

## Semantics and pragmatics of (not-)at-issueness in Yucatec Maya attitude reports\*

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**Abstract** English attitude reports like “ $x$  thinks that  $p$ ” can be used in two different types of contexts: ones where the Question Under Discussion (QUD) concerns whether or not  $p$  is true and ones where the QUD concerns  $x$ ’s mental state itself. Yucatec Maya (YM) has two different morphosyntactic forms differing superficially in the presence or absence of the morpheme *-e*, which serves as a topic marker elsewhere in the language. This paper argues that despite these two forms being truth-conditionally equivalent, their use is consistently correlated with which sort of QUD is present in the context. To account for these facts, I develop a particular conception of the relationships between QUDs, relevance, at-issueness, and assertion, building on the account of Simons et al. (2011). Given this theory, I propose a semantics where *-e* encodes that the attitudinal predication is parenthetical — that is, not part of the at-issue proposal (similar to English sentences like “It’s raining, I think”) and instead contributes to what I dub the *basis* of the proposal. I show that this semantics, together with plausible general pragmatic reasoning, provides an account of the meaning of the two attitude constructions in YM and their distribution in discourse.

**Keywords:** assertion, at-issueness, Question Under Discussion, topic, Yucatec Maya

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## 1 Introduction

In recent decades, a sizable literature has developed in which the assumption that conversational participants are addressing an abstract Question Under Discussion (QUD) (Roberts 2012, Ginzburg 1996, *et seq.*) is used to analyze a diverse array of linguistic phenomena. While such effects are pervasive, some semantic content is construed as not addressing the QUD — that is, as *not-at-issue*. For example, Simons (2007), building on Urmson 1952 and others, points out that the underlined material in (1b) is not taken to address the QUD. Louise’s reasons for missing the meeting have nothing to do with what speaker B heard. We can call this *pragmatically* not-at-issue since nothing here conventionally<sup>1</sup> indicates the parenthetical status of the embedding verb (see Simons 2007 for detailed arguments to this effect). In contrast, the conventional contribution of the “parenthetical” syntax in (2) presumably does play a crucial role in producing the not-at-issue status of (2).

(1) **Pragmatically not-at-issue**

- a. A: Why didn’t Louise come to the meeting yesterday?
- b. B: I heard that she’s out of town.

(2) **Semantically not-at-issue**

Louise is out of town, I heard.

While it seems clear that the not-at-issueness of the underlined portion of (2) is conventionalized, it is far less clear exactly what this semantics consists of. Beyond the negative property of not readily addressing the QUD, what else needs to be said about the conventional semantic contribution of (2)? Answering this question raises a host of further questions: How many kinds of semantically not-at-issue content are there? How does the encoding of not-at-issueness vary across constructions and across languages? How does the division of semantically at-issue and not-at-issue content interact with more general pragmatic considerations such as Gricean reasoning?

This paper will examine these issues through a detailed analysis of indicative<sup>2</sup> attitude reports in Yucatec Maya (an indigenous language of Mexico). Reports of indicative attitudes in Yucatec Maya (henceforth, YM) take one of

<sup>1</sup> Throughout the paper, I will use the term *semantic* to mean ‘conventionally encoded’ and *pragmatic* to refer to everything else. See Section 2.1 for discussion of the relationship between truth conditions and this broader conception of semantics.

<sup>2</sup> I leave a rigorous examination of the lexical semantics of the predicates which fall under this label to future work. At first blush, they appear to all be predicates which are “extensionally

the two forms in (3), differing superficially only in the presence or absence of the topic clitic *-e'* attached to the attitude verb.<sup>3</sup> I will use the descriptive monikers TOPIC + CLAUSE and BARE CLAUSE to talk about these constructions since these labels describe the material following the attitude predicates themselves while remaining neutral about their syntax and semantics.

- (3) a. Ten-e' k-in tukl-ik-e' le chaay ma' chaka'an k-u  
 me-TOP IMP-A1 think-SS-TOP DEF chaya NEG boiled IMP-A3  
 pajtal u kiins-ik wáa máax.  
 be.able A3 kill-SS or who  
 'I think that uncooked chaya<sup>4</sup> can kill someone.' TOPIC + CLAUSE
- b. Ten-e' k-in tukl-ik le chaay ma' chaka'an k-u  
 me-TOP IMP-A1 think-SS DEF chaya NEG boiled IMP-A3  
 pajtal u kiins-ik wáa máax.  
 be.able A3 kill-SS or who  
 'I think that uncooked chaya can kill someone.' BARE CLAUSE

Given the apparent truth-conditional equivalence of the two forms, previous literature (most notably Verhoeven 2007 and Gutiérrez-Bravo 2010) has taken this to be free variation with no regular semantic or syntactic difference.<sup>5</sup> Despite their truth-conditional equivalence, this paper argues that there are subtle yet systematic semantic and pragmatic differences between the two. The central difference is that the two forms felicitously respond to different Questions Under Discussion (QUDs). Specifically, I show that TOPIC + CLAUSE forms like (3a) are preferred when the QUD is about the truth or falsity of the belief, namely whether uncooked chaya is poisonous.

anchored" in the sense of Farkas (1992), hence the descriptive label "indicative". See Section 2 for further discussion.

<sup>3</sup> Abbreviations used for glosses for Yucatec Maya examples: CL: numeral classifier, DEF: definite article, DESID: desiderative mood, EXTRAF: extrafocal clitic, IMP: imperfective aspect, INCEP: inceptive aspect, NEG: negation, PFV: perfective aspect, PASS: passive, PL: plural, PREP: preposition, PROG: progressive aspect, PROS: prospective aspect, PROX: proximal deictic clitic; REL: relational noun suffix, SS: "status" suffix, SUBJ: subjunctive mood, TERM: terminative aspect, TOP: topic marker, TRANS: transitivizer. For agreement morphology, I follow the terminological tradition among Mayanists, referring to Set A ( $\approx$  Ergative/Nominative/Genitive) and Set B ( $\approx$  Absolutive/Accusative) markers, e.g., A3 = 3rd person Ergative/Nominative/Genitive. B3 is phonologically null and therefore may be left unglossed in some cases.

<sup>4</sup> Chaya is a dark leafy green endemic to the Yucatán peninsula. Raw chaya contains cyanide-producing compounds and is therefore potentially poisonous if not properly prepared.

<sup>5</sup> To be fair, this literature has been primarily focused on the syntactic structure of the two forms rather than semantics or pragmatics *per se*.

In contrast, the BARE CLAUSE form in (3b) is preferred when the QUD is about the subject's mental state itself (in this case the speaker's mental state).

I propose an account of these observations which is partially semantic and partially pragmatic in nature. Following [AnderBois, Brasoveanu & Henderson 2015](#), I treat at-issue assertions as introducing a new propositional discourse referent,  $p$ , and *proposing* to update the Common Ground (CG) and therefore the Context Set (CS) with its content. On the semantics side, then, in BARE CLAUSE reports,  $p$  is a proposition about the mental state of some attitude holder, similar to embedding attitude reports in English (i.e., the entire sentence's content is semantically at-issue). In TOPIC + CLAUSE reports, however, I claim that  $p$  is the proposition denoted by the attitudinal object, similar to parenthetical forms in English like (2). The attitudinal information does not contribute a separate CG update at all, but simply serves to indicate the *basis* for the proposal. Given an independently motivated conception of the nature of proposals, then, this semantics directly captures the behavior of TOPIC + CLAUSE reports.

This semantics, however, does not explain the QUD-sensitivity of BARE CLAUSE reports, which unlike their English counterparts in (1b) are typically infelicitous in exactly the contexts where corresponding TOPIC + CLAUSE reports are good. Rather than amending the semantics, however, I argue that these restrictions are due to Gricean pragmatics. Specifically, I claim that BARE CLAUSE reports are in pragmatic competition with corresponding TOPIC + CLAUSE reports, explaining their distinctive properties. While the pragmatic calculation in question relies only on well-established Gricean notions such as relevance, the structure of this reasoning process is in fact fairly different than that of classical relevance implicatures since the proposed computation involves comparing the relevance of the two different competing forms.

The body of the paper is structured as follows: Section 2 introduces the two types of attitude reports and presents data from primary fieldwork demonstrating the key properties of each. Section 3 develops an analysis of the QUD-sensitivity of the two forms that is partially semantic and partially pragmatic. Section 4 formalizes this semantics, building on the dynamic semantic account of at-issueness proposed by [AnderBois, Brasoveanu & Henderson \(2015\)](#) by spelling out the idea that TOPIC + CLAUSE reports make “asymmetric” assertions — that is, convey that the speaker is committed to the truth of the attitudinal claim, yet propose to add the attitudinal object to the Common Ground. Section 5 briefly presents and analyzes data from third-person attitude reports which support the Gricean analysis of BARE

CLAUSE reports by showing that they indeed can be felicitous regardless of the QUD when other pragmatic concerns supersede relevance. Section 6 concludes.

## 2 Two kinds of attitude reports

Before proceeding to attitude reports themselves, I first provide a brief bit of background on sentence structure in YM more generally. The basic word order of YM has been a topic of some recent debate (e.g., Skopeteas & Verhoeven 2005, 2009, Gutiérrez-Bravo & Monforte y Madera 2010), but is traditionally taken to be VOS in transitive clauses and VS in intransitives. Regardless of what the “basic” word order is, it is clear that VOS sentences with overt in-situ object and subject DPs are quite rare in actual speech. According to Skopeteas & Verhoeven (2005), 1% of clauses in a corpus of approximately 200 clauses have an overt VOS word order (Larsen (1988) reports similar findings for another Mayan language, K’iche’). This is because in addition to widespread subject and object pro-drop, the language makes frequent use of preverbal topic and focus constructions. The topic construction, seen in (4), is of particular interest for present purposes since it involves a left-adjoined DP marked with the topic marker *-e’*. This morpheme is the same one which occurs in TOPIC + CLAUSE attitude reports (hence the label TOPIC + CLAUSE), a connection which I will discuss in more detail in Section 2.4.

- (4) Le áak-e’ t-u jaant-aj su’uk.  
 DEF turtle-TOP PFV-A3 eat-SS grass  
 ‘The turtle ate grass.’ Avelino 2009, p. 9

### 2.1 Attitudinal constructions in YM

One of the most striking aspects of attitude reports in YM is the number of different constructions which are available, sometimes even for a single attitude predicate. Consider, for example, perhaps the most frequent attitude predicate in YM, *tuklik*. In the two constructions I focus on in this paper — TOPIC + CLAUSE and BARE CLAUSE forms like (3) and (5) — *tuklik* is typically translatable as ‘think’ or ‘believe’.<sup>6</sup> In these constructions, the

<sup>6</sup> Verhoeven (2007) cites the TOPIC + CLAUSE report in (i) as evidence that the lexical semantics of *tuklik* is broader than that of ‘think’ or ‘believe’, extending to scenarios better translated with ‘imagine’ or even ‘dream’. Anecdotally, this seems to be correct. The consultants for this study made fairly frequent use of *tuklik* in translations of sentences containing Spanish

apparent complement of the attitude predicate (henceforth, the *attitudinal object*) has the same form as matrix declaratives with no complementizer and no special verb form appearing.

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

However, *tuklik* can also occur with IRREALIS CLAUSE and DEPENDENT CLAUSE complement forms, as in (6) from Verhoeven 2007. The IRREALIS CLAUSE construction includes the irrealis complementizer *káa* 'for' with verbal predicates appearing in their subjunctive forms. As the name IRREALIS CLAUSE suggests, this construction gives rise to a quite different meaning for *tuklik*, best translated as 'fear' or 'worry', and is the only form possible with predicates that have more distinctively irrealis semantics such as *k'áat* 'wish, want' and *ts'iibóolt* 'wish'.

- (6) a. K-in tuklik káa k'áax-ak ja'.  
 IMP-A1 think for rain-SUBJ water  
 'I think/fear it could rain' IRREALIS CLAUSE
- b. K-in tuklik u taal.  
 IMP-A1 think A3 come  
 'I plan for him to come.' DEPENDENT CLAUSE
- c. #K-in tukl-ik u k'áax-al ja'.  
 IMP-A1 think-SS A3 fall-SS water  
 Intended: 'I plan for it to rain.' DEPENDENT CLAUSE  
**Speaker comments:** "It sounds like you're God, like you control the rain."

*soñar* 'dream' or *imaginar* 'imagine' (NB. still predicates which take the indicative rather than the subjunctive in Spanish, as Verhoeven (2007) notes) despite the existence of predicates like *wayáak* 'dream, imagine' and *náay* 'dream, be diverted'.

- (i) K-in tukl-ik-e' túun taal.  
 IMP-A1 think-SS-TOP PROG.A3 come  
 'I imagine that he comes.' Verhoeven 2007, p. 303

I leave detailed study of the lexical semantics of attitude predicates in YM and their interactions with these constructions to future work.

