ 'Do you think it will rain?' TOPIC + CLAUSE

There are two problems, then, with using these forms to provide the question/QUD for a felicity judgment task. First, while the translation task confirms that both these forms are grammatical, we still do not know precisely what they mean. Given this, regardless of which form we choose, the discourse context will contain whatever information it is that *-e'* (or its absence) conveys. Even if we do the test twice, using both forms as the QUD, the context will still convey certain things and we as the researchers will not know a priori what these will be since this is exactly the research question we are investigating.

Second, if we did find that speakers show preferences for including or not including *-e'* in the target items, we can't really know that this result is due to the semantics/pragmatics of the QUD as we have hypothesized, or is due more directly to its form. It is worth recalling here that the position of the previous literature was that the presence/absence of *-e'* was not indicative of a syntactic/semantic/pragmatic difference, but was free variation of some sort. If the presence of *-e'* were simply free variation, we might then expect that questions with *-e'* would still receive responses with *-e'* and that questions without *-e'* would receive responses without *-e'*. While this result would be consistent with our hypothesis, it could also be explained by appeal to a low-level priming or entrainment effect or to a syntactic requirement of the question-answer relationship.

3.4 Lessons from Case Study 1

In this case study, we have seen that there is a compelling linguistic reason to prefer the use of the LWC, Spanish, to establish the discourse context, rather than the OL, Yucatec Maya. As stated earlier, this preference stems from Jakobson's observation that "languages differ essentially in what they *must* convey and not in what they *may* convey". In YM, attitude reports in both assertions and questions must indicate whether the attitude is at-issue or not through the use (or non-use) of the topic marker, *-e'*. Since the relevant context for the felicity judgment task involves a QUD about an attitude, using OL for this obliges the researcher to express this difference in the context. In Spanish (like English), attitude reports with embedding (e.g. *Creo que va a llover*. "I think it will rain.") are regularly used for both purposes. That said, both languages do have parenthetical attitude constructions, such as Slifting – as in (14) from Haverkate 2002 – and therefore *can* semantically encode this distinction (or at least a similar one). However, unlike in YM, the use of an embedding attitude report does not itself convey whether the attitude is parenthetical or not.

(14) Esta señora está vinculada, **creo**, a la mejor burguesía local

"This lady is linked, **I believe**, to the upper local middle class."

Note that this is one case where translation tasks, in fact, revealing or at least suggestive. The fact that consultants frequently provide TOPIC + CLAUSE reports as translations of ordinary embedding attitude reports in Spanish reflects the salience of the construction in the language. In contrast, it is hard to imagine an English or Spanish speaker providing a sentence with Slifting in such a task. In AnderBois (2012), the first author argues that this salience plays a crucial role in creating Gricean competition between the two forms in YM. In contrast, upon hearing an embedding attitude report in English or Spanish, the corresponding Slift is not a pragmatic

competitor.

One final point to stress is that the fact that OL obliges the use of one of the target forms is not a peculiarity of this example, but is something one encounters quite frequently. For example, Matthewson (2004) discusses a quite similar situation arising in a study of clefts in St'át'imcets. Another similar example of this dynamic in a quite different empirical domain can be found in Cable (t.a.)'s work on "graded tense" in Gĩkũyũ, a Bantu language spoken in Kenya. The language distinguishes three different morphemes which are traditionally described as Current Past (event occurred earlier today), Near Past (event occurred recently, but not today), and Remote Past (event did not occur recently).

One of the key empirical questions Cable addresses is which of these past forms is appropriate in case the speaker is uncertain when in the past the event took place. To do this, consultants are provided with a context in English (the LWC) which describes visiting a friend's house and seeing a new TV and indicating "You have no idea when he bought the TV." The target utterances for the felicity judgment task, then, are three questions in Gĩkũyũ, each translated as "When did you buy that TV?", but differing in which of the three past tense forms is used. Had Gĩkũyũ, the OL, been used to establish the discourse context, the Gĩkũyũ translation of *bought* would itself have to be marked with one of the three past tense morphemes since this distinction is obligatory in the language. Just as in Case Study 1, then, the use of the LWC allows the researcher to avoid including certain information in the context and avoid using the target forms in a natural way.

