

Illocutionary revelations: Yucatec Maya *bakáan* and the typology of miratives*

Scott AnderBois

Brown University

Abstract

Miratives have often been thought of as expressing predications which can be schematized as ‘*p* is *Y* for the speaker at the time of the utterance’, where *Y* is some a member of the set {surprising, new information, a sudden revelation, ...}. While much of the prior literature has discussed the value of *Y*, this discussion has typically been taken to be primarily a matter of analysis or its conceptual underpinnings rather than an empirical one. In this paper, I examine a new mirative in detail, Yucatec Maya (YM) *bakáan*, using context-relative felicity judgments to argue that *bakáan* conventionally encodes sudden revelation rather than these other notions. While I hold that *bakáan* encodes revelation, I argue that this revelation is not in fact about propositional content per se, but rather is about the appropriateness/utility of the illocutionary update the speaker performs. A sudden revelation that a proposition is true is one such revelation, but other kinds are more clearly illocutionary in nature. Evidence for this position comes not only from *bakáan* in declarative sentences, but also its use in imperatives and interrogatives. I argue that the range of uses that the use of *bakáan* as an illocutionary modifier across sentence types sheds light on the kinds of updates they encode, and in particular supports a theory in which declarative updates are more complex than corresponding imperative and interrogative ones.

1. Introduction

Since DeLancey (1997) first brought the term to popular use, the nature of mirativity, its grammatical encoding, and very existence have been much debated. At the center of these

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debates has been the issue of precisely what notion or notions miratives express. Different authors have described mirative markers across languages as encoding a family of notionally distinct meanings. For example, Aikhenvald (2012)’s survey article lists the following 5 different conceptions of mirativity: (i) ‘new information’, (ii) ‘sudden discovery, revelation, or realization’, (iii) ‘surprise’, (iv) ‘counterexpectation’, and (v) ‘unprepared mind’.

What remains unclear from previous literature is to what extent there is truly cross-linguistic variation in the semantics of mirativity rather than differences in analysis. While these different conceptions of mirativity are clearly related, they are nonetheless in principle distinguishable from one another. One goal of research into mirativity, therefore, is to explore the extent to which there is true cross-linguistic variation in which of these notions miratives encode, what we can call the MIRATIVE ATTITUDE question. This question is in essence about what kind of propositional attitude or mental state/event miratives encode. i.e. which member of the set {surprising, new information, a sudden revelation, ...} best captures the attitude that miratives express.

While the kind of attitude or mental state/event the mirative expresses remains an important question (and indeed one we address at length below), the above formulation presupposes that whichever mental state miratives express, the thing of which this attitude is predicated is a proposition. Focusing on declarative sentences for the moment, we can think of an utterance of a speaker who utters a sentence *S* as involving a speech act update *U* associated with propositional content *p*. Previous literature, then, is uniform in assuming (often implicitly) that the mirative attitude is a propositional attitude that the speaker predicates of *p*. However, considering the parallels with (non-mirative) evidentials and attitude reports more generally, we might in principle expect to find other kinds of arguments of mirative predicates including situations, events, and illocutionary updates.

In this paper, we take a first step towards both of these goals by examining in detail a mirative marker which is undiscussed in previous literature on mirativity (and only briefly discussed in descriptive literature): Yucatec Maya (YM) *bakáan*, as in (1).¹ As the context and translation in (1) suggest, *bakáan* fits squarely under the umbrella of mirativity, typically occurring in utterances consistent with all five of the mirative conceptions above.

- (1) **Context:** We are inside the library. I suddenly look out the window and notice it is raining, which it hadn’t been before, and say:

¹The following abbreviations used for example glosses: ADMON: admonitive, ASSUR: assurative, CL: numeral classifier, DEF: definite article, DIR: direct case, IMP: imperfective aspect, IMPER: imperative, INDIR: indirect case, MIR: mirative, NECESS: necessitative, NEG: negation, NEG.CL: negative/extrafocal clitic, OBL: oblique case, OBLIG: obligative, PFV: perfective aspect, PASS: passive, PL: plural, PREP: preposition, PRES: presentative, PROG: progressive aspect, PROX: proximal deixis, REL: relational noun suffix, SUBJ: subjunctive mood, TERM: terminative aspect, TOP: topic marker, For agreement morphology, I follow the terminological tradition among Mayanists, referring to Set A (\approx Ergative/Nominative) and Set B (\approx Absolutive/Accusative) markers, e.g. A3 = 3rd person Ergative/Nominative. B3 is phonologically null and therefore left unglossed. All examples are elicited unless otherwise noted. The orthography used is that codified in Briceño Chel & Can Tec (2014), with the exception that we make use of the question mark. It differs from the IPA in the following possibly non-obvious ways: orthographic *j* is used for IPA [h], *x* for [ʃ], *a’a* for creaky voice [a̰], *b* for the implosive [b̥], *y* for [j], and *r* for [r]

Táan bakáan u k'áaxal ja'.
 PROG MIR A3 fall water
 'Oh, it's raining.'

Many examples such as this one are consistent with many or all of the previously proposed mirative attitudes discussed above. However, I propose that of these, YM *bakáan* encodes sudden revelation or realization on the part of the speaker. I argue for this on the basis of naturally occurring examples and, most importantly, context-relative felicity judgment tasks (of the sort described by Matthewson (2004)) with contexts carefully devised to be consistent with only a proper subset of the proposed mirative attitudes. While contexts distinguishing these different mirative attitudes arguably must exist for them to constitute distinct linguistic analyses, previous literature has not explored such cases to our knowledge, at least not systematically.

Rather than simply characterizing the speaker's attitude towards a proposition, however, I argue that the thing about which *bakáan* expresses the speaker's sudden revelation or realization is the illocutionary update the sentence encodes, rather than its propositional content. That is to say that a speaker who utters a sentence with a mirative expresses that they have just experienced a revelation which has caused them to perform a speech act using update U. The structure of the argument is similar to the case that has been made by several recent authors (e.g. Faller (2002), Murray (2014)) for reportative evidentials in many languages that 'outside the speech act' uses motivate an illocutionary modifier analysis of some sort. It also follows recent work in attitude reports more generally such as Anand & Hacquard (2008, 2014) which claim that certain attitudes are ascribed not of propositions but of speech events of one kind or another.

For mirative *bakáan* we argue for the existence of such cases within certain declaratives, as well as providing data of a sort which has gone to my knowledge unexplored in prior literature: the use of the mirative outside of declarative sentences. For example, the inclusion of *bakáan* in the imperative in (2) conveys that the impetus to order the child to go buy beans just popped into the mother's mind:

- (2) **Context:** A mother is in the kitchen cooking and remembers that there are no beans in the house because she forgot to tell her son to go buy some and says:
 Xeen bakáan a maan bu'ul te' tiiyeenda-o'.
 go.IMP MIR A2 buy.SUBJ beans there store-DISTAL
 'Oh (I meant to tell you), go buy some beans.'

In order to capture these two ideas, we develop a unified analysis where *bakáan* across sentence types conveys the existence of an event of revelation on the part of the speaker which has triggered their use of the illocutionary update the rest of the sentence encodes. Reifying this analysis, then, requires an explicit theory of the illocutionary updates contributed by various sentence types in the absence of *bakáan* and how *bakáan* interacts with these. In this paper, we do this for declaratives, imperatives, and interrogatives, arguing that the interaction with *bakáan* helps contribute to debates in recent literature over the content

and structure of these updates, arguing against certain kinds of update semantics found in previous literature (especially in the case of imperatives).

For declaratives, recent literature develops two distinct theories of the updates to the discourse scoreboard they conventionally encode. First, Farkas & Bruce (2010), Murray (2014), Malamud & Stephenson (2015), and AnderBois et al. (2015) (following Stalnaker (1978)) develop the idea that declarative sentences encode a proposal to update the speaker and addressee’s shared body of presumed information, the Common Ground, $CG_{\{spkr, addr\}}$. Second, Gunlogson (2001), Davis (2009), Northrup (2014) (following Hamblin (1971)) pursue an approach under which declarative sentences encode an update of the speaker’s individually anchored public discourse commitments DC_{spkr} . We argue that the range of uses of *bakáan* in declaratives can be best captured under a ‘dual update’ theory on which declaratives encode both kinds of updates (see AnderBois (2014), AnderBois (2016) for similar conclusions based on quite different data).²

For imperatives, in contrast, the kind of update they encode is somewhat less obvious since imperatives are polyfunctional, being used across languages to express various speech acts including commands, offers, wishes, permissions, and disinterested advice. A number of recent works has coalesced around the idea that imperatives encode preferences of a very particular kind, what Condoravdi & Lauer (2012) have termed ‘effective preferences’. Drawing on the parallel with assertions, then, there are two different kinds of preference-based updates which we might take imperatives to encode. First, parallel to the CG-update of assertions, we might take them to encode proposals to update the shared effective preferences of the speaker and addressee, $EP_{\{spkr, addr\}}$ (see, e.g. von Stechow & Iatridou (2017), AnderBois (2015) for suggestions along these lines). Second, parallel to the DC_{spkr} update in assertions, imperatives could encode an update to the speaker’s individual effective preferences, EP_{spkr} (see, e.g. Davis (2009), Condoravdi & Lauer (2012)). As in the case of declaratives, then, either or both of these individual updates could be encoded by imperative sentences in principle. Here, however, the range of uses for imperatives with *bakáan* is more restricted, in ways which we argue support a theory where imperatives encode only a single proposal to update $EP_{\{spkr, addr\}}$, but no update to the speaker’s individual preferences.³ While the nature of interrogative updates has been less discussed in recent literature, the range of use of interrogatives with *bakáan* similarly supports a simpler update for interrogatives than for declaratives.

Taken together, then, we argue that *bakáan* across sentence types uniformly encodes that the speaker has had a sudden revelation about the illocutionary update the rest of the sentence encodes. The outline of the paper is as follows: §2 gives a brief background on the morphosyntax of YM generally and *bakáan* specifically; §3 addresses the content of the mirative attitude for apparently propositional cases, arguing for sudden revelation/realization using felicity judgments; §4 shows that *bakáan* has illocutionary-level uses across sentence types; §5 presents a formal analysis of illocutionary updates across sentence types and an-

²In several of the works cited here, most notably Farkas & Bruce (2010), the potential compatibility of these two kinds of updates is noted, though not leveraged in a general way.

³Here and throughout, we idealize slightly, assuming only two discourse participants, Speaker and Addressee.

alyzes *bakáan* as an illocutionary update modifier; §6 examines the cross-linguistic picture in light of the available evidence; §7 concludes.