In terms of form, the DEPENDENT CLAUSE consists of an incomplete clause without an otherwise obligatory aspect/modal marker such as *yan* in (5a). With regards to its meaning, [Bohnemeyer 2002](#) compares this construction to infinitives in Indo-European languages, a comparison which, while imperfect, is quite apt in many cases. In other cases, however, a gerund seems to be the more appropriate construction for comparison. In any event, it is clear that the DEPENDENT CLAUSE form has a quite different meaning than the corresponding TOPIC + CLAUSE or BARE CLAUSE report. One further indication of this semantic difference is that speakers reject a DEPENDENT CLAUSE version of (5a), in (6c), saying that it makes it sound like the speaker is God (i.e., is in control of the weather).

Aside from providing a bit of context regarding attitudinal constructions in YM, I mention these forms for several reasons. First, as will be shown in Section 2.2, the clearly divergent truth conditions we see for these constructions stand in stark contrast to the shared truth conditions of the TOPIC + CLAUSE and BARE CLAUSE forms which are our focus here. Second, the DEPENDENT CLAUSE and IRREALIS CLAUSE forms are used as fillers in the felicity judgment tasks presented in Section 2.3. Finally, it should be noted that while I largely leave the lexical semantics of attitude predicates and their interactions with these constructions to future work, the occurrence of *tuklik* in these constructions further establishes the bleached nature of its semantics. Given its frequency and these bleached semantics, I focus primarily on examples with *tuklik* in this paper, leaving the interactions between these constructions and lexical semantics largely to future work.

## 2.2 Truth-conditional equivalence

We turn now to our central focus: the comparison between the TOPIC + CLAUSE attitude reports and the BARE CLAUSE ones. In contrast to the other forms considered in Section 2.1, the first thing to note about the semantics of TOPIC + CLAUSE and BARE CLAUSE attitude reports is that they have (at least approximately) identical truth conditions (indeed, this has led previous researchers to regard the two forms as being in free variation). For example, speakers provide identical truth-value judgments for the sentences in (7) in different scenarios:

- (7) a. K-u tukl-ik-e' táan u k'áax-al ja'.  
 IMP-A1 think-SS-TOP PROG A3 fall-SS water  
 'It is raining, he thinks.' TOPIC + CLAUSE
- b. K-u tukl-ik táan u k'áax-al ja'.  
 IMP-A1 think-SS PROG A3 fall-SS water  
 'He thinks that it is raining.' BARE CLAUSE
- (8) a. **Scenario:** Juan believes it is raining based upon his knowledge of the weather and having seen storm clouds approaching, but is not certain that this is so.  
 (7a): True  
 (7b): True
- b. **Scenario:** Juan is underneath a palapa and sees that it is raining.  
 (7a): True (though somewhat odd).  
 (7b): True (though somewhat odd).
- c. **Scenario:** Juan believes it is not raining based upon his knowledge of the weather and it being sunny out not long ago.  
 (7a): False  
 (7b): False

While *tuklik* 'think' in other constructions is not limited to "indicative" uses as seen above in (6), its use in both TOPIC + CLAUSE and BARE CLAUSE constructions does seem to be of this sort. Furthermore, no additional entailments, such as the responsibility or agency on the part of the attitude holder seen in DEPENDENT CLAUSE reports like (6b), are present in either form. Since I will argue below that the constructions have partially conventionalized differences in at-issueness, the truth-conditional equivalence of TOPIC + CLAUSE and BARE CLAUSE reports is not unlike what is found for appositive relative clauses and conjunctions in English, as in (9). Despite various differences in at-issueness discussed in Section 3.1, most authors have held that such pairs are truth-conditionally equivalent, a claim confirmed in recent quantitative work by Syrett & Koev 2015.

- (9) a. Juan, who speaks Spanish, is my friend.  
 b. Juan speaks Spanish and he is my friend.

Given its importance to the account developed below, I have gone to some length to demonstrate the truth-conditional equivalence of the two forms. It is worth reiterating, however, that this claim is already made implicitly in previous literature about these constructions in YM. For example, Hanks

(1990) describes *-e'* in these cases as an “empty placeholder, used . . . to mark off topicalized elements and to signal relations across clauses”. Similarly, Verhoeven (2007) and Gutiérrez-Bravo (2010) both appear to regard the presence or absence of *-e'* as a matter of free variation and take this as evidence that the two constructions have identical syntax (though the two authors differ fairly radically in what this syntax is). I do not take up syntactic issues in earnest here, though below we will see several reasons to be skeptical of this equivalence. While I concur that *-e'* is “empty” in terms of its contribution to truth conditions, the remainder of this section will show that it nonetheless has regular semantic effects, though of a non-truth-conditional sort.

### 2.3 QUD sensitivity

The central difference between TOPIC + CLAUSE and BARE CLAUSE forms concerns the kinds of questions to which they felicitously respond in discourse. Following Roberts (2012), Ginzburg (1996), and many others, I assume that discourse is organized in part around a hierarchically structured set of questions called Questions Under Discussion (QUDs) which the discourse participants jointly endeavor to resolve. Here, only one such question is relevant: one which Roberts (2012) calls the “immediate QUD,” and which I follow Roberts in referring to simply as *the* QUD. In the simplest case, this question is one which has been overtly uttered by a speaker. In cases where no question is overt in the discourse, these authors argue that there is nonetheless an implicit QUD which the discourse participants aim to address. Whether explicit or implicit, QUDs are claimed to be responsible for a wide variety of empirical phenomena, such as focus and deaccenting, contrastive topic, scalar implicatures, questions and answers, ellipsis processes like sluicing, and many more.<sup>7</sup>

Establishing the QUD-sensitivity of given linguistic forms in a fieldwork setting is a tricky matter, so a few words are in order about the methodology used for doing so. The consultants who provided the main QUD data<sup>8</sup> in the present study were seven native speakers of YM, all college students in an applied linguistics program at the Universidad de Oriente in Valladolid,

<sup>7</sup> Craige Roberts recently compiled a thorough bibliography of such works:

<http://www.ling.ohio-state.edu/~croberts/QUDbib/>

<sup>8</sup> By “main” QUD data, I refer to (11)–(19) and subsequent examples with *tuklik* in imperfective. Other data was elicited from a proper subset of these participants in a somewhat less systematic way.

Yucatán. While all participants were native speakers of YM, they all possessed native fluency in Spanish as well.<sup>9</sup>

In each trial, participants were presented with an overt question in Spanish relating either to the mental state of the attitude holder or to the attitudinal object itself. Given this linguistically established discourse context, speakers were presented with a set of four sentences in YM independently established to be grammatical (though the filler items may have been potentially implausible given their propositional content, as discussed for (6b) above). The sentences were presented in written form, supplemented at times with oral presentation since the orthographic difference between two test forms is quite subtle.<sup>10</sup> In addition to the TOPIC + CLAUSE and BARE CLAUSE forms under investigation here, corresponding DEPENDENT CLAUSE and IRREALIS CLAUSE forms were used as filler items. Speakers were then asked to state, for each of the four, (i) whether the sentence was a possible response to the question and (ii) which sentence was the most natural or best response (or which sentences in case of a tie).

Finally, I assume standardly that the (acceptance by the addressee of an) utterance of an overt matrix question establishes a new QUD. Especially given that the overt questions used here are in Spanish, I henceforth assume that it is the introduction of a new QUD which determines speaker's responses (we return momentarily to discuss the difficulties of using implicit QUDs for parenthetical attitudes).<sup>11</sup>

The choice to provide the question in Spanish was a deliberate one in order to avoid an important confound: the choice of attitude report in the question itself. [Matthewson \(2004\)](#) argues that the use of the contact language for establishing discourse context is not inherently problematic assuming that speakers are sufficiently fluent in it. In this case, however, the reason for preferring it is not just a practical one, it is a linguistic one. Providing the

<sup>9</sup> This sample is representative of the bilingual situation of the peninsula more generally. For example, a 2005 report using Mexican census data ([INEGI 2009](#)) estimates that at least 95% of speakers of YM are also fluent Spanish speakers.

<sup>10</sup> Aside from diacritics like dashes to segment morphemes, examples here are as presented, using the official orthography as codified in [Briceño Chel & Can Tec 2014](#).

<sup>11</sup> It should be noted that across all questions and responses, the responses involve what would seem to be an unnecessary repetition of the clausal material. To address this, the experimenter sometimes clarified with questions along the lines of “What do you think?” or “What will the weather be?” that avoid repeating the relevant material. That said, speakers generally did not object to the repetition in this task, which I attribute at least in part to the choice to provide the question in Spanish.

discourse context in YM would force a choice between the two target forms in the question itself,<sup>12</sup> as seen in (10):

- (10) a. K-a tukul-ik-wáa yan u k'áax-al ja'?  
 IMP-A2 think-SS-Q will A3 fall-SS water  
 'Do you think it will rain?' BARE CLAUSE
- b. K-a tukul-ik-e' yan-wáa u k'áax-al ja'?  
 IMP-A2 think-SS will-Q A3 fall-SS water  
 'According to what you think, will it rain?' TOPIC + CLAUSE

Since previous literature has taken the difference between TOPIC + CLAUSE and BARE CLAUSE forms to be more or less a case of free variation, variation in the forms of answers could conceivably be taken to be a low-level “matching” effect rather than being pragmatically-driven. That is to say, a skeptic might suggest that TOPIC + CLAUSE assertions are used as responses to TOPIC + CLAUSE questions simply due to priming or morphosyntactic principles governing the question–answer relationship. Such data are of course also consistent with the present hypothesis on the plausible assumption that pairs of TOPIC + CLAUSE and BARE CLAUSE reports introduce different QUDs, as suggested by the free translations in (10).<sup>13</sup>

Presenting the question in Spanish instead of YM, however, gives us a straightforward way of avoiding this confound since Spanish does not make the same contrast, at least not obligatorily.<sup>14</sup> Providing the question in YM would presumably be necessary to test hypotheses about aspects of the question–answer relationship itself, such as the possible forms of fragment answers. Since we are concerned with a higher-level discourse-related notion of QUD, however, providing the question in Spanish will allow us to avoid the potential for circularity which the YM questions would pose.

<sup>12</sup> While a detailed investigation of their syntax is left to future work, I note here that the differential placement of the polar question clitic *wáa* is one piece of evidence that the semantic/pragmatic differences between TOPIC + CLAUSE and BARE CLAUSE reports have syntactic parallels.

<sup>13</sup> For further discussion of the choice of language for the discourse context in this case and in general, see [AnderBois & Henderson 2015](#)

<sup>14</sup> That is to say that Spanish, like English, has various ways of expressing certain attitudes parenthetically (e.g., *Según lo que piensa Juan ...* ‘According to what Juan thinks ...’) which are similar in some respects to TOPIC + CLAUSE attitude reports in YM. Such constructions in Spanish and English are, however, quite a bit more marginal, a point we return to in Section 3.2.

With this background in hand, we turn to the two different kinds of discourse contexts which are relevant here: ones where the question (and, by assumption, QUD) concerns the attitudinal object and ones where it concerns the mental state itself. The first case to be considered is a discourse context in which the question is about the attitudinal object, as in (11). In this scenario, the propositional attitude itself is only relevant in an indirect way (i.e., it's only relevant to the extent that it can be taken to convey probabilistic or conditional information regarding the truth of the attitudinal object). In this scenario, the TOPIC + CLAUSE report is felicitous, while the BARE CLAUSE one is dispreferred by speakers. Of course, a simple statement about the rain with no attitude report of any sort is also felicitous in such a scenario, but is not relevant to us here.

- (11) **Question:** “Is it going to rain?” (Sp. *¿Va a llover?*)
- a. K-in tukl-ik-e' yan u k'áax-al ja'.  
 IMP-A1 think-SS-TOP will A3 fall-SS water  
 'It's going to rain, I think.' TOPIC + CLAUSE
- b. #K-in tukl-ik yan u k'áax-al ja'.  
 IMP-A1 think-SS will A3 fall-SS water  
 'I think that it's going to rain.' BARE CLAUSE

One further issue to note here is the nature of the relationship between the judgments given here and the two tasks mentioned above: (i) a simple felicity judgment and (ii) a felicity preference task (see [Matthewson 2004](#) for discussion of this task and the relevant notion of felicity). In addition to minor variation across items, speakers varied a good deal on task (i), with two speakers more or less consistently accepting both forms regardless of QUD and others indicating the pattern of judgments indicated below. This is similar to what I have found in doing less systematic informant work on English translations and I believe merely reflects the subtlety of the judgments at hand. Furthermore, the inclusion of the truth-conditionally distinct filler items (6a)–(6b) may have had the inadvertent consequence of drawing some speakers' attention to the similarity in meaning of the two test items. That is to say, that even though the task itself was a felicity judgment, the experimental design may have unintentionally biased some consultants into privileging truth conditions (see [Matthewson 2004](#) for more general discussion of the relative role of truth conditions across different fieldwork tasks).

With respect to task (ii), however, speakers were more or less unanimous that there was an asymmetry between the two reports, and this asymmetry matches the judgment offered by the majority of speakers in task (i). Importantly, speakers on task (ii) robustly did not report preferences for the patterns of felicity judgments which conflicted with the simple judgments in task (i) for speakers who reported such judgments. Given the categorical nature of the responses to this second task and the clear concordance between the direction of the results on both tasks, the analysis below will regard these results as categorical under the assumption that the surface variation discussed here is due to a task effect, and leave more detailed investigation of these issues to future work.