4 Case study 2: Distributive pluractionality in Kaqchikel

The previous section presented a clear case where LWC is the right choice for setting up a judgment. The problem with OL was that it made distinctions that LWC did not, meaning the former could not be used without using the target forms in the context itself. In this section, we consider examples where the relationship between LWC and OL is similar, but making the fine distinctions available in OL is necessary for setting up the judgment. In particular, we will see that OL makes distinctions that are hard to encode in LWC (either in principal or for practical reasons), but controlling these distinctions is critical for determining the source of a negative judgment, thus necessitating the use of OL.

4.1 The phenomenon

Our second case study grows out of ongoing work on pluractionality in Kaqchikel conducted by the second author, which has been reported on in Henderson (2011) and Henderson (2012). These works, especially the latter, present the data and their analysis in detail.

A strict definition takes pluractionality to be verbal derivational morphology that generates predicates which cannot be satisfied in single event scenarios (Cusic, 1981; Wood, 2007). Kaqchikel has a variety of pluractional morphemes, but one in particular, shown in bold below, forces distributive readings of plural internal arguments. One way to think of *-la'* is that it ensures a plurality of events by requiring the internal argument to be interpreted distributively.

- (15) a. X-e'-in-q'ete-j' ri ak'wal-a'.
 COM-B3p-A1s-hug-TV DEM child-PL

“I hugged the children.”

DIST/COLL

- b. X-e'-in-q'ete-**la'** ri ak'wal-a'.
 COM-B3p-A1s-hug-PLRC DEM child-PL

≈ “I hugged the children one by one.”

≈ “I hugged each child”

≈ “I hugged the children individually”

DIST

i.e., False if I give the children a group hug.

Faced with a morpheme like *-la'*, we wish to determine the similarities and differences between pluractional distributivity and other kinds of expressions that force distributive readings of nominal arguments. For example, one dimension along which distributive expressions can vary is whether they also allow for cumulative readings (Schein 1993, among others). To take an example from English, although *every* and *each* are arguably both universal quantifiers, the former but not the latter, can have the scopeless cumulative reading in object position. That is, both (16a) and (16b) have the wide scope universal readings, namely, for each mistake there are three (possible different) copy editors who caught it (individually / collectively). They both also have the narrow scope universal reading, namely, there are three copy editors who (individually / collectively) caught every mistake in the manuscript. But only the sentence with *every* can be true in the cumulative context in (16).

(16) Suppose that, between them, 3 copy-editors caught all the mistakes in a manuscript.

- a. Three copy editors caught every mistake in the manuscript.
- b. #Three copy editors caught each mistake in the manuscript.

We now want to know whether the distributive dependencies established by *-la'* are more like those accompanying *each* or *every*, which would provide important evidence for its analysis. We can test for cumulative readings of distributively interpreted internal arguments of pluractional

predicates using a simple test for entailment. As in case study 1, however, the question arises: should the context be presented in LWC or OL, namely, Spanish or Kaqchikel? Before presenting our answer, first let's consider some of the sociolinguistic and practical factors as they are in some ways different than in Yucatec Maya.

4.2 Sociolinguistic and Practical Factors for Kaqchikel

Kaqchikel is a K'ichean branch Mayan language spoken in the western highlands of Guatemala to the east of lake Atitlán. Kaqchikel has well over 500,000 speakers, with most being bilingual in Spanish (Richards, 2003). While Kaqchikel is threatened, it is not endangered. Despite systematic, state-sponsored violence against Mayas in recent decades, including Kaqchikel speakers, there is a high rate of intergenerational transmission, especially in rural communities (Richards, 2003). In these same communities it is still quite easy to find monolingual Kaqchikel speakers and speakers who are otherwise uncomfortable speaking Spanish. Moreover, even in towns where Kaqchikel had been on the decline there is a resurgence in interest in the languages, especially among heritage speakers (Maddox, 2011). There is also now a constitutional right to access to education in Mayan languages, as well as an independent directorate for Mayan language education, DIGEBI (Maxwell, 2011), and an active umbrella organization for community- and parent-directed private Kaqchikel languages schools (Greebon, 2011).