2. Background on Yucatec Maya and *bakáan*

Yucatec Maya (YM) is one of 30 languages in the Mayan family, spoken by ≈759,000 people (2005 census) across the Mexican states of Campeche, Quintana Roo, and Yucatán. Despite the relative large number of speakers, only 5.3% are reported to be monolinguals according to census data (INEGI (2009)), fewer children speak the language than adults, and the percent of the population that speaks the language is dropping according to census statistics. While the status of YM is healthier than many or most languages of the world, it's long-term health is potentially in some doubt. The elicited data reported on here were collected from bilingual college students at the Universidad de Oriente (UnO) in Valladolid, Yucatán and are supplemented where possible with naturally occurring examples from various genres.⁴

Turning to the grammar of the language, YM behaves syntactically as a head-marking verb-initial language (basic word order is VOS), with actual surface word order driven primarily by discourse factors. In particular, as in other Mayan languages, there are extremely productive preverbal topic and focus constructions, occurring in that order. Topics constitute distinct intonational phrases from the rest of the sentence and are marked morphologically with the intonational phrase-final clitic *-e'* TOP and typically followed by a large pause (Avelino (2009), Verhoeven & Skopeteas (2015)). Foci occur following topics but preceding the verb and form a single intonational phrase together with all other non-topic material. As is common in Mayan languages, subject and object agreement is present with subject and object pro-drop being quite common.

2.1 *Bakáan* and other particles in YM

Bakáan is part of a small class of elements in YM – mirative *bakáan* MIR, the polar question clitic *wáaj* POLQ,⁵ and reportative *bin* REP – which typically occur in second position within the intonational phrase, (3a), following the initial prosodic word (CVC being the minimal such word). While this position is most frequent, positions further to the right, as in (3b)-(3c), are also generally judged acceptable, but occur less frequently in texts and other open-ended elicitation tasks (cf. AnderBois (2009) and Verhoeven & Skopeteas (2015) on *wáa(j)*).⁶

⁴One genre of particular note are religious revelations. Here, *bakáan* plays a ritual role, often occurring in nearly every clause. We therefore consider such data separately, see §3.3 for discussion.

⁵Only some speakers use *wáaj* to form polar questions, with some other speakers using reduced forms such as *áa* or *áan*, or only using intonation. Anecdotaly, it seems that age and geography are factors with older speakers and speakers of more westerly dialects more likely to use *wáaj*, though leave investigation of this to future work.

⁶Some consultants also sometimes accepted *bakáan* in topic position, as in (i), with no apparent interpretive difference. Such examples, however, were often rejected by consultants. Moreover, they are exceedingly rare (though not unattested) in naturally occurring speech and were not offered by consultants in translation

- (3) a. K-u jantik bakáan puut le áak-o'.
 IMP-A3 eat MIR papaya DEF turtle-DISTAL
 'Oh, the turtle is eating papaya!'
- b. K-u jantik puut bakáan le áak-o'.
 IMP-A3 eat papaya MIR DEF turtle-DISTAL
 'Oh, the turtle is eating papaya!'
- c. K-u jantik puut le áak bakáan-o'.
 IMP-A3 eat papaya DEF turtle MIR-DISTAL
 'Oh, the turtle is eating papaya!'

Similar to other clitics with this preferred second position distribution, there is no apparent interpretive difference related to the linear position, (4)-(5).

- (4) T-a xokaj (wáaj) óox p'éeel (wáaj) áanalte' -o'ob (wáaj) jo'oljeak (wáaj).
 PFV-A2 read (POLQ) three CL (POLQ) book-PL (POLQ) yesterday (POLQ)
 'Did you read three books yesterday?' Verhoeven & Skopeteas (2015)
- (5) Ma' (bin) t-u máansaj (bin) u examen (bin) Carmen (bin)-i'.
 NEG (REP) PFV-A3 pass (REP) A3 exam (REP) Carmen (REP)-NEG.CL
 'Carmen didn't pass the exam (they say).'

One other point common to all three of these particles is that they have no restrictions based on information structure. In addition to examples with no preverbal topic or focus like (3), all three are compatible with the sentence having a preverbal focus, topic, or both, as illustrated in (6) for *bakáan*. Simply put, there is no clear interaction between syntactically encoded information structural notions of topic and focus and *bakáan*. While not shown here for space, various linear positions for *bakáan* remain possible across these options as well.

- (6) a. Paastel bakáan t-u jantaj Chocolata
 cake MIR PFV-A3 eat Chocolata
 'Oh, Chocolata (a dog's name) ate *cake*!' **Focus**
- b. Chocolata-e' bakáan t-u jantaj paastel.
 Chocolata-TOP MIR PFV-A3 eat cake
 'Oh, Chocolata (a dog's name) ate *cake*!' **Topic**

tasks and open-ended elicitation tasks. As such, we set aside such cases, leaving it to future work to determine their status.

- (i) bakáan-e' jats'uts a naj-il!
 MIR-TOP good A2 house-REL
 'Oh, your house is nice!'

- c. Chocolata-e' paastel bakáan t-u jantaj.
 Chocolata-TOP cake MIR PFV-A3 eat
 'Oh, Chocolata (a dog's name) ate *cake*!'

Topic + Focus

2.2 *Bakáan* is uniformly mirative

Aside from the variable characterization of the semantics of the mirative attitude to be discussed in §3, the main reason why mirativity has proven controversial as a grammatical category is the fact that many mirative markers – including the most well-studied ones to date – also have formally identical non-mirative uses. The most notable and well-studied of these, perhaps is for a single morpheme to have both mirative and indirect evidential uses. In such cases, there has been a consistent intuition that the mirative use is somehow secondary. This has led some authors (e.g. Peterson (2010)) to consider mirative uses of indirect evidentials to arise via implicature or some other kind of non-literal meaning (see Rett & Murray (2013) and references therein for further discussion).

For YM, while *bakáan* has been scarcely discussed in previous literature (even at a basic descriptive level), what discussion there has been suggests that *bakáan* similarly has both indirect evidential and mirative uses. In this subsection we argue against this, claiming that *bakáan* only has mirative uses and therefore that questions about the relationship between indirect evidentiality and mirativity do not arise in this case.

While no previous literature focuses primarily on *bakáan*, authors whose examples happen to include *bakáan* have used various glosses such as COUNTEREXPECTATIVE or PARTICLE or lexical glosses like *apparently*, *gee*, *well*, etc. The most detailed claim regarding the meaning of *bakáan* comes from Hanks (1984), a paper whose main subject is not *bakáan*, but rather the comparison between two other constructions, both involving the morpheme *je'(el)* plus a clause-final clitic. Beyond differing in which clitic they involve, the two constructions differ syntactically as well, with *je'(el)* occurring with an non-finite or aspectless clause in (7a), but a fully finite clause including aspect (here, imperfective *k-IMP*) in (7b).

- (7) a. **Modal *je'* plus TOPIC -e'**
 Je' bakáan u taal-e'
 ASSUR MIR A3 come-TOP
 'He'll apparently come, so it seems.' Hanks (1984)
- b. **Presentative *je'* plus DISTAL -o'**
 Je' bakáan k-u taal-o'
 PRES MIR IMP-A3 come-DISTAL
 'Here he comes (I didn't think he'd make it).' Hanks (1984)

The use of *bakáan* is grammatical in both constructions and Hanks (1984) make the following claim about its meaning in the two constructions based on the examples in (7): "Depending on [linguistic] context, *bakáan* may index either: (i) the speaker feels there is reason to believe X, but is unwilling to vouch for it himself; or (ii) X is verifiably true, but

the speaker had not expected it and so is mildly surprised.” According to Hanks (1984)’s brief description, then, *bakáan* has both indirect evidential and mirative uses.

Given the cross-linguistic connection between indirect evidentiality and mirativity already noted, such a pattern is, of course, quite plausible a priori. Considering a wider range of examples, however, it becomes clear that only the mirative usage is associated with *bakáan*. Additionally, speakers reject the use of *bakáan* in scenarios with indirect evidence, but nothing supporting a mirative interpretation, as in (8).

- (8) **Context:** We are looking at the wet ground, but can’t see the rain itself.

#Beora’-e’ táan bakáan u k’áaxal ja’.
 now-TOP PROG MIR A3 fall water
 Intended: ‘It appears that it’s raining now.’

Finally, there is a clear alternative explanation for the apparent indirectness in (7a), the only example Hanks (1984) presents to motivate the indirect evidential claim: the modal semantics of the combination of *je’(el)* with *-e’*. In addition to Hanks (1984)’s own claims about the epistemic modal nature of *je’el ... -e’*, Bohnemeyer (2002) describes *je’el ... -e’* in somewhat more detail as contributing a combination of deontic and epistemic modality as well as locating the described eventuality after the topic time, as in (9). Given the well-known similarities between indirect evidentiality and epistemic modality, this suffices to explain the apparent indirectness of (7a), whether or not one takes this indirectness to be semantically encoded as such or to arise secondarily from an intrinsically modal semantics.

- (9) Je’ u yan-tal k naj-il uts-e’
 ASSUR A3 exist-become A1pl house-REL good-TOP
 ‘We will have a decent house!’ (Bohnemeyer 2002, p.313)

In this section, we have provided a basic introduction to YM and its inventory of flexibly second-position particles including *bakáan*. Beyond this, we have argued that *bakáan* has only mirative uses and suggested an alternative explanation for Hanks (1984)’s putative counterexample to this claim. We turn now to address the first of the two main questions with which we started, the semantics of the mirative attitude.

3. *Bakáan* encodes ‘revelation’, not surprise

As in the case of other miratives cross-linguistically, *bakáan* often conveys that the speaker has suddenly found out information that is new, surprising, and unexpected.

- (10) **Context:** We are inside the library. I suddenly look out the window and notice it is raining, which it hadn’t been before, and say:
 Táan bakáan u k’áaxal ja’.
 PROG MIR A3 fall water

‘Oh, it’s raining.’

- (11) **Context:** The speaker, Ricky, sees a light on in his son Jacob’s room at night and assumes that he is just playing a video game. He walks in and says the following:

Táan bakáan u xokik le biblia-o’!
 PROG MIR A3 read DEF bible-DISTAL

‘Oh, he’s reading the bible.’

Web example⁷

- (12) **Context:** The speaker is approaching shadowy figures in the distance and as they approach realizes that the figures are her parents:

...leti’ bakáan in yuum-o’ob k-u náats’al-o’ob-e’
 they MIR A1 parent-PL IMP-A3 close-PL-TOP

‘Oh, it’s my parents that are approaching.’

Literary Example⁸

While examples meeting many different conceptions of mirativity are typical, such examples leave open the question of what part of this description is semantic (i.e. conventionally encoded) vs. arising pragmatically in context.