In contrast, if we change the scenario to one where the question has to do with the mental state itself, as in (12), then the situation is reversed:

- (12) **Question:** “Do you think it’s going to rain?”  
 (Sp. *¿Piensas (tú) que va a llover?*)
- a. #K-in tukl-ik-e’ yan u k’áax-al ja’.  
 IMP-A1 think-SS-TOP will A3 fall-SS water  
 ‘It’s going to rain, I think.’ TOPIC + CLAUSE
- b. K-in tukl-ik yan u k’áax-al ja’.  
 IMP-A1 think-SS will A3 fall-SS water  
 ‘I think that it’s going to rain.’ BARE CLAUSE

All else being equal, then, the TOPIC + CLAUSE report is preferred when the question has to do with the attitudinal object, while the BARE CLAUSE report is preferred when it is about the mental state itself. Beyond this particular example, I have tested similar sentence pairs in a less systematic way for a variety of different kinds of attitudinal objects (i.e., ones with different aspects, transitives vs. intransitives vs. non-verbal predicates, embedded subjects which are identical vs. not identical to the matrix ones).

- (13) **Question:** “Did Ana Lucia receive her check?”  
 (Sp. *¿Recibió Ana Lucia su cheque?*)
- a. Ana Lucia-e’ t-u tukl-aj-e’ ts’o’ok ka’ach u  
 Ana Lucia-TOP PFV-A3 think-SS-TOP TERM formerly A3  
 k’am-ik u cheque.  
 receive-SS A3 check  
 ‘Ana Lucia thought that she had already received her check.’  
 TOPIC + CLAUSE

b. #Ana Lucia-e' t-u tukl-aj ts'o'ok ka'ach u  
 Ana Lucia-TOP PFV-A3 think-SS-TOP TERM formerly A3  
 k'am-ik u cheque.  
 receive-SS A3 check  
 'Ana Lucia thought that she had already received her check.' BARE  
 CLAUSE

(14) **Question:** "Did Ana Lucia think she received her check?"

(Sp. *¿Pensó Ana Lucia que recibió su cheque?*)

a. #Ana Lucia-e' t-u tukl-aj-e' ts'o'ok ka'ach u  
 Ana Lucia-TOP PFV-A3 think-SS-TOP TERM formerly A3  
 k'am-ik u cheque.  
 receive-SS A3 check  
 'Ana Lucia thought that she had already received her check.'  
 TOPIC + CLAUSE

b. Ana Lucia-e' t-u tukl-aj ts'o'ok ka'ach u  
 Ana Lucia-TOP PFV-A3 think-SS-TOP TERM formerly A3  
 k'am-ik u cheque.  
 receive-SS A3 check  
 'Ana Lucia thought that she had already received her check.' BARE  
 CLAUSE

(15) **Question:** "Is Carlos going to buy chaya?"

(Sp. *¿Va Carlos a comprar chaya?*)

a. Carlos-e' k-u tukl-ik-e' yan u máan-ik chay.  
 Carlos-TOP IMP-A3 think-SS-TOP will A3 buy-SS chaya  
 'Carlos will, he thinks, buy chaya.' TOPIC + CLAUSE

b. #Carlos-e' k-u tukl-ik yan u máan-ik chay.  
 Carlos-TOP IMP-A3 think-SS will A3 buy-SS chaya  
 'Carlos thinks that he will buy chaya.' BARE CLAUSE

(16) **Question:** "Does Carlos think he will buy chaya?"

(Sp. *¿Piensa Carlos que va a comprar chaya?*)

a. #Carlos-e' k-u tukl-ik-e' yan u máan-ik chay.  
 Carlos-TOP IMP-A3 think-SS-TOP will A3 buy-SS chaya  
 'Carlos will, he thinks, buy chaya.' TOPIC + CLAUSE

b. Carlos-e' k-u tukl-ik yan u máan-ik chay.  
 Carlos-TOP IMP-A3 think-SS will A3 buy-SS chaya  
 'Carlos thinks that he will buy chaya.' BARE CLAUSE

While I focus primarily on *tuklik* ‘think, believe’, similar contrasts are present for *a’alik* ‘say, think’ and *pa’atik* ‘hope, await’ in (17)–(18). Finally, I have tested examples such as (19) with first-person attitude-holders as well as ones with third-person attitude-holders (see Section 5 for further discussion of issues particular to third-person reports). In the interest of space I simply give the sentences themselves for (17)–(19), repeated from (3) above, rather than repeating the whole array of felicity judgments parallel to (11)–(12) and (15)–(16).

- (17) Maribel-e’ k-u ya’al-ik(-e’) ma’ yan u k’áaxal ja’  
 Maribel-TOP IMP-A3 say-SS-TOP NEG will A3 fall water  
 ‘Maribel says/thinks that it won’t rain.’
- (18) Amelia-e’ k-u pa’at-ik(-e’) jaata’an le bicicleta-o’.  
 Amelia-TOP IMP-A3 await-SS-TOP broken DEF bicycle-DISTAL  
 ‘Amelia hopes<sup>15</sup> that the bicycle is/will be broken.’
- (19) Ten-e’ k-in tukl-ik(-e’) le chaay ma’ chaka’an k-u  
 me-TOP IMP-A1 think-SS-TOP DEF chaya NEG boiled IMP-A3  
 pajtal u kíins-ik wáa máax  
 be.able A3 kill-SS or who  
 ‘I think that uncooked chaya can kill someone.’

In principle, the judgments elicited above as responses to overt questions can be supported with examples with implicit QUDs, including those from texts. In practice, however, the use of such examples is quite fraught. Careful consideration of a few such examples in (20)–(21) from stories in a literary magazine, *K’aaylay*, should make clear why.<sup>16</sup>

The sentence in (20) comes early in a story, right after the man in question is established by the speaker to be lazy. Given the results above and the presumption that these results are due to overt questions introducing QUDs, we would expect the presence of the BARE CLAUSE form to reflect a QUD

<sup>15</sup> For this example with the attitude predicate *pa’at* ‘hope, wait for’, two speakers report that the TOPIC + CLAUSE version emphasizes the desiderative component of *pa’at* in a way that the corresponding BARE CLAUSE report does not. For example, one speaker suggested a scenario where the bicycle was Amelia’s only means of getting to school and she hated school. I leave it to future work to investigate the systematicity of this observation and, more generally, the interactions between the lexical semantics of attitude verbs and these constructions.

<sup>16</sup> *K’aaylay* is a literary magazine edited by Ana Patricia Martínez Huchim. All issues cited here were available online 2/14/2016 at: <http://kaaylay.wordpress.com/>.

about what the man said rather than about his desires themselves. This seems consistent with the remainder of the story, which continues to document the man's aversion to hard work, including finding even the job of collecting eggs from chickens to be too taxing. However, we could also make the case that the story is compatible with a QUD about his desire itself, especially since the man does go on to get a job. In a great many contexts, it is not clear how to objectively determine whether the discourse is about the mental state or the attitudinal object. Moreover, it seems that any attempt to determine what the QUD is in a given context ignores the fact that the forms we choose in discourse not only reflect an independently determined QUD, but — especially in rich discourse contexts — are used by speakers in order to make sure all participants are on the same page as to what the QUD in fact is. Given the tight connection between the mental states of individuals in these stories and their actions, the context does not allow for a clear determination in many cases.

- (20) Chéen bin jun téenak-e' t-u ya'al-aj  taak u kaxt-ik  
 just go one time-TOPIC PFV-A3 say-SS DESID A3 find-SS  
 meyaj tumen k'a'abéet taak'in ti'.  
 work because needs money PREP  
 'Nevertheless, there came a time, he said he wanted to find work  
 because he needed money.' *K'aaylay* #68, p. 138/140

We see the opposite sort of case in (21). Here, the speaker is telling a story of a childless king who is conversing with his *ajna'at* 'advisor, diviner'. Given the generalizations above, we expect that the TOPIC + CLAUSE form would reflect a QUD about the content of what the diviner says, namely that the king will have a child. This expectation is borne out here, as the story goes on to describe the birth of the king's child. Here too, however, it does not seem impossible to construct a rationale for a QUD about the things said by the *ajna'at*, since he continues to be a character in the remainder of the story.

- (21) Jun-p'éel k'iin-e' a'al-a'ab ti' tumen u aj-na'at-e' yan  
 one-CL.INAM day-TOP tell-PASS PREP by A3 MASC-divine-TOP will  
 bin u yan-tal jun-túul u chaanpal u yatan  
 go A3 exist-come one-CL.ANIM A3 child A3 wife  
 'One day, he was told by his diviner that his wife would have a child'  
*K'aaylay* #64, p. 109/111

All this is to say that while textual examples with implicit QUDs appear to be consistent with the generalizations above, indeterminacy over implicit QUDs about mental states and their contents makes it harder to draw clear conclusions from such data. It should be possible in theory, then, to carefully construct discourse contexts where a particular implicit QUD is more clear. For example, in their study on the acquisition of attitude reports by English-speaking children, [Lewis, Hacquard & Lidz \(2012\)](#) do this by constructing scenarios which contrast the attitude holder's perspective with either what is actually the case (suggesting a QUD about the attitudinal object) or with what another perspective-holder thinks (suggesting a QUD about the mental state). Constructing such examples, however, would require a rich understanding of the grammatical properties of contrast and focus in YM, which lie beyond the scope of the present paper.

#### 2.4 Parallels with other topics

In addition to the direct evidence for QUD-sensitivity seen in the previous section, the behavior of individual, temporal, and other topics outside of attitude constructions provides indirect evidence supporting the claim of QUD-sensitivity. While I will not provide a complete theory of these topics here, I will argue that their behavior in response to questions and more generally is similar to what we have seen with TOPIC + CLAUSE reports, suggesting that a unified semantics for YM topics is possible. As noted at the beginning of Section 2, the topic marker in YM has a wide variety of uses, including individual, temporal, and locative topics in (22)–(24).

(22) Juan-e' p'u'uja'an.  
Juan-TOP angry  
'Juan is angry.'

(23) Le k'iin k-in k'abéet-tal ti' teech-e' káa taal-ak-ech a  
DEF day IMP-A1 necessary-come to you-TOP for come-SUBJ-B2 A2  
ch'a'-en.  
take-B1  
'The day you need me, you come to see me.'

[Verhoeven 2007](#), p. 216

- (24) In najil-e' yan u yaan-tal jun p'éel cha'an  
 A1 house-TOP will A3 exist-come one CL spectacle  
 sáamal-i'.  
 tomorrow-EXTRAF  
 'As concerns my house, there will be a party tomorrow'  
 Skopeteas & Verhoeven 2009, p. 244

In the interest of space, we focus here on illustrating the QUD-sensitive behavior of individual topics like (22). First, individual topics cannot serve as responses to overt questions, (25a). Instead, preferred responses include fragment answers like (25b), the preverbal focus/cleft construction (25c), and at least marginally using the postverbal (hence unfocused) argument in (25d).<sup>17</sup>

- (25) Ba'ax t-u jant-aj le áak-o'?  
 what PFV-A3 eat-SS DEF turtle-DISTAL  
 'What did the turtle eat?'  
 a. #Su'uk-e' t-u jant-aj.  
 grass-TOP PFV-A3 eat-SS  
 'As for grass, he ate it.'  
 b. Su'uk.  
 grass  
 'Grass.'  
 c. Su'uk t-u jant-aj.  
 grass PFV-A3 eat-SS  
 'He ate GRASS.' (alt. 'Grass is what he ate.', 'It's grass that he ate.')
- d. #?T-u jant-aj su'uk.  
 PFV-A3 eat-SS grass  
 'He ate grass.'

Outside of responses to explicit questions, topics in YM have been routinely characterized as providing “background” information of one sort or another (Bohnmeyer 1998 *et seq.*). A bit more concretely, Bohnmeyer (1998)<sup>18</sup> draws

<sup>17</sup> The status of postverbal responses of this sort has been discussed for YM by Kügler, Skopeteas & Verhoeven (2007) and in far more detail by Velleman (2014) for a distantly related Mayan language, K'iche', where it is claimed that this option is infelicitous for transitive subjects, but otherwise acceptable. See AnderBois 2017 for a recent summary of this literature across Mayan languages.

<sup>18</sup> This paper is in German, so this summary relies on an anonymous reviewer's summary of this work and other works citing it, most notably Bohnmeyer 2002.

on the well known characterization by [Chafe \(1976\)](#) of topics in languages such as Chinese as setting “a spatial, temporal, or individual framework within which the main predication holds” (pp. 50–51). Following [Roberts \(2012\)](#) and others, then, we can flesh out this description within the current context by defining the “main predication” in terms of its relationship to the QUD. As with attitude reports above, demonstrating this in detail for implicit QUDs is a somewhat fraught matter, one which I do not attempt here. That said, it seems reasonable to take the QUD-sensitivity of individual topics as supporting evidence for the claims regarding TOPIC + CLAUSE reports above. Of course, it should also be noted that a complete analysis of topics may require additional notions beyond QUD-sensitivity (e.g., salience).