Thus, while either LWC or OL could be used most of the time in principle, there are strong forces at work in Guatemala to make conducting fieldwork in Kaqchikel the preferred choice. In rural areas, speakers are often significantly more dominant in OL, but in urban areas, where LWC is more widespread, speakers express the conscious preference to live and work in Kaqchikel as

a statement of being Maya. These preferences carry over to the mechanics of doing fieldwork, namely building discourse contexts.

The consultants for the study we report on here are 4 native speakers of Kaqchikel, all 30+ years old, and all of whom are proficient in Spanish. That being said, none of the participants particularly like to speak in Spanish. For instance, the second author has witnessed three of the speakers continue to use Kaqchikel in conversations with monolingual Spanish participants present. From a practical standpoint, therefore, either language could be used. From a sociolinguistic standpoint, Kaqchikel is preferred.

4.3 The test

Recall that Kaqchikel has a pluractionality marker *-la'*, which generates distributive entailments about an argument. We want to know whether this argument can be interpreted cumulatively with respect to a higher-scoping quantifier. The relevant test that must be run is a truth value judgment task relative to a context, where the context describes the cumulative scenario. The following context–sentence pair exemplifies the kind of test that was run. The context was presented in Kaqchikel, followed by a Kaqchikel test sentence. We then asked whether a speaker would have been speaking truthfully had she said the test sentence in the context described. It is particularly important to note that not only do we use OL to present the context in (17), but that the context contains the construction *-la'* itself. Thus, everything is reversed from the first case study, where LWC was avoided precisely to avoid using the OL construction under investigation. Both of these choices will be defended in what follows.

- (17) K'o chi niqanik'oj jujun täq kem ütз ütз. Jun samajel xnik'ola' nik'aj. Jun chik samajel

xnik'ola' nik'aj chik. *We have to examine some weavings very closely. One worker looks through half of them one by one. The other looks through the other half one by one.*

- a. Ka'i' samaj-el-a' x-Ø-ki-nik'o-la' ri kem.
 two work-AG-PL COM-B3s-A1p-look.through-PLRC DEM weaving
 “Two workers looked through the weavings one by one.”

The test sentence (17a) is judged true in the context in (17), showing that distributively interpreted objects of pluractional sentences can have cumulative interactions with subject quantifiers. The reason is that the distributive surface scope reading of (17a) is false in the context in (17) because each worker did not examine all of the weavings individually.¹¹ Similarly, the collective surface scope reading of (17a) is also false since the two workers did not, as a group, examine each individual weaving. The inverse scope readings are similarly false because there are at most two workers in the given context. The only available reading for (17a) in this context is the cumulative one, which all 4 speakers agree it has.

Having seen the basic set-up for the truth value judgment task, we can ask what would have happened had the context been presented in LWC, Spanish? Note that in setting up the context, we would have to paraphrase the pluractional predicate. We have a few choices: *uno por uno*, *individualmente*, *separadamente*, etc. While all of these options are close – with “uno por uno” *one by one* probably being the closest – none of these distributors completely overlap with *-la'*. For instance, *-la'* can distribute over parts of an atomic individual, while the proposed Spanish translations cannot.

- (18) X-Ø-u-k'utu-la' ch-w-e' ri jun kem.
 COM-B3s-A3p-show-PLRC P-A1s-DAT DEM one weaving

¹¹The demonstrative *ri* ensures that the object denotes the maximal set of weavings salient in the context. Without the demonstrative, that is, with a bare plural object, this reading of (17a) would be true in the relevant context.

“He showed me (the various parts of) the weaving one by one.”

- (19) *Me mostró el tejido uno por uno.
 DAT.1s show DET weaving one by one
 “He showed me the weaving one by one.”

- (20) *Me mostró el tejido individualmente.
 DAT.1s show DET weaving individually
 “He showed me the weaving individually.”