3.1 Relations between conceptions of mirativity

As noted in the introduction, previous literature has given several related characterizations of mirative semantics (e.g. Aikhenvald (2012)):⁹

- (13) 4 conceptions of mirativity:
- ‘new information’
 - ‘sudden discovery, revelation, or realization’
 - ‘surprise’
 - ‘counterexpectation’

While many or all of these conceptions are distinct in principle, some of these notions are intrinsically related to one another, as has been discussed some in previous literature. For example, Peterson (2016) suggests that sudden revelation, b, is a necessary component of surprise, c. Relatedly, Rett & Murray (2013) assert that new information, a, is a necessary component of surprise, c. Similarly, psychologists (e.g. Huron (2006)) have characterized surprise, c, as a biological/primary emotional response to experiencing certain kinds of expectation violation, d.

⁷<https://www.jw.org/yua/j%C3%B3o%CA%BCsa%CA%BCanilo%CA%BCob/revista%CA%BCob/w20150115/yeetel-kiimak-oolal-binoob-aantaj-nueva-york/>

⁸*U yóok’otilo’ob áak’ab*, p. 60-61

⁹Aikhenvald (2012) includes a fifth notion, due to DeLancey (1997), that of ‘unprepared mind’, which we set aside here. While the description he gives seems fairly apt for typical uses of miratives including *bakáan*, it is not sufficiently clear from previous literature what exactly it refers to and, in particular, how to distinguish it from the other four analyses empirically.

Although I endorse these conclusions here, there is an important caveat to understanding how they hold: they depend on the indexical nature of miratives. They express the mental evaluation of a particular individual (the speaker) at a particular moment in time (the time of the utterance). To felicitously and truthfully utter a sentence with a mirative is to convey to the interlocutor an ongoing or recently completed mental change of state (similar to Faller (2002)'s notion of *m(ental)-performative*). The relationships between various notions of mirativity just listed, then, hold only when these indexical elements are resolved in the same way. Sudden revelation by a speaker *S* at a time *t* is necessary for *S* to be surprised at time *t* (or perhaps in the moments immediately following). In contrast, there is also an intersubjective use of the English word surprise (e.g. 'It is surprising that *p*.') which does not share these indexical or m-performative properties and for which these relations do not hold. A given speaker might know things which would be surprising, new information, etc. for most people but which are not surprising for the speaker or things which were at one point in time surprising to the speaker herself, but which no longer are.

While these indexical or m-performative properties are largely implicit in much of the previous literature, whether or not they hold is of course an empirical question (see, e.g. §6.2). For YM *bakáan*, this characterization is supported by contrasts like that in (14). In (14a), the information in the *bakáan* marked sentence is objectively surprising given general presumptions about turtles (that they eat grass rather than fruit), but is not in any sense surprising or new for the speaker since the specific turtle is well-known to the speaker. The utterance is therefore judged infelicitous since the speaker is not experiencing any of the various mirative states at the moment of the utterance, even though many or most other individuals likely might. In contrast, when the turtle is new to speaker in (14b), the same sentence can be uttered felicitously.

- (14) Áak-o'ob-e' su'uk k-u jantik-o'ob, chen ba'ale' le áak-a' puut
 turtle-PL-TOP grass IMP-A3 eat-PL just but DEF turtle-PROX papaya
 bakáan k-u jantik.
 MIR IMP-A3 eat
 Turtles eat grass, but this one apparently eats papaya!'
- a. # **Context:** Turtles normally eat grass, but I have a pet turtle who for some reason always eats papaya instead of grass.
- b. ✓ **Context:** Turtles normally eat grass, but we see a turtle who for some reason is eating papaya instead of grass.

On the basis of such contrasts, we conclude that whatever notion of mirativity *bakáan* encodes, it is an m-performative one and therefore indexically anchored in the immediate speech context. Before proceeding, we briefly discuss another aspect of this m-performativity: the inability of *bakáan* to occur in semantically embedded (i.e. narrow scope) contexts. In addition to introducing the distinction between m-performative and descriptive uses of modals and evidentials, Faller (2002, §6.2) claims that certain narrow scope readings can only be taken to be descriptive uses. Having claimed that *bakáan* is m-performative, then, we expect to find that *bakáan* has no such uses. This expectation is

borne out: *bakáan* does not allow for narrow scope readings with conditionals, negation, attitude predicates, or other scope-taking elements. In terms of surface form, *bakáan* can be pronounced in positions which appear to be within their scope in terms of linear order. However, as shown at length in §2, linear position of *bakáan* – like reportative *bin* – does not affect its interpretation regardless of what other scope-taking operators may appear.

3.2 *Bakáan* as a marker of revelation

In light of the notional dependencies discussed in the prior section, these different conceptions of mirativity often coincide and, as we have seen in (10)-(12), many examples are consistent with all of them. However, even taking the above dependencies as given, as we do here, these different mirative notions nonetheless can be distinguished empirically. In particular, what is needed, I claim, are felicity/acceptability judgments of sentences in contexts consistent with a proper subset of the above definitions. As we have seen, not all logically possible permutations are possible. For example, contexts involving surprise of the relevant kind but no new information arguably cannot exist. However, there are two fairly clear cases where these can be teased apart, which we do in the remainder of this subsection.

3.2.1 Speaker's prior expectation is suddenly met

The first kind of scenario for which felicity judgments of utterances with miratives make clear distinctions are scenarios in which the speaker has a prior expectation which is suddenly met. As summarized in (15), then, we expect that a mirative encoding new information or revelation will be judged felicitous in such a scenario, whereas a mirative which encodes surprise or counterexpectation should not be.

(15) *Felicity in scenarios where speaker's prior expectation is suddenly met*

	Type	Felicitous?
a	New Information	✓
b	Revelation	✓
c	Surprise	✗
d	Counterexpectation	✗

As seen in (16)-(19), *bakáan* is felicitous in scenarios of this sort and therefore does not encode notions c or d. In (16) and (17), the context establishes quite explicitly that the speaker's prior expectations are met. In (18), the speaker is presumably not surprised that she needs to eat since eating is a normal solution to having a stomachache. Finally, in (19), the speaker is not taken to be insulting the addressee as would presumably be the case if the sentence conveyed that the speaker's expectation had been violated. Rather, the sentence merely conveys that the intelligence of the addressee is now suddenly on the speaker's mind in the wake of the addressee's comment.

- (16) **Context:** I am supposed to meet my friend Juan, who is very punctual, at the library at 3pm. It is almost exactly 3pm and I suddenly see him walking up to the meeting spot and I say:
 Juan-e' j-k'uch bakáan.
 Juan-TOPIC PFV-arrive MIR
 'Oh, Juan's here (lit. Juan arrived).'
- (17) **Context:** The speaker is outside in an area where scorpions are seen regularly, suddenly sees one and says:
 Je' bakáan le síina'an k-u bin-o'
 ASSUR MIR DEF scorpion IMP-A3 go-DISTAL
 'Oh look, there's a scorpion that's going by.'
- (18) **Context:** I have a stomachache and say:
 K'ana'an bakáan in janal, wáa ma'-e' yan in k'oja'antal.
 NECESS MIR A1 eat if NEG-TOP OBLIG A1 become.sick
 'Oh, I need to eat. If I don't, I'll get sick.'
- (19) **Context:** I had no prior belief that you were anything but smart when you make a really insightful comment. I say:
 (Jach) yaan bakáan a na'at!
 very exists MIR A2 understanding
 'Oh, you're (really) smart!'

3.2.2 Speaker forgets and suddenly remembers

The second type of context-relative felicity judgment which distinguishes the various mirative notions are scenarios where the speaker had forgotten some piece of information or otherwise did not have it mind and then suddenly remembers it. Since the scenario is one where the information was already known, felicity in such a scenario plainly rules out 'new information'. Given the presumed relationship between new information and surprise, felicity in such cases provides further evidence against surprise and counterexpectation as the content of the mirative attitude.

- (20) *Felicity in scenarios where speaker forgot and suddenly remembers*

	Type	Felicitous?
a	New Information	✗
b	Revelation	✓
c	Surprise	✗
d	Counterexpectation	✗

As seen in (21)-(23), YM *bakáan* is felicitous in such scenarios, and I therefore conclude that it encodes sudden revelation or realization, rather than the other notions discussed by

Aikhenvald (2012). In (21), the speaker momentarily forgets what he did yesterday, but quickly remembers and utters the sentence with *bakáan*. In (22), the speaker has forgotten that Juan got married or perhaps has forgotten to mention this (see §4.2 for further discussion of the latter observation). Factors that make forgetting seem more likely enhance felicity (e.g. time passing, speaker being drunk, old), though speakers generally accept these examples without such additional context being made explicit.

- (21) **Context:** I hunted yesterday, but forgot for a second. I suddenly remember and say:
T-in ts'oonaj bakáan jun túul kej.
PFV-A1 hunt MIR one CL deer
‘Oh yeah, I hunted a deer yesterday.’
- (22) **Context:** I heard a week ago that our mutual acquaintance Juan got married. I realize during our conversation I didn’t yet tell you the news and say:
Juan-e’ ts’o’ok bakáan u beel.
Juan-TOP finish MIR A3 path
‘Oh yeah I forgot to tell you, Juan got married (lit. Juan’s path finished).’
- (23) **Context:** I forgot that my friend María had gone to the cafeteria.
Jo’oljeak-e’ k’uch bakáan Maruch cafeteria.
yesterday-TOP arrive.PFV MIR María cafeteria
‘Oh (yeah), yesterday, María went to the cafeteria.’

Combining the data from these two types of contexts, we therefore conclude that *bakáan* encodes sudden revelation or realization on the part of the speaker.

(24) *Summary of felicity judgment predictions for various accounts*

Type	‘Expectation met’?	‘Just remembered’?
1 New Information	✓	✗
2 Revelation	✓	✓
3 Surprise	✗	✗
4 Counterexpectation	✗	✗
YM <i>bakáan</i>	✓	✓

Its use is therefore consistent with the speaker experiencing new information, surprise, and counterexpectation, but it doesn’t require it. Context together with other elements in the sentence – prosody especially – may help convey these more specific senses, but *bakáan* itself merely encodes sudden revelation. With respect to surprise/counterexpectation, Salanova & Carol (2016) reach a similar conclusion for Guaraní *ra’e*, arguing that these are not encoded by the mirative, but rather due to other elements in the sentence. We return to consider the cross-linguistic picture in more detail in §6.