One final point worth mentioning in this vein is that TOPIC + CLAUSE reports could be analyzed as in fact being individual topics (or at least, having been so historically). More concretely, YM has what have been dubbed “headless” free relatives by [Gutiérrez-Bravo \(2013\)](#), as in (26). Semantically, headless free relatives can receive either definite-like or indefinite-like interpretations, similar to free relatives in many languages ([Caponigro 2003](#) *inter alia*). Syntactically, headless free relatives are typified by the lack of a *wh*- or relative pronoun such *máax* ‘who’ (so that, for instance, the clause in (26) begins *ku taal . . .* rather than *máax ku taal . . .*).

- (26) Ti’ [k-u taal u yantal u kili’ich yuum-o’ob-il le  
 PREP IMP-A3 come A3 become A3 sacred lord-PL-REL DEF  
 kaaj-o’ob-o’]  
 town-PL-DISTAL  
 ‘Among who came to be patron saints of the town, . . .’<sup>19</sup>

Therefore, one plausible way to analyze a TOPIC + CLAUSE report like (27) is as containing a headless free relative, *ku tuklik* ‘what he thinks’, occurring as an adjunct in topic position. While I leave a detailed syntactic investigation to future work, the plausibility of such an approach further highlights the relevance of the parallels between individual and other topics.

<sup>19</sup> Máasewal kaajo’obil u Meejiko (MKM), p. 93, — Los pueblos indígenas de México (a government report).

- (27) Carlos-e' k-u tukl-ik-e' yan u máan-ik chay.  
 Carlos-TOP IMP-A3 think-SS-TOP will A3 buy-SS chaya  
 'As for what he thinks, Carlos will buy chaya.' TOPIC + CLAUSE

In contrast to this, I believe the BARE CLAUSE construction to involve embedding, with the attitudinal object being realized as an argument of the matrix attitude verb (similar to most accounts of English attitude reports). One clear piece of evidence for this radical syntactic difference comes from interrogatives. As we have already seen in (10), there is a clear difference in the forms of corresponding TOPIC + CLAUSE and BARE CLAUSE questions. In addition to this, we find with *wh*-questions that embedded question meanings arise only with the BARE CLAUSE construction, as in (28a). The corresponding TOPIC + CLAUSE, (28b) is at least marginally acceptable, but is interpreted as an illocutionary question (i.e., generally requires some sort of answer in order to be felicitous).

- (28) a. Carmen-e' u yojel máax k'uch te' kaj-o'.  
 Carmen-TOP A3 know who arrive there town-DISTAL  
 'Carmen knows who arrived at that town.' BARE CLAUSE
- b. ?Carmen-e' u yojel-e' máax k'uch te' kaj-o'.  
 Carmen-TOP A3 know-TOP who arrive there town-DISTAL  
 'According to what Carmen knows, who arrived at that town?'  
 TOPIC + CLAUSE

To summarize, the QUD-sensitivity we have seen with TOPIC + CLAUSE reports is paralleled by the behavior of other kinds of topics in the language which also use the topic clitic *-e'*. I have further suggested that syntactic evidence supports analyzing TOPIC + CLAUSE reports, but not BARE CLAUSE ones, as having the syntax of a topic (the attitudinal predication being a clausal adjunct with no embedding). Whether or not the strong synchronic version of this hypothesis is upheld in future syntactic work, the QUD-sensitivity of topics generally gives additional support to the QUD-sensitivity of TOPIC + CLAUSES.

### 3 (Non-)at-issue content and QUDs

In this section, I propose an account of the QUD-sensitivity of both TOPIC + CLAUSE and BARE CLAUSE reports. Section 3.1 develops a particular conception of at-issueness and the relationship between at-issueness and the QUD,

building on [Simons et al. 2011](#). Section 3.2 proposes a particular semantic division of at-issue and not-at-issue content and shows that this explains the QUD-sensitive behavior of TOPIC + CLAUSE and BARE CLAUSE reports as a mix of conventional not-at-issueness and pragmatic competition. Section 3.3 develops an alternative formulation of at-issueness which shares much of its core with that of [Simons et al. 2011](#), but which allows for a quite different conception of the nature of the pragmatic competition between TOPIC + CLAUSE and BARE CLAUSE forms, one which highlights the parallels with other cases of pragmatic competition such as quantity implicatures.

### 3.1 QUDs, assertion and at-issueness

I take it that the currently dominant view of assertion is one which can be traced back to [Stalnaker 1978](#). In this view, the *essential effect* of an assertion is to add its propositional content to the store of shared knowledge (the Common Ground or CG), thereby shrinking the set of possible worlds consistent with that knowledge (the Context Set or CS). In order to have this effect, the content of the assertion must be new information in the discourse (i.e., cannot already be in the CG). Beyond this essential effect, [Stalnaker 1978](#) also points out (p. 323) that assertions have the *commonplace effect* of updating the context with “any information which the speaker assumes his audience can infer from the performance of the speech act”. One such secondary effect emphasized in [Gunlogson 2001](#) is the fact that the speaker publicly commits themselves to the truth of the propositional content. While I take this partial characterization to be uncontroversial for simple at-issue assertions, the question arises to what extent various not-at-issue assertions share the same properties.

Following [Potts 2005](#), various authors have maintained that English examples with nonrestrictive relative clauses<sup>20</sup> like (29a) make two relatively separate contributions to the discourse, as described in (29b).

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<sup>20</sup> The discussion throughout this section applies straightforwardly to nonrestrictive relative clauses which are clause- and therefore utterance-medial. For clause-final nonrestrictive relative clauses, the situation is somewhat less clear (see [AnderBois, Brasoveanu & Henderson 2015](#) for discussion).

- (29) a. Maribel, who met someone in the coffee shop, bought them a drink.
- b. **Two assertions of (29a):**
- (i) **Not-at-issue:** Maribel met someone in the coffee shop.
- (ii) **At-issue:** Maribel bought that person a drink.

Despite the apparent primacy of (29b-ii), both (29b-i) and (29b-ii) really are both *assertions* in the limited sense sketched above. For example, Potts (2005) argues convincingly that both are normally felicitous only if the information they provide is new information in the discourse (in contrast to presuppositions, which can be — and typically are — old information). Furthermore, by (sincerely) uttering (29a), a speaker commits themselves to the truth of both propositions for the purposes of the discourse. Finally, the act of uttering (29a) signals the speaker’s intention to continue the discourse with all parties taking both propositions — and each other’s awareness of their truth — for granted (i.e., for future CGs to contain both propositions).

However, there is one aspect of canonical assertion on which the two kinds of assertions differ. Stalnaker mentions (but does not emphasize) that assertions are merely *proposals* to update the CG, subject to the actions of the addressee.<sup>21</sup> This aspect of assertion has been stressed more explicitly in a number of more recent works, including Clark & Schaefer 1989, Ginzburg 1996, and Farkas & Bruce 2010. To use the terminology of Farkas & Bruce 2010, asserted content is placed on the discourse *Table*, and is therefore readily subject to confirmation, denial, and other negotiation by other discourse participants.

While this characterization seems quite right for *at-issue* assertions, AnderBois, Brasoveanu & Henderson (2015) argue that the not-at-issue assertion contributed by nonrestrictive relative clauses differs precisely in its relative inability to participate in this sort of discourse negotiation. By uttering a sentence with a nonrestrictive relative clause, the speaker indicates that she does not intend its content to be up for debate, meaning that its content is not placed on the discourse Table. AnderBois, Brasoveanu & Henderson (2015) describe its content as being *imposed* on the CG/CS (as opposed to *proposed*). Moving closer to the parenthetical attitudes which we focus on here, Murray (2010) develops a similar conception of at-issueness in her work

<sup>21</sup> Specifically, Stalnaker (1978) states that “to make an assertion is to reduce the context set in a particular way, *provided that there are no objections from the other participants in the conversation*” (p. 153, emphasis mine).

on evidentials in Cheyenne. While some kinds of evidentials pose additional complications, the core intuition is that an evidential-marked declarative of the form  $p_{\text{EVID}}$  makes two contributions: an assertion/proposal that  $p$  (subject to the addressee's ratification) and a not-at-issue update that the speaker has EVID-type evidence for  $p$ . See Section 4.2 for a more detailed comparison of the present semantics with that of Murray (2010).

To take one concrete indication of the proposed/imposed asymmetry, consider what part of the asserted content is targeted by particle responses like *yes*, *yeah*, *no*, and *maybe*. In order to capture the fact that such particles can be used to respond to both questions and at-issue assertions, Farkas & Bruce (2010) argue that the meanings of these particles make explicit reference to the discourse Table. Since not-at-issue content is not placed on the Table, we expect the asymmetries in (30), from AnderBois, Brasoveanu & Henderson 2015, p. 115.

- (30) A: Sonia, who is a terrible housemate, left the door unlocked last night.
- a. B: Yeah, but she is still a good housemate.
- b. B: #Yeah, but she didn't leave the door unlocked last night.

Beyond particle responses, Simons et al. 2011, AnderBois, Brasoveanu & Henderson 2015, and other recent works claim that one crucial form of discourse negotiation which exhibits this asymmetry is the ability to interact with the QUD.<sup>22</sup> In the remainder of this section, I present Simons et al.'s QUD-based approach to defining relevance and at-issueness. The key definitions for Simons et al.'s approach are seen in (31)–(32).<sup>23</sup>

- (31) **Relevance to the QUD** (adapted from Simons et al. 2011)  
An assertion is relevant to a QUD *iff* it contextually entails a partial or complete answer to the QUD.

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<sup>22</sup> Simons et al. (2011) also pursue a related, but far broader, hypothesis which need not concern us here: that projective meaning components generally ( $\approx$  not-at-issue assertion and various kinds of presuppositions) do not address the QUD in this sense. See Tonhauser et al. 2013 for further developments on this broader hypothesis.

<sup>23</sup> For perspicuity, the definitions presented here are slight simplifications of Simons et al. 2011's and Roberts 2012's original definitions, which also define these notions for questions. Since we are not concerned here with Question-Question relationships, I set aside this aspect in what follows.

- (32) **At-issueness** (adapted from Simons et al. 2011)
- a. A proposition  $p$  is at-issue *iff* the speaker intends to address the QUD via  $p$ .
  - b. An intention to address the QUD via  $p$  is felicitous only if:
    - (i)  $p$  is relevant to the QUD, and
    - (ii) the speaker can reasonably expect the addressee to recognize this intention.

The core insight of course is to relate at-issueness to providing an answer to, or “addressing,” the QUD. However, there are several complications to this basic characterization which will be quite crucial for us below.<sup>24</sup> First, as discussed by Büring (2003) (and also Simons et al. (2011)), this definition appears to be too restrictive for cases such as (33), where A’s response does not contextually entail even a partial answer to the question. We return to this issue in Section 3.2 when we apply the QUD generalization to YM attitude reports and propose a slight revision to resolve this issue, at least in the case of attitude reports.

- (33) a. Q: Is it going to rain?  
 b. A: Maybe. // It’s cloudy.

Second, like the original formulation in Roberts 2012, (31) relies not simply on strict logical entailments, but rather on *contextual* entailments. Simons et al. (2011) do not explicitly define contextual entailment, but Roberts 2012 defines this notion for questions in (34).

- (34) **Contextual entailment** (Roberts 2012)  
 A question  $q_1$  *contextually entails* another  $q_2$  *iff* answering  $q_1$  in a discourse context with Common Ground  $CG$  (a set of propositions) is such that  $CG \cup \text{Ans}(q_1)$  entails a complete answer to  $q_2$ .

As Simons et al. (2011) discuss, this provides a way of capturing not only examples like their (35), but also examples with attitudinal complements. To avoid the complications introduced by factivity and presupposition, this latter case is illustrated with a nonfactive attitude verb in (36). This latter case might seem problematic given the data we have seen for the BARE CLAUSE form, a point we return to in Sections 3.2–3.3.

<sup>24</sup> I am indebted to David Beaver and an anonymous S&P reviewer for quite helpful discussion of the issues in this section.

- (35) a. Q: Is Avi old enough to drink?  
b. A: He's twenty-two.  
c. Proposition in CG: 'The legal drinking age is less than twenty-two.'
- (36) a. Q: Is it raining?  
b. A: John thinks that it's raining.  
c. Proposition in CG: 'What John thinks is (in this case) correct.'

Finally, (32) incorporates an additional layer: the speaker's intention and recognition thereof. It is here that conventional linguistic marking of material as being not-at-issue comes into play. As [Simons et al. \(2011\)](#) put it: "if some proposition is linguistically marked as not-at-issue, then, as long as the resulting interpretation is felicitous in other respects, the addressee will take it that the speaker does not intend to address the QUD via that proposition." To take again the example of English nonrestrictive relative clauses, A's utterance in (37b)<sup>25</sup> explicitly signals that the proposition that Peter is a fan of Mexican food is not intended by the speaker to address the QUD. Of course, this content may coincidentally address the QUD as it does here, but the felicity of the utterance doesn't depend on it in the way it does for the main clause, "Peter likes to eat chilaquiles."