The general problem is that Spanish and Kaqchikel divide up the space of distributive meaning in different ways, making simple direct paraphrases difficult. We cannot select any of the candidate translations without failing to capture part of the meaning of *-la'*. Suppose we ignored this problem and used LWC to set up the context anyway. The problem is that if the entailment did not go through, it would not be possible to tell if it were due to a lack of cumulative readings or an inadequate paraphrase. By using OL, we can be sure that the entailments follow from the semantic contribution of the relevant construction.¹²

While we cannot safely use LWC to present the context in this situation, could we have established the discourse context visually? While it is possible to do this, it's important to note that we actually run into a related problem that significantly complicates the process of doing so. To represent the context in (17), for instance, we would need video or a series of pictures of two people inspecting weavings. How should we depict those people inspecting weavings? This is actually a serious problem because pluractionals like *-la'* have non-trivial cardinality and manner components. For instance, *-la'* usually requires, not just distributivity, but a large cardinality of

¹²Another option, of course, is to just enumerate inspecting events in Spanish, e.g., *John inspected weaving 1, John inspected weaving 2, John inspected weaving 3. Mary inspected weaving 4, John inspected weaving 5*, etc. The primary problem with this tack is that it gets cumbersome fast, both for the investigator and the speaker.

events of the appropriate type. If our video showed people inspecting weavings, but they did not happen to inspect enough, the test sentence would be rejected, regardless of the facts concerning cumulativity. Thus, in order to use non-verbal methods to investigate the interaction of *-la'* and higher scoping quantifiers, we first need an adequate account of the semantic interaction between *-la'* and various verbs. There are ways to get around this, of course. We could give speakers the context as a script, and have them act it out for later presentation to subjects. At that point, though, we might as well give the script to the subjects as the context, which is exactly what we do in (17).

4.4 Lessons from Case Study 2

Our second case study presents strong linguistic arguments, going far beyond the sociolinguistic factors, for presenting the context in OL. The issue is that OL, Kaqchikel, makes distinctions that are hard to make via simple direct paraphrases into LWC. If setting up the context requires making such a paraphrase, we cannot safely use LWC. The problem cuts to the heart of truth value judgments in a context. If a speaker accepts a sentence in a context, we know that it is both true and felicitous. If a speaker rejects a sentence, it could be false or infelicitous for a variety of reasons, some of which the investigator might not be expecting. By using OL in examples like those above, we can more carefully control the factors that might lead to the rejection of a sentence.

Although we have only presented one example, the problem of adequate paraphrases is widespread. It arises particularly often when we are interested in the entailments of particular open-class lexical items and their derivations. Consider, for instance, a second type of pluractional contributed by the morpheme *løj* in (21) and discussed in detail in Henderson (2012).

- (21) X-Ø-e-b'oj-løj ri aj.
COM-B3s-A3p-show-PLRC2 DEM fireworks

“The fireworks kept going off.”

While this pluractional derives a variety of roots, it most readily targets positionals, which are a root class unique to Mayan languages describing physical properties and configurations (Haviland, 1994; Tummons, 2010). One of the striking features of positionals is how highly specific their descriptive content is. The descriptions in (22) present some representative examples of positionals in their stative predicate form.

- (22) a. *jewël* ‘seated uncomfortably (like with one leg to the side)’
 b. *tziyil* ‘heaped long and fine things (like pine needles)’
 c. *lab’äl* ‘hanging but also thin and smooth (like nylon)’
 d. *nak’äl* ‘stuck, but without any sort of glue’

It is difficult to set up contexts in LWC to uncover facts about the pluractional forms of expressions like these precisely because they have such fine-grained descriptive content. Consider, for instance, setting up a context to test whether (22a) can be satisfied in a distributive scenario after it has been derived by the pluractional in (21). To do so, we might say that John is seated uncomfortably with his leg to the side, Mary is seated uncomfortably with her leg to the side, and Sue is seated uncomfortably with her leg to the side. The sentence presented for a truth value judgement in this context would have a plural subject with John, Mary and Sue predicated of the pluractional form of (22a). The worry is that if this sentence were judged false, it might be because *seated uncomfortably with one leg to the side* just does not adequately capture the meaning of *jewël*, not that the pluractional cannot describe this kind of scenario. The safer option, then, would be to set up the context with *jewël*, which avoids the problem of understanding exactly what the root means. This is an especially important consideration when working expressions like positionals,

which are morphologically simple expressions that have no morphologically simple paraphrases in the LWC.