3.3 Use of *bakáan* in religious revelation:

In addition to occurring in cases of everyday revelation of the sort we have seen, *bakáan* plays a central role in expressing religious revelations of a certain kind. *Bakáan* in such uses occurs in nearly every clause, sometimes more than once, and plays an important rhythmic role as well. For example, in Monforte et al. (2010), we find a story in which a *jmeen* (a traditional priest) recounts a religious recitation which includes numerous instances of *bakáan*.¹⁰

- (25) “Tu káakbiiil Chan Sabacche’ te ba’al bin a wu’uyik tu káakabil **bakáan** chan Sabacche’ [...] bey u kiiko’obo’ **bakáan** jump’él sujuu primicia **bakáan** tu no’oj a k’ab **bakáan** Dios yuumbil.”
 “In the dirt of Chan Sabacche’ to the thing that goes for you to feel in the dirt of, **oh**, Chan Sabacche’ . . . like the sisters, **oh**, of a virgin’s first appearance, **oh**, to the right hand, **oh**, of lord God.”

While we take this use to be a specific, ritualized extension of the ordinary everyday meaning of *bakáan*, it is not accidental that it is *bakáan* that plays this role. *Bakáan* in general indicates that a sentence’s content suddenly entered the mind of the speaker. One plausible way to interpret these religious uses, then, is as conveying that the words the speaker is uttering are suddenly entering the speaker’s mind because God is revealing them to the speaker. We leave more detailed investigation of the role of *bakáan* in religious contexts to future work, but hope to have shown it to have a plausible relationship to the everyday use investigated here given the semantics we propose for the mirative predicate.

4. *Bakáan* ‘outside the speech act’

Thus far, we have primarily addressed the question of the content of the mirative attitude, arguing that it encodes a sudden realization or revelation on the part of the speaker rather than surprise, counterexpectation, or new information. With a few possible exceptions (e.g. (22)), it has seemed plausible thus far that this attitude would indeed be a propositional one, as prior literature implicitly assumes.

In this section, however, we examine cases where this revelation does not seem to concern the evidence for the propositional content of sentence, but rather the motivation for the speech act itself. To draw an analogy with literature on the typology of evidentials, that is to say that we demonstrate the existence of mirative *bakáan* “outside the speech act”. As in the literature on evidentials, the clearest evidence for this claim comes from sentence types other than declaratives, in particular imperatives and interrogatives. However, we argue in §4.3, that for declaratives too, there exist cases where there is only a revelation or realization regarding the speech act itself (in this case, that of assertion), rather than the factual claim itself or the evidence supporting it. While this may seem to suggest that *bakáan* is

¹⁰This translation (mine) is of necessity quite rough since such passages are not colloquial for speakers who are not themselves *jmeens*, belonging to a stylized religious genre not controlled by ordinary speakers.

ambiguous or polyfunctional, we argue in §5 that given an independently supported theory of illocutionary updates, an analysis as an illocutionary update modifier captures both the data thus far as well as the data in this section in a unified way.

4.1 Evidentials ‘outside’ the speech act

For some evidentials in some languages, one prominent analysis has held that they are illocutionary operators modifying the speech act updates contributed by sentences (e.g. Faller (2002), Murray (2014), Thomas (2014)). As Murray (2014) has stressed for evidentials, such analyses are best thought of not as modifying actual speech acts per se, but rather the ‘illocutionary updates’ conventionally encoded by sentences. That is to say, speech acts are actions in the world and in general are partially determined by the illocutionary updates a sentence conventionally encodes and partially by pragmatic reasoning. The distinction between speech acts and conventionally encoded illocutionary updates is most strikingly found in cases like indirect speech acts and verbal irony, but also, as we will see, in the various speech acts imperative sentences can be used to perform (e.g. commands, offers, advice, wishes).

While the claim that evidentials in at least some languages are illocutionary operators is taken to hold across a range of evidentials in various sentence types, perhaps the clearest evidence for it has come from reportative evidentials occurring in interrogative and imperative sentences. As the following examples with the YM reportative *bin* REP illustrate,¹¹ reportatives in some languages can occur in these sentence types, serving to portray the speech act itself as having a third-party, reportative source:

- (26) a. **Context:** My friend wanted me to ask you how the concert was:
 Bix bin teech te koonsiyeerto-o’?
 how REP you there concert-DISTAL
 ‘How was the concert (she asks)?’ **REP w/ interrogative**
- b. **Context:** Our mother is in another room and she has told me to have my
 brother eat his bread. I say:

¹¹The translation equivalent of Faller (2006)’s oft-cited example with Cuzco Quechua *-si* REP, (ia), is also possible with YM *bin*, (ib), however, such cases where the actual utterance is repeated represent a less typical use:

- (i) a. **Context:** The linguist has asked a question of the consultant’s mother-in-law, who did not understand the question. The consultant repeats the question:
 Imayna-s ka-sha-nki
 how-REP be-PROG-2
 ‘How are you (she asks)?’
- b. **Context:** I am trying to talk to an old woman who is hard of hearing and therefore did not hear my question. The woman’s granddaughter repeats the question:
 Bix bin a beel?
 how REP A2 path
 ‘How are you (he asks)?’

Jaant bin le waaj-o'!
 eat.IMPER REP DEF tortilla-DISTAL
 'Eat the bread (Mom orders).'

REP w/ imperative

In these examples, it is clear that the reportative's evidential contribution is not part of the content of what is commanded or questioned, but rather concerns the command/question itself in some way and therefore can be said to be 'outside the speech act'. That is, what the speaker has secondhand evidence for is the command or question itself.

4.2 *Bakáan* outside non-declaratives

For miratives, the question of whether analogous cases exist is to my knowledge unexplored. One possible reason for this is because the most well-studied miratives have non-mirative evidential uses. Given this, we must know not only that the element can be used in a given sentence type, but also how to distinguish it from non-mirative uses in these environments. Given how sparsely studied evidentials outside declaratives are, it is unsurprising that mirative uses of such evidentials has been sparsely studied as well. We discuss the two partial exceptions to this in §6: Rett & Murray (2013) on Cheyenne and Salanova & Carol (2016) on Guaraní *ra'e*.

Since YM *bakáan* has only mirative uses, as shown in §2.2, these complications do not arise in this case. Mirative *bakáan* is clearly grammatical in imperative and interrogative sentences and indeed appears to be possible quite generally across all sentence types.¹² While it's not completely clear what kind of other possible readings we might expect to find in interrogatives and (especially) imperatives, such uses are intuitively 'outside the speech act' in the same sense as (26a)-(26b).

As seen in (27)-(29), imperatives with *bakáan* convey that the speaker has had a sudden revelation about issuing the command in question. One thing to note here is that while the English glosses with *oh* often, though not always, most naturally make use of declaratives with embedded/indirect speech of some kind, the YM examples are ordinary imperatives as described by Hofling & Ojeda (1994) and are possible with all of the various kinds they describe (e.g. positive, negative, and admonitive). While there is little syntactic restriction on where *bakáan* may occur, there are nonetheless important semantic/pragmatic restrictions to be discussed in §5.2.

- (27) **Context:** A mother is in the kitchen cooking and remembers that there are no beans in the house because she forgot to tell her son to go buy some and says:
 Xeen a maan bakáan bu'ul te' tiyeenda-o'!
 go.IMP A2 buy.SUBJ MIR beans there store-DISTAL
 'Oh (I meant to tell you), go buy some beans.'

¹²The only exception of which I am aware are sentences with the main clause-initial conjectural *mīn* (see AnderBois (2013)), which itself conveys a epistemic possibility of an m-performative sort and is therefore incompatible.

- (28) **Context:** The addressee has been causing trouble in a store. The store owner says:
 Ma' bakáan a ka'a-suut!
 NEG MIR A2 again-return
 'Oh yeah (I meant to tell you), don't come back again!'
- (29) **Context:** My friend is about to tell a secret of mine which I told him. I had meant to tell him not to say anything to anyone, but forgot and now that the conversation is on a related topic, I say to him:
 Mik bakáan a wa'al ti' mix-máak!
 ADMON MIR A2 say.SUBJ PREP no-person
 'Oh yeah, don't tell anyone!'
- (30) **Context:** While talking in the library, the addressee is trying to remember the indigenous word for "blue" in YM (*ch'ooj*), but can only remember the far more commonly used borrowing "aasul". They are wracking their brain trying to remember it, when the speaker suddenly realizes that they are in the library and says:
 Xaxt bakáan te' diccionario'!
 search.IMPER MIR there dictionary.DISTAL
 'Oh, look in the dictionary there!'

For interrogatives, (31)-(33), the same pattern is found – *bakáan* has consistently 'outside the speech act' uses. As in the case of imperatives, the questions here are matrix questions of all types including wh-questions like (31), polar questions like (32), and contrastive topic questions with *kux* in (33).

- (31) **Context:** You told me something earlier about work, but I got distracted and forgot.
 Ba'ax t-a wa'alaj bakáan?
 what PFV-A2 say MIR
 'Oh (wait), what did you say?'
- (32) **Context B:** I had asked you for money previously but we got interrupted and so you didn't give me any. So I ask again now.
 Je' bakáan a majantik ten taak'in-e'?
 ASSUR MIR A2 lend me money-TOP
 'Can you loan me money?'
- (33) **Context:** My friend hates to dance, but asks me if I am going and I respond:
 a. Yaan a bin óok'ot?
 OBLIG A2 go dance
 'Are you going to go dance?'

- b. Yaan, kux leti' bakáan
 OBLIG what.about you MIR
 'I am. Oh yeah, is he (our other friend we had been discussing) going?'

While the use of *bakáan* with imperatives and interrogatives has no formal restrictions, its use is fairly restricted in terms of context. (27)-(33) are cases of revelation by virtue of sudden remembering, rather than new information as we have seen for declaratives. We examine these restrictions in detail and the asymmetry between declaratives and imperatives in particular in greater detail in §5. We mostly set aside interrogatives in what follows, though see §5.3 for some brief discussion.

4.3 *Bakáan* outside the update in declaratives

To identify cases where miratives behave as illocutionary modifiers in declaratives, it is necessary to understand what kind of update declarative sentences encode in the first place. We undertake this work in earnest in §5. For now, however, we can observe that there are not infrequent uses of *bakáan* declarative sentences where the context does not give any reason to believe that the speaker has had a sudden revelation regarding the propositional content of the sentence nor of the evidence supporting this claim. Rather, it seems that the speaker in these cases has a sudden realization that they should assert in the conversation at that moment a proposition whose truth was certain all along.

For example, in (34) we see that the declarative with *bakáan* is possible not only in a context where the speaker suddenly realizes that the sentence is true – (34a), repeated from (23) – but also in the context in (34b) where this possibility is explicitly ruled out. Further examples of the latter sort are given in (35)-(36).