- (37) a. Q: What does Peter like to eat?  
b. A: Peter, who is a fan of Mexican food, likes to eat chilaquiles.  
c. A': Peter, who is from Minnesota, likes to eat chilaquiles.

In Section 3.2, I apply this conception to the YM data, showing how the QUD behavior of the two forms can be captured under this account. Section 3.3 presents an alternative QUD-based approach to at-issueness and relevance which retains the spirit of [Simons et al. 2011](#)'s approach but makes certain aspects of the account for YM more perspicuous.

### 3.2 QUDs and at-issueness in YM attitude reports

Returning now to attitude reports in YM, I propose the semantic encoding of at-issue and not-at-issue content indicated in (38)–(39). This division encodes the idea that the topic morpheme, *-e'*, marks the material to which it is attached as being not-at-issue, with the main clause being semantically at-issue (setting aside other sorts of not-at-issue content like presuppositions

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<sup>25</sup> Thanks to an anonymous reviewer for suggesting this example.

and the like). For the sake of perspicuity, I will talk about the semantic encoding of both at-issueness and not-at-issueness. It is probably more accurate, however, to think of at-issueness as the default condition with the topic marker indicating the more marked not-at-issue meaning.

- (38) K-u tukl-ik-e' yan u k'áax-al ja'.  
 IMP-A<sub>3</sub> think-SS-TOP will A<sub>3</sub> fall-SS water  
 'It's going to rain, he thinks.' TOPIC + CLAUSE  
**Not-at-issue:** *Ku tuklike'*... 'According to what he thinks,...'  
**At-issue:** ... *yan u k'áaxal ja'*. '...it's going to rain.'
- (39) K-u tukl-ik yan u k'áax-al ja'.  
 IMP-A<sub>3</sub> think-SS will A<sub>3</sub> fall-SS water  
 'He thinks that it's going to rain.' BARE CLAUSE  
**At-issue:** *Ku tuklik yan u k'áaxal ja'*. 'He thinks that it's going to rain.'

I propose a detailed semantics for the TOPIC + CLAUSE report in Section 4 below, but a brief word is in order here about the semantics of the BARE CLAUSE report. As the translation of the BARE CLAUSE report suggests, I believe the semantics (and the syntax) of the BARE CLAUSE form is broadly speaking similar to those of ordinary embedding attitude reports in English, with no particular not-at-issueness encoded semantically. For concreteness, then, we might assume a modal-like semantics like (40). Of course, there may be various reasons to complicate this semantics both for English and for YM, though I set aside such concerns here. There will of course be differences between English and YM here too (see, e.g., footnote 6), but I do not believe that these differences are relevant to the present discussion and therefore leave them to future work.

- (40)  $\llbracket(39)\rrbracket = \lambda w. \forall w' \in \{w'' : w'' \text{ is consistent with what } x \text{ thinks in } w\} :$   
 it is going to rain in  $w'$

Given the conception of at-issueness in Section 3.1, this semantic proposal directly explains the QUD-sensitivity of TOPIC + CLAUSE reports. Let's first consider the case where the QUD has to do with the speaker's mental state rather than the weather itself. The at-issue claim of the TOPIC + CLAUSE report — a proposition about the weather itself — does not contextually entail an answer to the QUD about the speaker's mental state and is therefore predicted to be infelicitous in this context. The sentence, of course, contains the appropriate information in some form, yet is predicted to be infelicitous

since the speaker's intention to address the QUD will not be recoverable given that they have marked the attitudinal portion of sentence as not-at-issue. The BARE CLAUSE report, on the other hand, presents an at-issue claim about the speaker's mental state and therefore addresses the QUD directly.

- (41) **QUD:** 'Do you think it's going to rain?'  
 (Sp. *Piensas (tú) que va a llover?*)
- a. #K-in tukl-ik-e' yan u k'áax-al ja'.  
 IMP-A1 think-SS-TOP will A3 fall-SS water  
 'It's going to rain, I think.' TOPIC + CLAUSE
- b. K-in tukl-ik yan u k'áax-al ja'.  
 IMP-A1 think-SS will A3 fall-SS water  
 'I think that it's going to rain.' BARE CLAUSE

We turn now to the scenario where the QUD concerns the attitudinal object, as in (11), repeated in (42). Since the at-issue content of the TOPIC + CLAUSE report has to do with the rain itself, we correctly predict that the TOPIC + CLAUSE report should be felicitous in this context.

- (42) **QUD:** 'Is it going to rain?' (Sp. *Va a llover?*)
- a. K-in tukl-ik-e' yan u k'áax-al ja'.  
 IMP-A1 think-SS-TOP will A3 fall-SS water  
 'It's going to rain, I think.' TOPIC + CLAUSE
- b. #K-in tukl-ik yan u k'áax-al ja'.  
 IMP-A1 think-SS will A3 fall-SS water  
 'I think that it's going to rain.' BARE CLAUSE

The BARE CLAUSE report, however, is not judged felicitous in this context, in contrast to the felicity of the English gloss using the ordinary embedding attitude report (Simons 2007 and references therein).

To understand the problem we face, we first need to understand why this sort of "parenthetical" usage is possible in English examples like (43b) in the first place. Given the approach to at-issueness presented above, one natural answer would be to claim that the English attitude report used to translate (42b) contextually entails an answer to the QUD, even though it doesn't logically entail one (especially given the aforementioned caveat regarding answers like (33)).

- (43) a. Q: Is it going to rain?  
 b. A: I think that it's going to rain.

Since I have suggested above that BARE CLAUSE reports and their English translations have no relevant semantic differences, then, it might seem that this would predict that the BARE CLAUSE report in (42b) would be felicitous, contrary to what we have found. However, I believe there is good reason to doubt this conclusion.

Thus far, I have appealed to intention-recognition in order to explain the infelicity of the TOPIC + CLAUSE report with a QUD about the attitudinal object — since the speaker has explicitly marked the mental-state information as not-at-issue, the addressee cannot readily construe this content as being intended to address the QUD. Just as Simons et al. 2011’s theory of at-issueness does, we have relied on the recognition of a speaker’s intention for a given content to address the QUD. It therefore stands to reason that other kinds of less direct reasoning would also play a role. In particular, the speaker who utters a BARE CLAUSE report in a context like (42) could have chosen instead to utter the competing TOPIC + CLAUSE form. The TOPIC + CLAUSE form, as we have seen, would have better conveyed what content the speaker intended to address the QUD with. Therefore, the addressee cannot be reasonably expected to recognize the speaker of the BARE CLAUSE report’s intention to address the QUD, given that a competing utterance would do so without better (i.e., without any additional contextual assumptions). In sum, whereas the QUD-sensitivity of the TOPIC + CLAUSE form is principally due to the conventional encoding of not-at-issueness by the topic morpheme *-e*, the QUD-sensitivity of the BARE CLAUSE report is due to pragmatic competition between the two competing types of attitude reports in YM.

While detailed empirical investigation of English slifting and related constructions is left to future work, existing work on at-issueness in these constructions (Simons 2007, Davis, Potts & Speas 2007 and Murray 2014 *inter alia*) suggests that the connections implicit in the translations may reflect the semantics of these English constructions. In particular, while the analyses differ somewhat, slifts like (44a) have been claimed to conventionally mark the attitudinal predication as not-at-issue (Davis, Potts & Speas 2007, Murray 2014), while embedding reports like (44b) have been argued persuasively by Simons (2007) to have no content which is conventionally marked as not-at-issue, just as I have claimed for BARE CLAUSE reports.

- (44) a. It’s going to rain, John thinks.  
 b. John thinks (that) it is going to rain.

Assuming that this semantics is analogous, then, we expect the English forms to have the same range of uses as their YM counterparts. While this appears to be largely correct given the claims made by the aforementioned authors, there is one important point of difference: English embedding reports like (44b) can be readily used in contexts where the QUD concerns the attitudinal object according to Simons (2007), whereas we have seen above that examples like (42b) are not felicitous in such uses. In the account of YM, the infelicity of BARE CLAUSE reports like (42b) has been attributed to competition with the corresponding TOPIC + CLAUSE report, (42a). Under Simons et al. 2011's theory of at-issueness, we have conceived of this competition as an impediment to intention recognition. The question for English, then, is why do we not find analogous competition between embedding attitude reports and the corresponding slift.

The answer, I claim, is that the sets of pragmatic competitors which are salient in the two languages are different. In particular, whereas the TOPIC + CLAUSE construction provides a robust competitor for the BARE CLAUSE report in all cases, English slifting is a "stylistic" or "luxury" construction: even when the discourse conditions for slifting are met perfectly, the speaker is under no obligation whatsoever to make use of it. There are several anecdotal observations about slifting and TOPIC + CLAUSE constructions which support this characterization of the asymmetry.

First, to my knowledge, every instance of the BARE CLAUSE construction I have encountered has a corresponding TOPIC + CLAUSE form available. In contrast, slifting is subject to (somewhat poorly understood) restrictions on the verbs that undergo it and what sorts of adverbial modification are possible. For example, Simons (2007) points out that even though (45a) can be used in response to a QUD about whether Jane will be here, the slifting counterpart in (45b) is not possible. Similarly, even for verbs which do allow slifting, the verb cannot be freely modified, as in Rooryck 2001's examples in (46a)-(46b).<sup>26</sup>

- (45) a. Jane emailed me that she'll be here next week.  
b. #Jane'll be here next week, she emailed (me).

<sup>26</sup> One type of modifier where one might expect to find a lack of parallelism in YM would be in the case of negated attitude verbs. What we found, however, is that speakers generally reject sentences where there is negation outside of the attitude verb regardless of which construction is used, instead correcting them by placing negation inside the attitudinal object itself. I leave more detailed exploration of this observation and its potential implications for so-called Neg-raising and the semantics of *tukul* 'think' to future work.

- (46) a. #Jules is back, I firmly believe.  
 b. #Jules is back, I'm really afraid.

Further support for the robustness of the TOPIC + CLAUSE construction is the fact that speakers equally use both the TOPIC + CLAUSE and BARE CLAUSE constructions in translation tasks when presented with a (nonparenthetical) Spanish attitude report. It seems highly unlikely that an English speaker presented with such a task would naturally produce a sentence with slifting (especially when we move beyond first person reports). Beyond this, there are two additional differences which are worth mentioning. First, TOPIC + CLAUSE reports are likely composed solely of elements which occur quite broadly in the language (e.g., the topic construction, “headless” free relatives) whereas the syntax of slifting is more or less unique to it (i.e., slifting cannot be decomposed into independently attested syntactic processes of English). Second, the output sentences in corresponding TOPIC + CLAUSE/BARE CLAUSE pairs are nearly string-identical, differing just in the presence or absence of *-e'*. In slifting, however, corresponding pairs are quite different from one another.

While I leave open the details of how these various factors cause slifting to not be a pragmatic competitor, I hope to have made the case that the observed difference in QUD-sensitivity of the BARE CLAUSE report in YM and embedding reports in English can be understood in a principled way, even under the assumption that the semantics I propose for YM reports has direct parallels in English.

### 3.3 An alternative conception of at-issueness

In the previous section, I have presented an analysis of the QUD-sensitivity of TOPIC + CLAUSE and BARE CLAUSE attitude reports in YM, couched in [Simons et al. 2011](#)'s theory of the interrelationships between QUDs, relevance, and at-issueness. There is, however, a slightly different way to conceive of these relationships which is also found in previous literature (see especially [Simons 2007](#): p. 1037–8) and which highlights the similarities between the behavior of BARE CLAUSE forms and English embedding attitude reports on the one hand and other kinds of implicatures on the other hand (e.g., scalar quantity implicatures, manner implicatures). In particular, the pragmatic work in the formulation in Section 3.1 comes about from the addressee's attempt to recognize the speaker's intention to address the QUD. In contrast,

scalar implicatures and manner implicatures arise from the literal content's failure to obey a maxim as well as a competing form would do. The pragmatic account of BARE CLAUSE reports in YM relies on an intuitively similar form of competition between forms, a similarity which the following alternative formulation brings to the fore.

The key change from the formulation above is that here I define relevance not in terms of contextual entailment, but rather in terms of logical entailment. Shared contextual propositions still play a key role, of course: they help the addressee to establish the speaker's intended contribution in cases where this contribution is distinct from the literal content of their utterance. While it may seem that this shift is a quite radical one, it ultimately boils down to whether the contextual factors that motivated Roberts's (2012) definition in (34) are put to use in determining relevance of the contribution, or in determining the contribution whose relevance is to be assessed. One key aspect of this version, which I discuss in more detail below, is that it makes crucial use of the decoupling of the two aspects of assertion discussed above: the speaker's public discourse commitments and their intended contribution to the CG. The "parenthetical" uses of attitude reports, whether conventionally encoded or arising pragmatically, make particular use of this decoupling.

(47) **At-issueness and relevance (alternative version)**

- a. A contribution  $p$  is at-issue *iff* the speaker intends to address the QUD by adding  $p$  to the CG.
- b. An intention to address the QUD by adding  $p$  to the CG is felicitous only if:
  - (i)  $p$  is relevant to the QUD, and
  - (ii) the speaker can reasonably expect the addressee to recognize this intention.
- c. A contribution is relevant to a QUD *iff* it entails a partial or complete answer to the QUD.