While it is always possible to do additional elicitation to discover the reason why sentences are rejected, it is better to reduce complications if possible. Doing semantic fieldwork is hard enough without creating new obstacles that are unrelated to the research question. The Kaqchikel case study has shown one example where presenting the context in LWC is more likely to create obstacles than using OL. By using OL, we can set up a context for a truth value judgment, while abstracting away from those aspects of the semantic content of expressions that are not relevant for the study at hand.

5 Conclusion

This paper has presented two case studies examining in detail how one might choose whether to present a discourse context in OL or LWC. Beyond the issues the two case studies raise, the central conclusion of this work is that the decision between OL or LWC is potentially a crucial component of the methodology and one which often goes undiscussed.

(23) **Best practices for linguistically establishing discourse contexts in judgment tasks:**

1. Researchers should disclose what language was used to establish the discourse context.
2. Researchers should disclose the reasons why a given language was chosen, especially when these reasons are purely linguistic in nature.

It is worth pointing out that this proposal presupposes that researchers are indeed providing the discourse context used for truth value/felicity judgment in the first place. As Matthewson (2004) has argued, the inclusion of the context for these tasks is a crucial component of the raw linguistic data. Our proposal builds on this, arguing that the choice of which language to present the discourse context in is a core component of the methodology and therefore also ought to be disclosed. Presenting the logic behind the choice to select LWC over OL, or vice versa, is equivalent to properly detailing the methods in an experimental study. Not only does it clarify the logic behind the study itself, it aids in replicability. We want future researchers to be able to test and retest empirical claims and to readily understand how to conduct parallel inquiries in other languages. Knowing whether or not to present the context in LWC or OL could be crucial for setting up a successful replication.

Beyond these broader methodological points, what our case studies show is that the key factor determining which language to use is the ability to control the information in context. It has long been noted that languages differ not in what they can convey, but in what they must. For establishing discourse contexts, then, the relevance is that elements which are obligatory (or whose absence triggers pragmatic inferences on the part of the hearer), cannot be avoided. Both case studies, which are summarized below, play off of this point.

- **Case 1: (Yucatec Maya attitude reports)** LWC is used to avoid making distinctions in the discourse contexts that OL requires.
- **Case 2: (Kaqchikel pluractionals)** OL is used to make distinctions in the discourse context that are hard to make in LWC.

In each case, making the wrong choice could potentially cloud the outcome of the judgment. In Case Study 1, using Yucatec Maya means disambiguating the ambiguity the test sentence relies upon. In Case Study 2, using Spanish means potentially missing the source of a negative judgment. In both cases, then, the OL makes distinctions which the LWC does not, the difference lies in whether these distinctions are desirable for the research question at hand. Of course, it should also be said that the reverse situation is equally possible—the LWC may make distinctions which the OL is lacking. In fact, the contribution by Deal (2013) in this volume provides an illustrative example of exactly this kind of situation. The LWC, English in this case, obliges speakers to choose the quantificational force of modals (e.g. *might* vs. *must*) whereas the OL, Nez Perce, does not. In conclusion, while the complex range of linguistic considerations precludes a more determinate proposal for choosing which language to use in establishing discourse contexts, we hope that this paper has shown that this choice can be quite complex and as such a key element of the methodology of semantic/pragmatic fieldwork.

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Abstract

This chapter tackles the question of whether the language under investigation or a language of wider communication should be used in presenting contexts for judgment tasks. Based on two case studies from the authors' own fieldwork on Mayan languages, the primary conclusion is that neither choice is inherently better. Instead, grammatical features of the two languages and the constructions under investigation must guide the selection of a language for establishing the discourse context. Because the relevant grammatical features are often interesting in their own right and crucial for replication, the chapter concludes with a prescriptive proposal: researchers should both disclose the language used for setting up judgment contexts and explain why that language was chosen.

Keywords

Mayan, Attitude Reports, Pluractionality, Discourse Context, Judgment Tasks