- (34) Jo'oljeak-e' k'uch bakáan Maruch cafeteria.
 yesterday-TOP arrive.PFV MIR María cafeteria
 'Oh (yeah), yesterday, María went to the cafeteria.'
- a. **Context A:** I forgot that my friend Maruch had gone to the cafeteria.
 b. **Context B:** I forgot that I had wanted to tell you that Maruch had gone to the cafeteria, but had not forgotten that she had.
- (35) **Context:** We are talking about birds and I suddenly remember that I have a question about birds which I wanted to ask:
 Yaan ten jun p'éel k'áatchi' bakáan.
 exists me one CL question MIR
 'Oh yeah, I have a question.'
- (36) **Context:** The last line in a story about a teacher's dream about showing up to class and there not being any students there. The last line reveals that the story was all a dream:

Chéen bakáan t-u náay.
just MIR PREP-A3 dream

‘Oh, it was just a dream.’

Web Example¹³

The example in (36) (along with other literary examples, possibly including (11)) is a bit tricky since the story teller may well know at what point in the story they will spring this surprise on the listener and therefore cannot be experiencing revelation of the relevant kind. In such cases, there are two possible approaches that we might take. First, the story-teller may be taken to be merely pretending to have just discovered the surprising conclusion in order to make the story more vivid for the listener/reader. (36) seems like a potential case of this kind. Second, given the perspectively rich nature of the story, this may be seen as a case of pragmatically-driven perspective shift (see Salanova & Carol (2016) for similar suggestions for Guaraní). The example above with the child surprisingly reading the Bible, (11), is possibly such a case. In any case, simpler elicited examples where the context supports only a prior revelation by the speaker or a revelation by some other individual are consistently rejected as discussed in §3. We therefore set aside cases of this sort, as they appear to be limited to perspectively rich environments in story-telling and literary genres.

To summarize, we have argued in this section that *bakáan* has uses which occur at the illocutionary level, conveying the speaker’s sudden revelation about the speech act in some sense, rather than the sentence’s propositional content itself.

5. *Bakáan* as an update modifier

Looking across the data from previous sections, there is an asymmetry between declaratives on the one hand and interrogative and imperative sentences on the other. For all three sentence types, we have seen ‘outside the speech act’ or illocutionary uses where the use of *bakáan* the speaker’s revelation concerns the speech act. For declaratives alone, however, we have also seen the more ‘fact of the matter’ use, where the speaker’s revelation seems to concern the propositional content itself and/or the evidence supporting this claim.

In this section, we argue that this distribution can be derived from a unified account of *bakáan* as an operator applying to an illocutionary update. The asymmetry between declaratives and other sentence types, then, is due not to the properties of *bakáan* itself, but rather to the richer structure inherent to declarative updates. In particular, we draw on recent work on declarative updates which together suggest that declarative sentences encode a ‘dual’ update comprising both a proposal to add some proposition to the Common Ground $CG_{\{spkr,addr\}}$ – corresponding to ‘illocutionary uses’ – as well as adding a proposition to the speaker’s individual public discourse commitments DC_{spkr} – ‘fact of the matter uses’.

Imperatives and interrogatives, on the other hand, encode a single update: a proposal to update the shared effective preferences $EP_{\{spkr,addr\}}$ for imperatives and a proposal to update the QUD _{$\{spkr,addr\}$} for interrogatives. While a corresponding individually-anchored update for imperatives might seem plausible for command uses, other imperative uses such as permissions and disinterested advice may provide independent evidence against this as

¹³<http://en.calameo.com/read/00080548746cec699246c>

part of the imperative’s conventional contribution. For interrogatives, there has been less active debate in recent literature, but it is not altogether implausible to imagine interrogatives being claimed to update the speaker’s preference to know some given piece of information. The range of uses of mirative *bakáan*, then, provides an independent argument for these particular theories of illocutionary updates across sentence types found in previous literature over other competing alternatives.

5.1 Declarative updates with *bakáan*

Literature on the speech act of assertion has considered various kinds of accounts (see MacFarlane (2011) for a very helpful recent survey). Among linguists, Stalnaker (1978)’s idea has arguably been the most influential: that assertions are proposals to update the Common Ground of the conversational participants $CG_{\{spkr, addr\}}$. While the two issues are often conflated, the question arises then whether this contribution is conventionally encoded by declarative sentences (as opposed to arising pragmatically).

A variety of recent authors working on disparate phenomena have argued that this sort of update is indeed conventionally encoded by declarative sentences (e.g. Farkas & Bruce (2010), Murray (2014), Malamud & Stephenson (2015)). In addition to theoretical arguments to this effect, the main empirical arguments for such a view have come from other linguistic elements which are claimed to make reference to such an update in various ways. For example, Farkas & Bruce (2010) argue that particle responses like ‘yes’ and ‘no’ cross-linguistically make anaphoric reference to such updates in a particular way. Murray (2014), on the other hand, argues that evidentials in Cheyenne modify illocutionary updates in consistent ways which are best captured by appeal to a declarative update of this sort.

Building on this, a number of authors have further claimed that proposal updates of this sort are intrinsically connected with the QUD/Table (e.g. Farkas & Bruce (2010), AnderBois et al. (2015)). While we leave the details to future work, the basic idea is that a proposal to update $CG_{\{spkr, addr\}}$ is subject to the constraint that the proposal’s content can be taken to address the QUD (see AnderBois (2016) for more detailed discussion of this point).

At the same time, another body of literature has emerged which argues that declarative sentences conventionally encode an update of a somewhat different sort: an update to the speaker’s public discourse commitments, DC_x (e.g. Gunlogson (2001), Davis (2009)). The empirical argument for this has similarly involved different types of operators which take this update as an argument. For example, Gunlogson (2001) argues that rising intonation in declaratives is best analyzed as modifying this individually anchored update from DC_{spkr} to DC_{addr} . Whereas the shared CG update has been connected to the QUD, several recent works have argued that the individual DC_x update relates more generally to the strength or type of evidence the speaker has to underwrite their commitment (e.g. Northrup (2014), AnderBois (2014)).

While these theories are often cast as competitors to one another, there is no a priori reason to believe that declarative sentences should not encode a complex or ‘dual’ update comprising both of these components. If the propositions referred to by both updates were always the same, we might hope that only one update need be conventionally encoded with

the other arising pragmatically or as a default of some kind. However, the ability to make reference to, modify, or otherwise manipulate either part of this update individually suggests that that both parts are needed. A more direct argument to this effect comes from AnderBois (2014) and AnderBois (2016), which argue that certain evidential and parenthetical constructions make ‘asymmetric’ assertions, in which the speaker adds one proposition p to DC_{spkr} , and proposes to add a different proposition q to $CG_{\{spkr,addr\}}$ on that basis. For example, AnderBois (2016) argues that the YM parenthetical attitude construction in (37a) (and likely also its English translation using Slifting) contributes the updates in (37b).

- (37) a. K-in tuklik-e’ yan u k’áaxal ja’.
 IMP-A1 think-TOP will A3 fall water
 ‘It’s going to rain, I think.’ AnderBois (2016)
- b. **Two updates of (37a):**
 (i) Add p = ‘that I think it’s going to rain’ to DC_{spkr}
 (ii) Propose to add q = ‘that it’s going to rain’ to $CG_{\{spkr,addr\}}$

We refer the reader to the works cited above for more detailed argumentation, but hope to have shown that independent converging evidence exists for a ‘dual update’ theory of declaratives. Summarizing, then, we arrive at the following as the conventional update associated with *unmodified* declarative sentences:

- (38) **Effects of an unmodified declarative update U with propositional content p :**
- a. Propose to add p to the $CG_{\{Spkr,Addr\}}$ (i.e. putting p on the Table)
 b. Add p to DC_{Spkr} (i.e. committing oneself to p being true)

Returning to YM *bakáan*, then, I claim that the two uses we have seen in declaratives convey the speaker’s revelation about these two components of the declarative update. In ‘illocutionary’ cases like (39), the speaker’s revelation concerns (38a). That is, the speaker conveys that given the current state of the conversation, she has had a sudden revelation that proposing to add p to the CG would be appropriate. In ‘fact of the matter’ cases like (40), however, the speaker’s revelation is about their own commitment to the truth of the proposition in question, (38b). The analysis is unified in the sense that in both these cases, *bakáan* conveys a sudden revelation to perform the overall dual update, differing merely in the part of that update which is most plausibly the object of this revelation.

- (39) **Context:** I forgot that I had wanted to tell you that María had gone to the cafeteria, but had not forgotten that she had.
 Jo’oljeak-e’ k’uch bakáan Maruch cafeteria.
 yesterday-TOP arrive.PFV MIR María cafeteria
 ‘Oh (yeah), yesterday, María went to the cafeteria.’ **‘Illocutionary’**
- (40) **Context:** We are inside the library. I suddenly look out the window and notice it is raining, which it hadn’t been before, and say:

Táan bakáan u k'áaxal ja'.
 PROG MIR A3 fall water
 'Oh, it's raining.'

'Fact of the matter'

To summarize, then, in addition to performing a speech act using the update U associated with the rest of the sentence, a speaker who utters *bakáan*(U) conveys a sudden revelation regarding this update. Under a 'dual update' theory of declarative updates sketched here, the two classes of uses here can be seen as sudden realizations about the two different components of the declarative update. It is important to note then, that while the preceding discussion portrays both the data and analysis as being quite dichotomous, this is to some extent an artifact of the methodology. That is, we have strived to produce contexts which fairly clearly illustrate 'fact of the matter' cases and 'illocutionary' cases respectively in order to display the range of possible uses. However, in ordinary examples, it's not always going to be clear which of these is intended, nor even that the speaker has a specific intention of this sort. An example like (39), for example, can be uttered in a variety of contexts and a great many of them likely leave open the extent to which the speaker's revelation concerns their commitment to p versus the appropriate of proposing to add p to the Common Ground at that point in the conversation.

5.2 Imperative updates and *bakáan*

Having argued that an independently motivated 'dual update' theory of declaratives allows for a unified account of *bakáan* in declaratives, we turn now to extend the account to imperatives. To do so, we of course also require a theory of the illocutionary updates they encode. Here, there is somewhat more diversity in previous literature in the approaches that have been adopted. Empirically, one reason for this is what Condoravdi & Lauer (2012) term the problem of 'functional heterogeneity' – imperatives are not merely used to issue commands, but to perform a whole range of speech acts (examples from Condoravdi & Lauer (2012)), as exemplified in (41).

- | | | |
|------|---|-----------------------------|
| (41) | a. Stand at attention! | Command |
| | b. Get well soon! | Wish |
| | c. Have a cookie | Offer |
| | d. Go out and play | Permission |
| | e. A: How do I get to San Francisco?
B: Take the train | Disinterested Advice |

In order to tackle this and other puzzles, much of the recent literature (see, e.g. Kaufmann (2012), Condoravdi & Lauer (2012), Starr (2013)) has coalesced around the idea that imperatives conventionally encode information about preferences of a very particular kind, what Condoravdi & Lauer (2012) have called EFFECTIVE PREFERENCES. Our preferences in the ordinary sense may conflict with one another, as famously discussed by Heim (1992). For example, I may want to drink tequila tonight and not have a headache the following morning and it may not be possible to do both. Effective preferences are the preferences

that guide our actions and therefore must be consistent, having resolved such conflicts in some way.