We now apply this formulation to the case of TOPIC + CLAUSE and BARE CLAUSE reports across our two different types of QUDs. We consider first the context in which the QUD has to do with the mental state of the speaker themselves with respect to the question of whether it will rain, (41). A speaker who utters the BARE CLAUSE form here is making a proposal whose literal content is relevant to the QUD since it entails a complete answer to the QUD and there is no impediment to the addressee's recognition of this as

the speaker's intended contribution. For the TOPIC + CLAUSE report, on the other hand, the speaker's proposal concerns the weather itself, not their mental state. As above, then, even though information relevant to the QUD is present, this intention cannot be reasonably expected to be recognized given the speaker's having marked it as not-at-issue through the use of the topic construction. In this case, then, there are no significant differences between the two formulations.

Turning now to the context in (42), the QUD concerns the attitudinal object rather than the mental state itself, here whether it will rain. In this context, a speaker who utters a TOPIC + CLAUSE report can reasonably expect the addressee to recognize the speaker's intent to contribute the proposition that it will rain to the CG, since the rest of their utterance, the attitudinal predication, is explicitly marked as being not-at-issue. In the case of the BARE CLAUSE report in this context, however, things work fairly different than above. The literal content of the speaker's utterance is a predication concerning the mental state of the subject (here, the speaker). This potential contribution, therefore, is predicted to be infelicitous since it does not entail a partial or complete answer to the QUD, nor as a matter of logical entailment does it alter the probability of a particular answer to the QUD. This contribution itself is correctly predicted infelicitous, consistent with the judgments in Section 2.

However, we have also seen that the form most similar to the BARE CLAUSE report in English — embedding attitude reports like (44b) — is often felicitous in contexts of this sort. In the formulation in Section 3.1, this was captured through the use of contextual entailments in the definition of relevance. Under the present formulation, we can adopt Simons's (2007) approach. First, the addressee reasons that the speaker likely did not intend the literal content as their at-issue contribution for the reasons just stated. Second, they take the speaker to be cooperative and therefore to have some other intended contribution which is suitable. Through some combination of the sentence's syntax and semantics, the addressee identifies the content of the attitudinal object as a potentially suitable contribution (see Simons 2014 for more detailed discussion of this process). An alternative contribution of this sort does entail a partial or complete answer to the QUD and this intention can be reasonably expected to be recognized by both parties. This last step, then, is where BARE CLAUSE reports in YM diverge from their English counterparts. A speaker who had intended the content of the attitudinal object as their contribution would have instead uttered the competing TOPIC + CLAUSE

report, and therefore a pragmatically parenthetical use for the BARE CLAUSE report is typically<sup>27</sup> not felicitous.

Despite differing in important details, the spirit of this alternative formulation is quite similar to the formulation in Section 3.1. Both versions make crucial use of the addressee's recognition of the speaker's intention to address the QUD. And in both versions, the TOPIC + CLAUSE report's conventional marking of not-at-issueness impedes this recognition in one kind of context. They differ, however, in where this key pragmatic action lies. In the first version, propositions in the context aid in the recognition of how the literal contribution is intended to address the QUD, yet the contribution remains unchanged. In the second version, propositions in the context aid in the recognition of the intended contribution itself.

Given the common core of these two approaches, I am not aware of any clear empirical way to distinguish them. However, there are two theoretical reasons why I will adopt the latter conception in what follows. First, this latter conception is a natural fit with a theory where the primary contribution of at-issue assertion is a proposal to update the Common Ground, with the speaker's public commitment being a secondary effect. Compositional semantics and pragmatic reasoning can both be seen as manipulating the speaker's proposed contribution to the CG, while public discourse commitments track the literal meaning more closely. We will see this distinction clearly in the dynamic semantics developed for TOPIC + CLAUSE reports in Section 4, which relies crucially on this conception, building on the framework [AnderBois, Brasoveanu & Henderson \(2015\)](#) propose for English nonrestrictive relative clauses.

Second, the version of the account in this section effectively "normalizes" relevance implicatures, treating them as being more structurally similar to quantity and manner implicatures. On the present view, the addressee observes a speaker whose utterance's literal content gives rise to a contribution which would violate a Gricean maxim. The addressee therefore reasons about whether the speaker could reasonably have intended some other, nonliteral contribution under the assumption that they are striving to be rational and cooperative. This "normalization" seems particularly beneficial here, since, unlike in English, I have argued that there are in fact two competing forms in

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<sup>27</sup> As a case of pragmatic reasoning, this calculation should, of course, be defeasible if some other pragmatic concern supersedes relevance. In Section 5 I will briefly show this to be the case, examining a class of cases with third person attitude reports where other pragmatic considerations (namely Quality) do indeed appear to override this.

YM. Beyond this, we will see in Section 6 that the relevance-based pragmatic concerns we have discussed here interact with other Gricean concerns in certain cases, which fits naturally with the revised formulation of relevance and at-issueness in this section. I leave it to future work to determine whether there are conclusive arguments supporting one version or the other.<sup>28</sup>

#### 4 Asymmetric assertions and speaker commitment

In the previous section, I have proposed that the topic morpheme in TOPIC + CLAUSE attitude reports marks the attitudinal predication as not-at-issue in a particular sense. Together with QUD-based pragmatic reasoning, I have shown that this accounts for the QUD-sensitivity of both TOPIC + CLAUSE and BARE CLAUSE forms. In terms of its ability to address the QUD, then, the proposed semantics treats the attitudinal predication in TOPIC + CLAUSE reports (and slifting) in the same way as medial nonrestrictive relative clauses: both lack the property of being (potentially) at-issue.

While the two constructions have this shared property of not-at-issueness, there is also a clear difference between the two. A speaker uttering a sentence with a nonrestrictive relative clause like (48a) aims to add two pieces of information to the Common Ground, one which they intend to address the QUD and one which does not have this property. On the other hand, a speaker of an attitude report like (48b) (or its English translation) does not intuitively aim to add two pieces of information to the CG since only one of the pieces is relevant to the conversation.

- (48) a. It's going to rain, which is what Antonio thinks.  
 b. (Antonio-e') k-u tukl-ik-e' yan u k'áax-al ja'.  
 (Antonio-TOP) IMP-A<sub>3</sub> think-SS-TOP will A<sub>3</sub> fall-SS water  
 'It's going to rain, Antonio thinks.' TOPIC + CLAUSE

Rather than making a second separate update containing attitudinal information, the semantics developed in this section holds that sentences like (48b)

<sup>28</sup> An anonymous S&P reviewer points out an additional notable aspect of the pragmatic proposal here. In particular, the reviewer suggests that while the proposal here relies on a generalized CI, it is one which makes crucial use of Relevance, a notion which typically is invoked in particularized CIs. However, to the extent that such a categorical distinction is itself well founded, we may take this simply as confirmation of the idea pursued in Levinson 2000 that the distinction between generalized and particularized CIs has to do principally with whether or not the implicature's calculation makes reference to a particular set of competing forms rather than which maxims are invoked (see especially pp. 35-36).



- (50) Let  $CG_{\{A,B\}}$  be the Common Ground of a discourse in which A and B are individual discourse participants.
- a.  $DC_A$  of  $CG_{\{A,B\}} = \{p: 'A \text{ believes } p' \in CG_{\{A,B\}}\}$
  - b.  $DC_B$  of  $CG_{\{A,B\}} = \{p: 'B \text{ believes } p' \in CG_{\{A,B\}}\}$

Indeed, while [Gunlogson \(2001\)](#) does show how to define the CG in terms of  $DC_x$ , the former plays no crucial role in her system. Subsequent authors such as [Farkas & Bruce \(2010\)](#) who have followed Gunlogson's lead in adopting  $DC_x$  have allowed for a greater role for the CG, but similarly have held that the two are interrelated in this way.

The central intuition we pursue here is that a TOPIC + CLAUSE report is used to make an *asymmetric* assertion where the speaker commits themselves to one proposition  $p$ , yet proposes to add a different proposition  $q$  to the CG. In order to capture this intuition, then, I propose instead a model of context in which  $DC_x$  and CG — more technically in the semantics, the intersection of the propositions in the CG, the Context Set (CS) — are in principle independent of one another. Therefore, I will assume simply that the discourse context contains the Stalnakerian CG/CS and also contains a  $DC_x$  for each individual discourse participant  $x$  consisting of those propositions to which  $x$  has publicly committed in the discourse. This definition is similar to [Farkas & Bruce 2010](#)'s, but differs in that these authors define  $DC_x$  as only containing propositions to which  $x$  has publicly committed and which are *not* in the CG. I believe that the current definition matches the intuitive notion of discourse commitments at least as naturally and is suited to the present purpose. That is, both  $DC_x$  and CG are primitives in discourse contexts, neither reducible to the other:

- (51) **Discourse components:**  $\langle X, CG_X, \{DC_x \mid x \in X\} \rangle$

While allowing for mismatches of this sort perhaps deviates from the common conception of CG as shared beliefs, I believe such a deviation is consistent with [Stalnaker 1978](#)'s original conception. In particular, Stalnaker characterizes the CG as the set of propositions such that “the speaker is disposed to act as if he assumes or believes that the proposition is true, and as if he assumes or believes that his audience assumes or believes that it is true as well”. [Stalnaker \(2002: p. 704\)](#) is even more explicit on this point:

... discussions of speaker presupposition have emphasized from the start a number of ways in which what is presupposed

[i.e., is in the CG] may diverge from what is mutually known or believed. One may make *assumptions*, and what is assumed may become part of the Common Ground, temporarily. One may *presume* that things are mutually believed without being sure that they are. That something is common belief may be a *pretense* — even a mutually recognized pretense.

Public discourse commitments, however, do not allow for pretense of this sort, instead reflecting what the speaker has portrayed themselves in the discourse as in fact believing. That is to say that the definition in (50) indeed refers to propositions of the form ‘A believes *p*’ rather than ones of the form ‘A is disposed to act as if they assumes or believes *p*’. While Gunlogson (2001) does not comment on this difference, the idea here is that this difference is to be taken seriously.

Given this conception of context, the claim here is that TOPIC + CLAUSE reports are cases of systematic mismatch between CG and DC<sub>x</sub>: the speaker commits themselves to the truth of an attitudinal claim *q* (adds it to DC<sub>spkr</sub>) and proposes to continue the discourse acting as though the attitudinal object, *p*, is true (i.e., proposes to add it to the CG). I believe this approach can also be extended to other parenthetical material such as slifting and illocutionary evidentials (see AnderBois 2014 for an account of the latter). Specifically, a speaker who utters (48b) proposes to update the CG with a proposition *q* = ‘it’s raining’, but commits themselves only to the truth of the proposition *p* = ‘Antonio thinks that *q*’.<sup>30</sup> Nonrestrictive relative clauses like that in (48a) also include the proposal, *q*, but also include a separate update of *p* which is *imposed* on the CG (we will call such updates “imposals”). Finally, in terms of the semantics, BARE CLAUSE reports and embedding attitude reports in English also make symmetric assertions, just ones which concern *p*, not *q*. The proposed picture is summarized in (52):

(52)	Type	Example	DC <sub>spkr</sub>	Proposal	Imposal
	Plain assertion	(49a)	<i>q</i>	<i>q</i>	—
	TOPIC + CLAUSE	(48b)	<i>p</i>	<i>q</i>	—
	BARE CLAUSE	(49b)	<i>p</i>	<i>p</i>	—
	Nonrestrictive RC	(48a)	<i>q, p</i>	<i>q</i>	<i>p</i>
	<i>q</i> = ‘It is going to rain.’		<i>p</i> = ‘Antonio thinks that <i>q</i> .’		

<sup>30</sup> While I will not provide a detailed defense of this account for corresponding cases of English slifting, I believe that the account is applicable there too.

In this section thus far, I have presented a partial model of discourse context building on Stalnaker 1978, Gunlogson 2001, and others that distinguishes between the public discourse commitments of individual agents,  $DC_x$ , and the body of information that the discourse participants mutually take for granted (i.e., that they are disposed to act as though is true). Following AnderBois, Brasoveanu & Henderson (2015), then, we can say that content is *at-issue* if and only if it is part of the proposal to update the CG. One consequence to note here is that while the definition of at-issueness is a positive one, there are multiple ways in which content can be semantically marked as not-at-issue — as we will see in a moment. Finally, we note as discussed in Section 2.2 that judgments of truth are not sensitive only to the at-issue proposal, but instead may take various not-at-issue contents into consideration as well.

#### 4.1 Proposals in a dynamic semantics

As discussed in Section 3, AnderBois, Brasoveanu & Henderson (2015) argue that nonrestrictive relative clauses and at-issue assertions differ principally in how they canonically update the CG: at-issue assertions are *proposals* to update the CG, whereas appositive/nonrestrictive relative clauses are “imposals”. Formally, AnderBois, Brasoveanu & Henderson (2015) develop a version of Groenendijk & Stokhof 1991’s Dynamic Predicate Logic (DPL) which allows for an explicit account of proposals and imposals within a dynamic semantic framework. As we will see in Section 4.2, this system also naturally allows for a formal account of TOPIC + CLAUSE reports which captures both their unity with appositives — both are not part of the proposal — and their differences — appositives contribute their own CG update, while the parenthetical attitude construction intuitively does not.

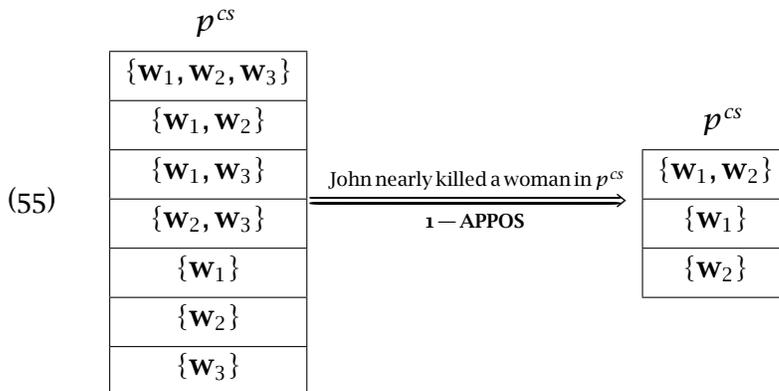
As in many types of dynamic semantics, sentence meanings in DPL are conceived of in terms of the constraints they impose on input variable assignments and corresponding output assignments. Variables can be of various types including, crucially for present purposes, propositions. AnderBois, Brasoveanu & Henderson (2015) propose to leverage this fact by treating the Context Set as a designated propositional variable,  $p^{CS}$ , which stores the Stalnakerian CS and all of its non-empty subsets as possible values. For example, if there are three live candidates for the actual world, the rows in the following table are the possible values for  $p^{CS}$ :

(53)

$p^{CS}$
{ $w_1, w_2, w_3$ }
{ $w_1, w_2$ }
{ $w_1, w_3$ }
{ $w_2, w_3$ }
{ $w_1$ }
{ $w_2$ }
{ $w_3$ }

At-issue proposals and appositive imposals, then, differ in the way in which they update/constrain the possible values this variable receives. Appositives update the assignment function by performing row-wise elimination. We can see this visually in (55) for the appositive material of (54). For the examples here, suppose the following fact: John nearly killed a woman with his car only in worlds  $w_1$  and  $w_2$ , and visited her in the hospital only in  $w_1$  and  $w_3$ .<sup>31</sup>

(54) John, *who nearly killed a woman with his car*, visited her in the hospital.



Whereas the speaker of (54) intends for the appositive content to be imposed on the CS without negotiation, the at-issue content behaves differently. Rather than constraining the values assignable to  $p^{CS}$ , the at-issue content

- i. introduces a new propositional discourse referent,  $p$ , where  $p$  is taken to be a subset of  $p^{CS}$ ; and

<sup>31</sup> For simplicity's sake, we ignore subsentential composition and correspondingly ignore individual and other discourse referents throughout. I refer the reader to [AnderBois, Brasoveanu & Henderson 2015](#) for a full account including these.

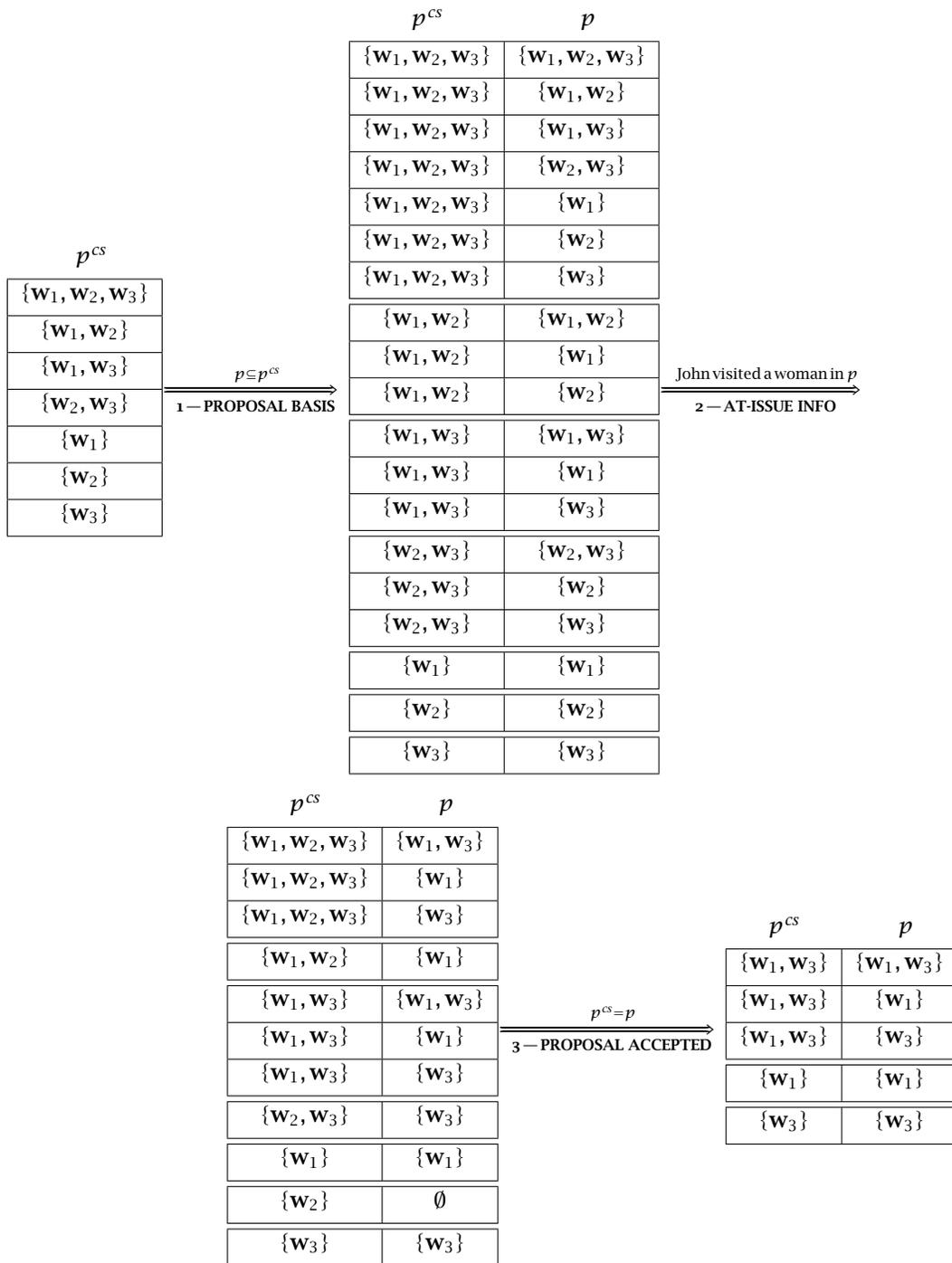
- ii. constrains the possible values assignable to  $p$ . The assertion itself does not alter the CS at all, it merely introduces a proposal, but leaves it for the addressee
- iii. to accept or reject the proposal.

For example, without being too specific, we take it that response particles like *yes* and *no* are anaphoric to  $p$ . Of course, less overt responses (e.g., saying nothing, nodding, making eye contact, elaborating) are also possible and can also result in the proposal being accepted.

In order to capture anaphoric connections between appositives and at-issue content, [AnderBois, Brasoveanu & Henderson \(2015\)](#) allow for updates to be *interleaved* as seen in Figure 1 for (56). While I separate out at-issue and appositive contributions visually here, the entire formula is interpreted as a dynamic conjunction. Single brackets — as in  $[x]$ ,  $[p]$  — are random assignment formulas and indicate the introduction of a new variable, modeling the introduction of a new discourse referent (e.g., one associated with an indefinite). The subscripts on predicates indicate whether the predication acts as a test on  $p$  or  $p^{cs}$  itself (compositionally contributed by COMMA intonation; see [AnderBois, Brasoveanu & Henderson 2015](#) for details).

- (56) **A:** John <sup>$x$</sup> , who nearly killed a <sup>$y$</sup>  woman with his <sub>$x$</sub>  car, visited her <sub>$y$</sub>  in the hospital.
- a. **Proposal Basis:**  $[p] \wedge p \subseteq p^{cs} \wedge$
  - b. **At-Issue:**  $[x] \wedge x = \text{JOHN} \wedge$
  - c. **Appositive:**  $[y] \wedge \text{WOMAN}_{p^{cs}}(y) \wedge$   
NEARLY-KILL <sub>$p^{cs}$</sub> ( $x, y$ )  $\wedge$
  - d. **At-Issue:** VISIT <sub>$p$</sub> ( $x, y$ )
- B:** (Yes.)
- e. **Proposal accepted:**  $[p^{cs}] \wedge p^{cs} = p$

Before returning to TOPIC + CLAUSE attitude reports, I propose two tweaks to the above account. The resulting system is equivalent for the examples discussed in [AnderBois, Brasoveanu & Henderson 2015](#), but generalizes in ways which will be crucial in a moment. First, rather than having the value of  $p^{cs}$  set directly to  $p$ , we instead set the output CS equal to the input CS intersected with  $p$ , as in (57e), where  $p_o^{cs}$  and  $p_i^{cs}$  represent the output and input context sets respectively. Second, rather than introducing  $p$  as a subset



**Figure 1** Updates for the at-issue part of the sentence "John, who nearly killed a woman with his car, visited her in the hospital."





for further discussion). As the contrast in (60), repeated from (48), illustrates, no analogous felicity condition exists for appositive relative clauses.

- (60) a. It is raining, which is what Antonio thinks.  
 b. It is raining, Antonio thinks.  
 c. (Antonio-e') k-u tukl-ik-e' yan u k'áax-al ja'.  
 (Antonio-TOP) IMP-A3 think-SS-TOP will A3 fall-SS water  
 'It's going to rain, Antonio thinks.' TOPIC + CLAUSE

Further support for this asymmetry for English slifting comes from disjunctions like (61) where the two disjuncts can have different attitudinal claims made appositively.

- (61) a. Either it's raining, which is what I think, or someone dumped a bucket of water on John's head, which is what Mary thinks.  
 b. #Either it's raining, I think, or someone dumped a bucket of water on John's head, Mary thinks.

In contrast, multiple slifting, is not possible. In terms of the formal analysis above, this makes sense: we can repeatedly update  $p^{CS}$ , but any given proposal has only a single basis.<sup>34</sup> That is to say that slifting and TOPIC + CLAUSE reports are root phenomena, whereas appositives are not.

While there are no existing accounts of TOPIC + CLAUSE reports to compare the present account with, I will briefly compare it with another recent account of related “parenthetical” phenomena, Murray 2014. The account Murray (2014) gives for illocutionary evidentials (with a suggested extension for slifting) has much in common with the account here both conceptually and formally. At the conceptual level, both theories think of sentence meanings dynamically, in terms of Context Change Potential, and both think of at-issueness at the level of “discourse negotiation”, rather than, say, truth conditions, or some other notion. Murray places more emphasis on challengeability than on QUD-sensitivity as such, though since AnderBois, Brasoveanu & Henderson (2015) argue that the two are intimately linked, there is good reason to believe that the two views are in fact quite similar in this respect. At a formal level, both accounts relate at-issueness to the introduction of propositional discourse referents, with different types of not-at-issue content

<sup>34</sup> While not completely impossible, clausal disjunctions (and conjunctions) in YM are fairly marked in the first place, so we cannot easily consider analogous data with TOPIC + CLAUSE reports.

either contributing separate updates to the CG/CS (for appositives) or else modifying the nature of the at-issue update (parenthetical attitude constructions). It should be further noted that beyond tackling a different empirical domain, [Murray \(2014\)](#) also accounts for sentences whose at-issue update is questioning rather than assertive, which we have set aside here.

Despite these overarching parallels, [Murray 2014](#)'s account of slifting (pp. 14–15, 34) is fairly different from the account proposed here. Murray's account would treat a sentence like (6ob) as contributing

- i. an appositive-like update with the information about Antonio's mental state (a "not-at-issue restriction" in her terms) and
- ii. a (symmetric) proposal of a modalized version of attitudinal object (i.e., 'It is {possible/likely/very probable} that it raining') with the modal force (and perhaps other modal parameters) determined contextually in ways which are not made explicit.

In contrast, the present account holds that the speaker makes a public commitment about Antonio's mental state and proposes to add  $p$  to CG (i.e., to presume  $p$  is true in future conversation) on this basis. In the present account, then, uncertainty arises from reasoning about how good of a basis for presuming  $p$  the speaker's evidence provides. The fact that the speaker has chosen to make an asymmetric proposal opens the door to such reasoning, since the speaker has avoided publicly committing themselves to the truth of the proposal itself.

To summarize, the dynamic semantic account I have proposed here formalizes a notion of at-issueness in the semantics that derives the distribution of (not-)at-issue content that the account in Section 3 relied on. While TOPIC + CLAUSE attitude reports share the property of not-at-issueness with appositive relative clauses, the formal system I have adapted from [AnderBois, Brasoveanu & Henderson \(2015\)](#) does distinguish the two kinds of not-at-issue content. Specifically, I have proposed that TOPIC + CLAUSE reports (and potentially other parenthetical constructions) involve "asymmetric" assertions where the speaker's public discourse commitment and proposed update to the CG/CS are distinct.