Parallel to the CG-update of assertions, several recent authors (e.g. von Fintel & Iatridou (2017), AnderBois (2015)) have suggested specifically that imperative sentences encode a proposal to update the shared effective preferences of the speaker and addressee, $EP_{\{spkr,addr\}}$.¹⁴ The various resultant speech acts imperatives can be used to perform, then, are argued to arise from pragmatic reasoning about the speaker's effective preferences as well as their decision to make a speech act conveying them to the addressee (see especially Condoravdi & Lauer (2012) and von Fintel & Iatridou (2017) for detailed discussion).

Analogous to DC_x for declaratives, there are also accounts which such as Davis (2009) and Condoravdi & Lauer (2012) which hold that imperatives conventionally encode the *speaker's* preference, EP_{spkr} . As in the case of declaratives, these two updates are not in principle incompatible and so in theory either or both of these updates might be conventionally encoded by imperative sentence. These two theoretically possible discourse effects are spelled out in (42).¹⁵

(42) **Potential effects of a imperative update U with propositional content p :**

- a. Propose to add $p > \neg p$ to $EP_{\{Spkr,Addr\}}$
- b. Add $p > \neg p$ to EP_{Spkr}

Having claimed that *bakáan* expresses the speaker's revelation about the update the sentence encodes, we can use the felicity conditions of imperatives with *bakáan* as a lens into which of these updates is conventionally encoded. A revelation about (42a), then, would be supported by contexts where the speaker's preferences remained potentially unchanged, but the speaker suddenly realized the relevance of expressing them in the conversation. Conversely, a revelation about (42b) would be supported in contexts where the speaker suddenly realized that their personal preferences include p .

As seen in (43a), repeated from (2), imperatives with *bakáan* are indeed felicitous in the former case. However, the same sentence is judged infelicitous in the minimally different scenario in (43b) where the speaker's revelation concerns their own individual desire, rather than the relevance of sharing their desire with their interlocutor.

- (43) Xeen bakáan a maan bu'ul (te' tiiyeenda-o').
 go.IMP MIR A2 buy.SUBJ beans there store-DISTAL
 'Oh, go buy some beans.'

¹⁴Beyond this, such an idea is arguably implicit in Starr (2013)'s theory of imperatives, since a single formal object tracks both Common Ground information and the preferences imperatives encode, as well as for Kaufmann (2012) (at least on the assumption that this is right for assertion in the first place), since imperatives contribute a preference-based modal assertion of a certain kind.

¹⁵For simplicity's sake, we assume that the proposed effective preference is for $p > \neg p$. Following Villalta (2008)'s work on desideratives, we may well want to take this as a special case of a more general sort of preference for p over contextually relevant alternatives. We leave it to future work to determine whether a similar generalization is desirable in the case of imperatives.

- a. ✓ **Context:** A mother is in the kitchen cooking and remembers that there are no beans in the house because she forgot to tell her son to go buy some and says
- b. ✗ **Context:** A mother is in the kitchen cooking and realizes that there are no beans in the house and therefore suddenly wants the son to go buy beans.

One way to see that this difference really is due to the imperative mood itself is to consider examples where *bakáan* occurs in a declarative as part of a conversational turn intended to achieve the same effect. Two such cases come to mind and in both cases, the inclusion of *bakáan* is felicitous. First, in (44), are sequences of a declarative with *bakáan* followed by an unmodified imperative. Second, in (45), are desiderative assertions.

(44) **Context:** (same as (43b))

Mina'an bakáan bu'ul. Xeen a maan te' tiiyeenda-o'.
 not.exist MIR beans go.IMP A2 buy.SUBJ there store-DISTAL
 'Oh there's no beans. Go buy some at the store!'

(45) **Context:** (same as (43b))

In k'áat bakáan káa a maan bu'ul.
 A1 want MIR for A2 buy.SUBJ beans
 'Oh (I just realized) I want you to go buy beans.'

The contrast between the pair of examples in (46)-(47) provides another example of the restricted range of uses for imperatives with *bakáan*.

(46) **Context:** I told my friend some sensitive information. Now that the conversation is on a related topic, he sounds like he's starting to tell my secret. I normally am happy to hear my friend talking, but since I don't want him to tell my secret suddenly want him to be quiet:

#Mak bakáan a chi'.
 shut MIR A2 mouth
 'Shut your mouth.'

(47) **Context:** My friend is about to tell a secret of mine which I told him. I had meant to tell him not to say anything to anyone, but forgot and now that the conversation is on a related topic, I say to him:

Mik bakáan a wa'al ti' mix-máak!
 ADMON MIR A2 say.SUBJ PREP no-person
 'Oh yeah, don't tell anyone!'

Given this, we therefore conclude that imperative updates conventionally encode only an update of a shared discourse component, as in (48).

(48) **Effects of an imperative update U with propositional content p :**

- a. Proposal to add $p > \neg p$ to $EP_{\{Spkr, Addr\}}$
- b. Adding $p > \neg p$ to EP_{Spkr}

Thus far we have seen examples where the speaker's sudden revelation that they want to propose to update occurs because they suddenly remember their previous desire to make such a proposal. However, the account in fact predicts a broader range of uses than this. In particular, we expect that *bakáan* should be possible in 'addressee-oriented' imperatives (e.g. offers, advice) if the speaker suddenly realizes something about the addressee's goals and/or how best to realize them. This prediction is borne out, as illustrated in (49)-(51). In (49), the speaker suddenly realizes that they want to offer a cookie by virtue of the revelation that the addressee's goal structure might include eating a cookie. In (50), the addressee's goals remain unchanged, but the speaker merely has a sudden revelation about what actions they might take to reach them. Finally, in (51), the speaker suddenly realizes that the addressee does not know how to realize their goal without additional input (i.e. realizes that their advice is needed).

- (49) **Context:** The addressee, Jorge, typically does not like cookies and so even though the speaker has a tray of cookies, they don't think to offer them to Jorge. However, Jorge is eyeing the cookies and so the speaker suddenly realizes that he in fact might want one this time and says:

Jaant bakáan jun p'éel galleta!
eat.IMPER MIR one CL cookie
'Oh, eat a cookie!'

- (50) **Context:** While talking in the library, the addressee is trying to remember the indigenous word for "blue" in YM (*ch'ooj*), but can only remember the far more commonly used borrowing "aasul". They are wracking their brain trying to remember it, when the speaker suddenly realizes that they are in the library and says:

Kaxt bakáan te' diccionario'!
search.IMPER MIR there dictionary.DISTAL
'Oh, look in the dictionary there!'

- (51) **Context:** A foreign researcher who has been to the university, UnO, and is therefore expected to know how to get there already many times asks the consultant how to get there. The researcher asks the consultant how to get there and they respond:

Xeen bakáan te toj-o'!
go.IMPER MIR there straight-DISTAL

‘Oh, go straight!’¹⁶

To summarize, we have argued in this section that the various uses of *bakáan* in declaratives and imperatives can be given a unified account as expressing the speaker’s sudden revelation about the illocutionary update they are presently using to perform a speech act. In order to account for the existence of both ‘outside the speech act’ and ‘fact of the matter’ uses of *bakáan* in declaratives, we have made use of a ‘dual update’ theory in which declaratives simultaneously: (i) propose to update a shared element of the discourse scoreboard, $CG_{\{spkr,addr\}}$, and (ii) actually update an individually-anchored scoreboard element, DC_{spkr} .

In contrast, the more limited range of uses of imperatives – in particular, their infelicity in cases where the speaker has a sudden revelation about their own preferences – have given us evidence for a less complex conventional effect for imperatives which only has the analog of (i): a proposal to update a shared element of the discourse scoreboard, $EP_{\{spkr,addr\}}$. In many cases, interlocutors will, of course, draw inferences about the speaker’s desires based upon their having made such a proposal and other pragmatic considerations. However, this latter component is not part of the conventionally encoded illocutionary update and therefore is not available for *bakáan* to express revelation about.

While the argument we make here is based on the usage of imperatives with *bakáan*, there is also independent motivation for the proposal-based semantics here. A holistic comparison is beyond the scope of the present work, but we note one case in which the proposal approach appear superior to the individual commitment approach: disinterested advice. Working within an account which takes imperatives to encode an individual commitment for an effective preference, Condoravdi & Lauer (2012) face a problem in cases of disinterested advice, such as (41e), where the speaker does not seem to have any preference for the action in question. To address this, they adopt a principle of ‘Cooperation by default’, in effect claiming that the speaker does indeed have a preference in such a case.

Treating imperatives as proposals to update shared preferences, on the other hand, resolves this problem. The speaker is proposing that both parties will act as if they prefer $p > \neg p$, but the context makes clear that this proposal is made for the benefit of the addressee rather than the speaker having any desire. By virtue of making the proposal, the speaker is committed to acting as if they prefer the action and therefore should not impede the addressee performing the action. However, they do not express anything about their own individual preferences. Just as the CG in Stalnaker’s conception allows for propositions that speakers merely act as if they believe, the EP allows for preferences which the speaker merely acts as if they have. We refer the reader to von Fintel & Iatridou (2017) and AnderBois (2015) for more extended discussion, but hope to have made the case that there is some motivation for the proposal semantics outside of the interactions with *bakáan*.

¹⁶A co-speech deictic gesture here is more or less obligatory, seemingly both for linguistic and practical reasons. See Le Guen (2011) and references therein for discussion on co-speech gestures in this domain in YM.

5.3 Interrogative updates and *bakáan*

We have seen thus far that *bakáan* in indicative and imperative sentences conveys a sudden revelation has led the speaker to put forth the illocutionary update encoded by the rest of the sentence. For imperatives, we have just seen that the comparatively limited range of contexts in which *bakáan* provides evidence in favor of a theory on which imperative updates include proposals to update the shared effect preferences of speaker and addressee, but not an update to the speaker's individual public effective preferences (and not a dual update comprising both).

For interrogative sentences with *bakáan*, then, we might similarly ask what their range of uses can tell us about the structure of interrogative updates. While no less apt, this issue has been discussed far less in recent literature for two reasons. First, given that interrogative clauses are embeddable in a wide range of environments compared to imperatives, this issue has not hampered investigation of the semantics of interrogative clauses in the same way as it has for imperatives. Second, while less typical uses of interrogatives such as exam questions and rhetorical questions do exist to some extent, we do not find the sort of widespread polyfunctionality seen for imperatives.