## 5 Quality-based inferences with third-person BARE CLAUSE reports

Empirically, we saw in Section 2.3 that TOPIC + CLAUSE and BARE CLAUSE reports exhibit complementary restrictions on the kinds of QUDs to which they felicitously respond: TOPIC + CLAUSE reports are felicitous when the QUD concerns the attitudinal object, BARE CLAUSE reports are felicitous for QUDs about the mental state itself. However, the account I have given derives the two restrictions in fairly different ways. The QUD-sensitivity of TOPIC + CLAUSE reports is due to the conventional marking of not-at-issueness which the topic morpheme *-e'* TOP contributes. In contrast, I have analyzed the QUD-sensitivity of BARE CLAUSE reports as being due to pragmatic competition with the corresponding TOPIC + CLAUSE form. The addressee reasons that a cooperative speaker who intended the attitudinal object to be their at-issue contribution would have instead chosen the TOPIC + CLAUSE report. Since this latter account relies on pragmatic inference, we expect therefore that this inference might be defeasible (or simply not arise) given particular pragmatic conditions. Specifically, because the inference is based on pragmatic competition, we expect that if the competing TOPIC + CLAUSE form is not a suitable competitor for some other reason, then the BARE CLAUSE report should be felicitous even when the QUD does indeed concern the attitudinal object. In this section, I briefly show that this expectation is upheld in the case of BARE CLAUSE reports with unreliable third-person subjects.

Recall from Section 2.3 that we found that BARE CLAUSE reports were infelicitous in response to QUDs about the attitudinal object, as in (62).

(62) **Context:** The weatherman, Antonio, is taken to be a reliable source of information about the weather.

**QUD:** 'Is it going to rain?'

a. (Antonio-*e'*) k-u tukl-ik-e' yan u k'áax-al ja'.  
 (Antonio-TOP) IMP-A<sub>3</sub> think-SS-TOP will A<sub>3</sub> fall-SS water  
 'According to what Antonio thinks, it's going to rain.'

TOPIC + CLAUSE

b. #(Antonio-*e'*) k-u tukl-ik yan u k'áaxal ja'.  
 (Antonio-TOP) IMP-A<sub>3</sub> think-SS will A<sub>3</sub> fall-SS water  
 'Antonio think that it's going to rain.'

BARE CLAUSE

In contrast, if we change the scenario so that the weatherman is known to not be good at his job, the pattern of judgments is reversed as in (63). Moreover, with third-person reports such as these, consultants noted that the

use of BARE CLAUSE report makes it sound like the speaker doubts the truth of the attitudinal object and therefore disagrees with the attitude-holder (recall that the TOPIC + CLAUSE and BARE CLAUSE constructions are limited to “indicative” attitudes in the first place, as discussed in Section 2.1). In contrast, the use of the TOPIC + CLAUSE reports with third-person reports was seen as suggesting an endorsement of the attitude holder’s view.

(63) **Context:** The weatherman, Antonio, is believed to be bad at predicting the weather.

**QUD:** ‘Is it going to rain?’

- a. #(Antonio-e’) k-u tukl-ik-e’ yan u k’áax-al ja’.  
 (Antonio-TOP) IMP-A<sub>3</sub> think-SS-TOP will A<sub>3</sub> fall-SS water  
 ‘According to what Antonio thinks, it’s going to rain.’  
TOPIC + CLAUSE
- b. (Antonio-e’) k-u tukl-ik yan u k’áaxal ja’.  
 (Antonio-TOP) IMP-A<sub>3</sub> think-SS will A<sub>3</sub> fall-SS water  
 ‘Antonio thinks that it’s going to rain.’  
BARE CLAUSE

Although it shows the defeasibility of one side of our QUD generalizations, I will now argue that this data can be understood under the account offered above, together with a notion of how the Gricean maxim of Quality is to apply given the semantics I have proposed. In the semantics in Section 4, TOPIC + CLAUSE reports were analyzed as contributing asymmetric assertions where the speaker publicly commits to an attitudinal claim, and proposes to add the attitudinal object to the CG/CS on that basis.

Which of these components of the assertion should the Maxim of Quality refer to? The answer, I claim, is that a cooperative speaker ought to ensure that both the proposal and the commitment respect Quality (though for somewhat different reasons). Making a proposal which is false will (if it is accepted) lead to our CG containing information which is false, which is obviously not a rational basis for future joint inquiry or action more generally. At the same time, it also seems clear that a rational speaker should not publicly commit themselves to the truth of a proposition which is thought to be false, even if this proposition is not to be added to the CG. While there is not a direct risk of creating a defective Common Ground in this case, there is risk that the speaker would stand to lose *face* (in the sense of Goffman 1967). Whatever the precise reasoning is, I take it that the Maxim of Quality applies in some way to both the proposal and the public commitment (Faller

(2002) makes a similar claim for Cuzco Quechua evidentials, though under a slightly different conception of the two components).

In the case of a TOPIC + CLAUSE report uttered in response to a QUD about the attitudinal object, therefore, a cooperative speaker should be constrained by Quality in some way. Since the speaker is publicly indicating their basis for the proposal, the standard which their belief must reach will presumably be less than it would otherwise, but minimally it seems that a cooperative speaker should not make such a proposal if they believe the attitudinal object is false. An addressee who hears a speaker who utters a TOPIC + CLAUSE report with a QUD about the attitudinal object, therefore, reasons that the speaker must meet some minimal degree of credence to what attitude holder thinks to be the case, which plausibly is not met in (63). Therefore, even though the QUD is best-suited to the TOPIC + CLAUSE report, for the speaker to have uttered the TOPIC + CLAUSE report would have violated the maxim of Quality and so would have been infelicitous or at best misleading.

I have proposed above that the QUD-sensitivity of the BARE CLAUSE report is due to pragmatic competition with the corresponding TOPIC + CLAUSE report blocking the addressee from recognizing the intended at-issue contribution of the speaker. Ordinarily, if the speaker had intended to contribute the attitudinal object, they would have used the TOPIC + CLAUSE form. However, as we have just seen, the TOPIC + CLAUSE form would have violated the maxim of Quality in this case and therefore is itself infelicitous in this case. The addressee is of course aware of this given the scenario and so the pragmatic competition does not block the recognition by the addressee that the attitudinal object is the intended contribution. Since the context rules out the weatherman's reliability as a third-person reporter, there is no competing form which the addressee should expect the speaker to choose instead. Without an otherwise suitable pragmatic competitor, the BARE CLAUSE report is felicitous here for the same reasons as embedding attitude reports in English, as discussed in Section 3.

While the role of reliability with third-person attitude holder is consistent with the data I have collected, an anonymous reviewer presents an apparent counterexample in (64) from a text recorded by Christian Lehmann. According to the reviewer, the speaker (a Protestant) is "taking Catholics and practitioners of the syncretistic *Cruzo'ob* religion to task for what he sees as idolatry". It is therefore clear contextually that the speaker believes that the attitudinal object is false (i.e., that the carvings are not in fact saintly or

miraculous), and, furthermore, the whole point of the passage, it seems, is to ridicule or otherwise criticize this belief.

- (64) Kex t-u táan jun p'éel pol-bil che' ...  
 even.though PREP-A<sub>3</sub> front one CL.INAM carve-GIV wood  
 túun tukul-ik-e' saanto-∅, túun tukul-ik-e'  
 PROG.A<sub>3</sub> think-SS-TOP saint-B<sub>3</sub>SG PROG.A<sub>3</sub> think-SS-TOP  
 milagroso-∅ ...  
 miraculous-B<sub>3</sub>SG  
 'Even though (they are) in front of a piece of carved wood, ... (as for  
 what) they are thinking: she's a saint, (as for what) they are thinking:  
 she's miraculous ...'

Without a sense of exactly what formal<sup>35</sup> and contextual features make this example different than the elicited data in the present paper, we can offer only tentative thoughts on this example. This said, there are several notable aspects of it from the perspective of the current account. First, as I understand the context, the speaker is in the middle of an extended diatribe against what he sees as idolatry and so there does not seem to be any risk that the addressee will take the speaker to intend the attitudinal object as his at-issue contribution. Second, note that this example appears to also violate the QUD generalization as well. Intuitively, the topic of the conversation is not the information about the mental state or the fact of the matter so much as it is the speaker's affective state. Therefore, we might plausibly take this example to be a case where the QUD in fact concerns neither the content of the mental state itself, nor of the fact of the matter — both of which seem to be settled matters as I understand this context — but rather has to do with the affective state of the speaker (see [Kao & Goodman 2015](#) and references therein for recent QUD-based approaches to similar cases of

<sup>35</sup> One feature which certainly differs from the data we have used here is the use of the progressive aspect (here encoded by the portmanteau form *túun*). In contrast, we have restricted our scope here to the more unmarked imperfective *k-IMP*. Second, the attitudinal object here does not contain any indexical elements nor any reference to the attitude-holder or his immediate surroundings. Therefore, we cannot rule out that this is a quotation of some kind, as the shifted indexical in an example like (i) from the Corpus of Contemporary American English (COCA) of [Davies \(2008-\)](#) indicates:

- (i) You want him to slide. If he doesn't see any chance, he's thinking "I've got to go through the catcher," and he starts thinking it from 45 feet away.

affective meaning). While fleshing out such an account is beyond the scope of the present paper, we hope to have shown that there are several potentially viable approaches to the example in (64).

## 6 Conclusion

In this paper, I have examined two attitude constructions in YM — which I have dubbed BARE CLAUSE and TOPIC + CLAUSE — and argued that despite their truth-conditional equivalence, they have subtly different patterns of usage. Whereas ordinary embedded attitude reports in English can be used either in response to QUDs about the mental state itself or about the attitudinal object (as discussed by [Simons \(2007\)](#)), we have seen that BARE CLAUSE and TOPIC + CLAUSE reports in YM regularly distinguish these two uses, with BARE CLAUSE reports felicitous in the former type of context, and TOPIC + CLAUSE reports in the latter.

I have proposed an analysis of the two forms in which the topic morpheme *-e'* TOP in TOPIC + CLAUSE reports conventionally marks the attitudinal information as being not-at-issue. While this lack of intended at-issueness is arguably shared with other constructions such as non-restrictive relative clauses, I have developed a dynamic semantic account building on [AnderBois, Brasoveanu & Henderson 2015](#) which nonetheless distinguishes them. Given this semantics for TOPIC + CLAUSE reports (and a standard embedding semantics for BARE CLAUSE reports) the QUD-sensitivity we observe is derived from general pragmatic principles. Building on [Simons et al. 2011](#) and [Simons 2007](#), I have considered two different formulations of the relationships between QUDs, relevance, and at-issueness. While the analysis I have proposed is consistent with either approach, the presence of pragmatic competition between the two forms in YM sheds interesting light on these two subtly different theories.

In addition to the account of the YM forms themselves, the analysis proposed provides confirmation for a pragmatic approach to “parenthetical” uses of attitude reports, in line with [Simons 2007](#). [Simons \(2007\)](#) argues that parenthetical uses of attitude reports like (65b) have no special syntax or semantics, but rather that the difference is pragmatic. This stands in contrast to some previous works (e.g., [Cinque 1999](#)), which have argued that such reports are syntactically and/or semantically ambiguous between parenthetical and non-parenthetical readings.

- (65) a. A: Who was Louise with last night?  
b. B: Henry thinks that she was with Bill.

Since YM regularly distinguishes between these two uses, it would seem at first blush that the TOPIC + CLAUSE and BARE CLAUSE forms could be thought of as disambiguating between these two readings of (65b). However, what I have shown is that the usage patterns of the BARE CLAUSE forms can be derived pragmatically in a principled way, with no special QUD-sensitivity encoded semantically. Moreover, we have seen in §5 that when this inferential process is superseded by other pragmatic considerations, we can indeed find BARE CLAUSE reports used in pragmatically parenthetical ways, just as the reasoning of Simons 2007 would lead us to expect. Their distribution is quite limited in YM since the TOPIC + CLAUSE report provides a pragmatic competitor in a way English slifting does not, but the larger point still stands: even in a language which appears to disambiguate these uses, the best analysis is one which relies on a semantics which is broadly analogous to that of English.

While the theory developed here has much in common with Simons 2007, one way in which it differs substantially is in the view of assertion that it adopts. In particular, the present work follows Farkas & Bruce 2010 and many other recent works in regarding at-issue assertions as contributing *proposals* to update the CG/CS as well as the public discourse commitment by the speaker. While these two components will typically be symmetrical, we have departed from previous literature and argued that conventionally parenthetical attitude reports like TOPIC + CLAUSE reports in YM contribute *asymmetric* updates in which the speaker's public discourse commitment is to the attitudinal information holding, while the proposal is to update the CG/CS with the attitudinal object. While we have focused here on attitude reports themselves, there is every reason to believe that the approach can be extended to other "parenthetical" elements such as hedges, certain discourse particles, and illocutionary evidentials (see AnderBois 2014 on the latter).

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