Since traditional speech act literature considers interrogatives to be a subtype of directives (e.g. Searle (1969), Bach & Harnish (1979)), we might extend the discussion of imperatives above to consider two potential updates for interrogatives. First, we might take interrogatives to convey an individual update expressing the speaker's effective preference to know the answer to the question $?p$, (56b). Second, interrogative sentences might be taken to encode a proposal to update the shared effective preferences of the speaker and addressee with resolving $?p$. Given the nature of shared effective preferences, then, this latter option essentially amounts to a proposal to make $?p$ the immediate QUD, in the sense of Roberts (2012) and others, as in (56a).¹⁷

(52) Potential effects of a interrogative update U with propositional content p :

- a. Propose to add $?p$ to $\text{QUD}_{\{Spkr, Addr\}}$
- b. Add 'Spkr knows $?p > \neg$ Spkr knows $?p$ ' to EP_{Spkr}

Similar to what we have claimed for *bakáan* in imperatives above, we find that *bakáan* in interrogatives is infelicitous in scenarios where the only sudden revelation in the context concerns the speaker's desire to know the answer to the question itself, as in (53a) and (54a). These same sentences are felicitous, however, if uttered in a scenario where the

¹⁷There are various subtly different ways of formulating this latter condition. For example, working from the assumption that commitments are the most basic unit of illocutionary updates (with proposals arising only secondarily), (Lauer 2013, p. 162) proposes that an interrogative update is a speaker commitment to a preference for the addressee to assert one of the possible answers to $?p$. This is closely related to the present proposal since given standard reasoning about QUDs, an addressee who has accepted the speaker's proposal should will therefore be expected to act as though they prefer the resolution of this issue and therefore will make such an assertion. We leave it to future work to distinguish between these subtly different options, as this issue is orthogonal to the behavior of *bakáan*.

sudden revelation concerns the relevance or desire to ask the addressee at this moment in conversation, (53b), (53c), and (54b). Further felicitous examples in (55)

- (53) Je' bakáan a majantik ten taak'in-e'?
 ASSUR MIR A2 lend me money-TOP
 'Can you loan me money?'
- X Context A:** I just realized that I don't have any money and therefore want you to loan me some money and ask now.
 - ✓ Context B:** I had asked you for money previously but we got interrupted and so you didn't give me any. So I ask again now.
 - ✓ Context C:** I had wanted to ask you for money earlier, but didn't. Having remembered that I wanted to ask you, I ask you now.
- (54) Tu'ux yaan bakáan in yaabes?
 where exist MIR A1 key
 '(Oh,) where are my keys?'
- X Context A:** I just realized I lost my keys and so I want to know where they are.
 - ✓ Context B:** Earlier I had lost my keys and wanted to ask you where they were, but couldn't. I now remember and ask you.
- (55) **Context:** Earlier I lost my keys and told you that I thought I might have left them in the auditorium. I'm talking to you on the phone and you tell me you're in the auditorium.
- Je'el bakáan u pajtal a wilik in yaabes?
 ASSUR MIR A3 be.able A2 see A1 key
 'Oh yeah, can you see my keys?'
 - Te' yan-áa in yaabes bakáan-o'?
 there exist-POLQ A1 key MIR-DISTAL
 'Oh yeah, are my keys there?'

As in the case of imperatives, then, the interaction between *bakáan* and interrogative sentences supports the view that interrogative updates consist solely of a proposal to update a shared scorebaord component, with no corresponding individual update analogous to the DC_{spkr} in the case of declaratives.

- (56) **Effects of a interrogative update U with propositional content p :**
- Propose to add $?p$ to $QUD_{\{Spkr, Addr\}}$
 - Add ~~'Spkr knows $?p$ '~~ to ~~EP_{Spkr}~~

Why would this asymmetry exist between declarative updates on the one hand and imperative and interrogative updates on the other? We leave detailed thinking about this question

to future work, but here make a preliminary suggestion. Declarative updates are updates which concern belief, whereas both imperative and interrogative updates concern effective preferences (again, see Lauer (2013) for more general recent discussion on this point). There are in many cases prevailing norms about both of these things: what one ought to believe and what one ought to prefer. However, in the case of beliefs, outside of certain special cases like predicates of personal taste, there is also a ‘fact of the matter’. Speakers therefore will have a consistent need to mark various nuances of the kind of evidence they have regarding this fact of the matter, how strong it is, etc. For imperative and interrogative updates, however, there is not a fact of the matter of what one ought to prefer or what information one ought to prefer to know and marking nuances of why the speaker has a given preference will not be as consistently useful. This explanation is of course somewhat speculative, but it nonetheless gives the beginning of a theoretical backing to the asymmetry that we have proposed on the basis of the Yucatec Maya mirative *bakáan*.

6. The cross-linguistic picture

Beyond its implications for the study of illocutionary updates, this paper has argued that Yucatec Maya *bakáan* sheds light on the typology of miratives in two different ways. First, on the question of the content of the mirative attitude, we have argued that *bakáan* encodes revelation rather than new information, surprise, or counterexpectation. Second, we have argued that this attitude is not a propositional attitude, but rather expresses a revelation about an illocutionary update. In this section, we take a brief look at the broader cross-linguistic picture and in particular, the extent to which existing evidence suggests a uniform picture versus giving clear evidence for particular kinds of cross-linguistic variation.

Given the amount of currently available data across languages, this task is at this stage somewhat speculative and programmatic. Beyond the simple need for more studies in more languages, there are a few specific challenges we face. First and foremost, much of the existing work on mirativity relies primarily on naturally occurring examples. Due to the largely mind-internal nature of some of the relevant distinctions, crucial parts of the context will often not be readily apparent to us as researchers (see Silva & AnderBois (2016) for detailed discussion of the same problem in the case of conjectural/inferential evidentials). For example, the difference between various possible mirative predicates (and even between, say mirative and reportative evidential uses) will often not be apparent from the natural context. Second, the elements which have been explored in the most depth in previous literature on mirativity have almost exclusively been ones which also have indirect evidential uses. While the question of what underlies such polysemy is of course an interesting one, it is harder to explore other questions about mirativity in such a language and of course this factor itself may be correlated with other properties. Third, we need more data on the interactions between miratives and different sentence types. While the paucity of such data may of course be an indication that a given mirative marker can only be used in declaratives, we cannot know this without eliciting negative judgments to this effect.

Here, we briefly consider several mirative markers from several other languages and sketch the maximally uniform cross-linguistic picture consistent with the available data. The selection here is not intended to be exhaustive, and languages have been omitted

for various reasons including insufficient data in previous literature and complex interactions between mirativity and other grammatical categories (e.g. the interactions with person marking discussed by DeLancey (1997) for Tibetan and Dickinson (2000) for Tsafiki) that make it hard to address the main questions here without far more detailed work than is possible here.

6.1 Tagalog *pala*

The first case study we turn to is the most similar to YM *bakáan*, the Tagalog mirative *pala*. Tagalog *pala* is a member of a set of second position clitics which expressing various evidential, modal, and other social/discourse-related meanings. While their syntax and prosody has been the subject of much discussion, their semantics/pragmatics have been, with a few notable exceptions, little discussed since Schachter & Otnes (1972)'s pioneering descriptive work. The data presented here represent naturally occurring data and original fieldwork with a speaker from Manila, though we leave more detailed investigation to future work. Among these second position clitics, (Schachter & Otnes 1972, p. 427) describe *pala* in declaratives as “expressing mild surprise at new information, or an unexpected event or situation”, (57)-(58).

- (57) Ikaw pala ang kapatid ni Pedro
 you.DIR MIR DIR sibling INDIR Pedro
 ‘So you’re Pedro’s sister.’ Schachter & Otnes (1972)

- (58) Maganda pala ito, a!
 pretty MIR this PRT
 ‘Oh, but this is pretty!’ Schachter & Otnes (1972)

While Schachter & Otnes (1972) predates the coinage of the term ‘mirative’, these clearly are stereotypical mirative contexts as their description suggests. Both of these examples appear to be consistent with any of the various possible mirative predicates we have considered here. One interesting point to note, however, is that as discussed in §3.2.2 for YM (and as Salanova & Carol (2016) argue for Guaraní *ra’e*) sentences which express surprise/counterexpectation often have some other element conveying this in addition to *pala*. In (57), this element is the use of contrastive focus as described by Kaufman (2005). In (58), the sentence contains the sentence-final particle *a*, which Schachter & Otnes (1972) describe as being “used in sentences that express an event of situation that is contrary to expectation”. While the inclusion of other such elements in cases of true surprise is fairly typical, *pala* is also felicitous in their absence in such scenarios, as in (59).

- (59) **Context:** I look outside my window and suddenly see that it’s raining outside.
 Umuulan na pala sa labas!
 rain.IMP now MIR OBL outside
 ‘Oh, it’s raining outside!’

With respect to the two key types of felicity judgments considered in §3, Tagalog *pala* appears to show the same patterns of judgments as YM *bakáan*, (60)-(61), thus supporting the conclusion that Tagalog *pala* similarly encodes sudden revelation rather than other possible mirative notions.

- (60) **Expectation suddenly met context:** I am supposed to meet my friend Juan at the library at 3pm. It is almost exactly 3pm and I suddenly see him walking up to the meeting spot and I say:
 (Ah) ayun na pala si Juan!
 PRT there now MIR DIR Juan
 ‘Oh, Juan’s here now!’
- (61) **Sudden remembering context:** The singer recounts being nauseated and confused, looking for their own place to live, and wondering what has happened. Suddenly remembering, the singer sings:
 Oo nga pala, hindi nga pala tayo
 yes EMPH MIR NEG EMPH MIR DIR.1PL.INC
 ‘Oh yeah, there’s no ‘us’.’ From a song lyric¹⁸

With respect to illocutionary uses, we again find clear support from the use of *pala* in imperatives and interrogatives, (62)-(63). While we leave detailed investigation of the range of illocutionary uses of *pala* across sentence types, we find initially similar contrasts in both cases to those we have seen for YM *bakáan*.

- (62) Bumili ka pala ng munggo.
 buy.IMP you MIR INDIR mung.beans
 ‘Oh (by the way), you should buy some mung beans!’
- a. ✓ **Context:** A mother is in the kitchen cooking and remembers that there are no beans in the house because she forgot to tell her son to go buy some.
 - b. # **Context:** A mother is in the kitchen cooking and realizes that there are no beans in the house and therefore suddenly wants the son to go buy beans.
- (63) Sino pala ang nagsasalita ng cebuano?
 who MIR DIR speak.IMP INDIR Cebuano
 ‘Oh (I wanted to ask you:), who speaks Cebuano?’
- a. ✓ **Context:** I had been wanting to ask you who speaks Cebuano.
 - b. # **Context:** I hear Cebuano being spoken and suddenly am curious who is speaking it.

¹⁸Online at: <http://fallen-aster.blogspot.mx/2013/08/migraine-moonstar88-lyrics-english.html>. Beyond the context and translation in the song, the translator’s footnotes are quite informative in this case: “The direct translation is ‘Oh yeah’ but it’s actually a Filipino/Tagalog expression with the same use as ‘Oh, I just remembered’.”

I leave detailed investigation to future work, but it tentatively appears to be the case that Tagalog *pala* patterns very closely with YM *bakáan*, encoding sudden revelation at the illocutionary level.

6.2 Thai *lɛɛw45*

Tawilapakul (2013) provides an extensive description and analysis of the Thai particle *lɛɛw45*. While traditionally analyzed as a perfect or perfective aspectual marker, Tawilapakul (2013) argues convincingly that *lɛɛw45* is in fact a mirative marker, giving (64) as a typical example.

- (64) **Context:** There was a unique goldfish which was mutually known by the speaker and the hearer. It was in good health and no one ever expected that it would die. Unfortunately, a tragic incident happened to it; let us say, it was overfed. Overfeeding caused fatal gastro-intestinal damage which made the goldfish die prematurely.
 plaa33thɔɔŋ33 taay22 lɛɛw45.
 goldfish die MIR
 ‘The goldfish died (previously it was expected to be alive).’ (Tawilapakul 2013, p. 99)

On the question of the content of the attitude the mirative expresses, Tawilapakul (2013) does not consider the alternative mirative notions in detail, but claims explicitly that *lɛɛw45* encodes counterexpectation. Although she does not explicitly consider scenarios with suddenly met expectations or remembering as such, she does point out that the same sentence as in (64) is felicitous in contexts where the speaker clearly does not have any expectation at the utterance time, as in (65). The example in (66) presents a similar case, since the context makes clear that the speaker’s postponement of the trip is already known at the moment of utterance (and indeed, it’s hard to see how it could be otherwise if the speaker is the agent as the translation suggests).

- (65) **Context:** Sutha has said to Sunan ‘Let’s feed the goldfish.’ Sunan replies:
 plaa33thɔɔŋ33 taay22 lɛɛw45.
 goldfish die MIR
 ‘The goldfish died (previously it was expected to be alive).’ (Tawilapakul 2013, p. 101)
- (66) **Context:** Danai told Sunan that he had a plan for a trip to Phuket, a city in the south of Thailand, and would spend the first weekend of March there. However, he later got an assignment from his boss to take care of their customers on the weekend he was supposed to enjoy his getaway. Therefore, he had to postpone his trip. While having lunch with the customers at a restaurant in Bangkok, Danai

met Sunan, who was very surprised to see him. Sunan asks Danai “Didn’t you go to Phuket?”. Danai responds:

luan42 dæn33thaaj33 læw45.

postpone trip MIR

‘I postponed my trip (previously, as I had told you, I had planned to travel to Phuket and expected to stay there during the first weekend of March).’ (Tawilapakul 2013, p. 125)

To handle these cases, then, Tawilapakul (2013) claims that *læw45* does not specifically encode counterexpectation on the part of the speaker, but rather on the part of any discourse participant. These scenarios, then, are analyzed as cases where the counterexpectation is on the part of the addressee, rather than the speaker. In light of the case we have made for YM *bakáan*, however, there is another potential alternative approach: treating such examples as cases of illocutionary revelation. The addressee’s expectation is not directly relevant on this alternative account. Rather, the fact that the speaker has become aware of the addressee’s expectation has caused the speaker to suddenly realize that they should propose to add ‘that the goldfish died’ to $CG_{\{speak, addr\}}$. Note that Tawilapakul (2013)’s claim is restricted to the expectations of discourse participants in particular, and not the expectations of, say, the subject nor expectations of the objective, *a priori* sort discussed in §3.1.

As best I can tell, applying such an approach to Thai *læw45* makes the same predictions for most or all of the data in Tawilapakul (2013). However, it makes clearly different predictions about a variety of other cases, such as scenarios where the speaker’s expectation is suddenly upheld as in (16)-(19), remembering scenarios like (21)-(23), and illocutionary revelation cases where the addressee has no establish expectation, as in (34)-(36). Looking beyond declaratives could be another potential source of distinguishing these two approaches. Additionally, if *læw45* is grammatical in other sentence types, then the illocutionary revelation account makes clear predictions about what such sentences convey.¹⁹

To sum up, it remains unclear from the currently available data whether or not the current account is applicable to Thai *læw45*. However, we hope to have shown that the parameters of variation considered here produce clear testable questions for future research and that a putatively quite different parameter of variation (the individual for whom the mirative predication holds) may potentially be subsumed by the mirative argument parameter in some cases, whether or not this turns out to be right for Thai *læw45*.

¹⁹Tawilapakul (2013) does give one example showing that *læw45* is grammatical in interrogative sentences, (i), though no mention is made of imperatives. However, without further examples and richer context, no firm conclusions can be drawn at this point.

- (i) ton42 ma45muang42 ʔɔk22luuk42 læw45 ru45yaŋ33?
tree mango bear fruit MIR POLQ
‘Has the mango tree borne fruit yet (as previously expected)?’ (Tawilapakul 2013, p. 133)

6.3 Guaraní *ra'e*

Having examined several mirative markers which only have mirative uses, we turn now briefly to a mirative which also has indirect evidential uses: Guaraní *ra'e*. As in all the above cases, Salanova & Carol (2016) claim that Guaraní *ra'e* is typically used miratively in scenarios of counterexpectation, as in (67):

- (67) Rei-kove nipo *ra'e*!
 2-alive PRT MIR
 'You are alive!' Salanova & Carol (2016)

However, Salanova & Carol (2016) argue that *ra'e* itself does not contribute surprise or counterexpectation, pointing to (68) as evidence. While the example is used to establish the same claim as the expectation-suddenly-met scenario in §3.2.1, note that it differs slightly in that it merely establishes the speaker as having no prior expectation rather than having a fulfilled expectation *per se*.

- (68) **Context:** I call you, you don't answer the phone; I go to your house and see that you had been outside painting the house:
 Re-pinta=ngo hína *ra'e*.
 2-paint=NGO PROG MIR
 'You were painting. That explains it!' Salanova & Carol (2016)

Salanova & Carol (2016) go on to claim that *ra'e* does not itself encode counterexpectation, but rather that other co-occurring elements contribute this sense, in particular the focus particle *ningo*.²⁰ With respect to the distinction between new information and sudden revelation, no data is available which would distinguish these two values for the mirative predicate. Similarly for the question of the mirative argument, crucial data is not available at present.²¹

While there remains many unresolved questions about how Guaraní *ra'e* fits within the preliminary typology we've established, this provides further evidence that miratives do not necessarily encode surprise or counterexpectation cross-linguistically, even though one

²⁰Salanova & Carol (2016) also cite unpublished work by Vesela Simeonova as making a parallel claim for mirative uses of the Turkish and Bulgarian indirect evidential.

²¹Similar to what we have seen for Thai *læw45*, Salanova & Carol (2016) establish the grammaticality of *ra'e* in interrogatives, (i), but it remains unclear quite what its use conveys. Given the complex range of interactions between evidentials and interrogatives cross-linguistically, here we face the additional challenge that we must take care to distinguish mirative and evidential uses in these contexts.

- (i) **Context:** I find a mess which I think you caused
 mba'é=pa re=japo *ra'e*?
 what=Q 2=do MIR
 'What have you done?' Salanova & Carol (2016)

of the latter notion is often simply assumed to be the correct by many authors (e.g. Rett & Murray (2013) are quite explicit about this on p. 455)

6.4 The typology of miratives

Having briefly considered several additional case studies, we turn now to speculate on the typology of miratives more generally. We have seen evidence from at least YM *bakáan* and Tagalog *pala* for a class of miratives encoding revelation about the illocutionary update the sentence encodes. While we have discussed these two parts – the mirative attitude and whether it is a propositional one – separately, there is good reason to think this combination is an especially natural one. Suppose hypothetically that a language had a mirative which encoded sudden revelation, but the sentence’s propositional content as its argument.

Outside of cases of new information, when would such an mirative typically be used in conversation? Memory being an attentional process, the predominant such use would plausibly be in situations where the conversation deals with a related issue to the proposition in question. For example, a sudden remembering as in (69) (repeated from (22) above), will be most likely to occur in a conversation about Juan, marriage, or some other related topic. That is to say, the uses which would distinguish such a mirative marker from a marker of new information heavily overlap with illocutionary uses of the sort discussed in §4.3. Nothing rules out the possibility of such a marker existing, but we might expect them to be comparatively rare or difficult to distinguish.

- (69) **Context:** I heard a week ago that our mutual acquaintance Juan got married. I realize during our conversation I didn’t yet tell you the news and say:
 Juan-e’ ts’o’ok bakáan u beel.
 Juan-TOP finish MIR A3 path
 ‘Oh yeah I forgot to tell you, Juan got married (lit. Juan’s path finished).’

What about miratives which mark new information? Here, we have seen that Guaraní *ra’e* (possibly along with the miratives in Turkish and Bulgarian) has been shown to be felicitous in contexts where surprise/counterexpectation is not present. While the distinction between revelation and new information has not to my knowledge been specifically tested empirically, the comparatively larger amount of prior work on these elements does not seem to show clear-cut sudden remembering cases either. So, while more work is needed, it seems likely given the prevalence of such uses with YM *bakáan* that these markers do indeed encode new information.²² Similarly, the question of whether the mirative attitude is propositional in nature has not been addressed as such. However, it is not completely clear how this combination would behave and again, there is no evidence against a propositional account.

These conclusions are also consonant with the fact that the elements which best fit this characterization are all ones which also have evidential uses. In particular, as Rett & Mur-

²²This is especially so in elicitation settings, where it was initially difficult to get speakers to reject any sentence with *bakáan* as inappropriate since a sudden remembering use is rarely ruled out.

ray (2013) claim (*contra* Peterson (2016)), the evidentials which also have mirative uses cross-linguistically are ones which are inferential or reportative evidentials of some kind in their non-mirative use (though they at least typically occur in situations of direct evidence in their mirative use). This is consonant first of all in the sense that new information relates to evidence in a fairly clear way as we have discussed above. It also is consonant for functional reasons. Suppose hypothetically that a language had an indirect evidential of some kind whose mirative use encoded revelation rather than new information. Now imagine that a speaker wants to use such an evidential in a situation where they have suddenly remembered something. How will the addressee detect this intended meaning? For cases like YM *bakáan*, there simply is no other possible intended meaning in such a situation and so the intention will be clear. For the hypothetical case here, however, the speaker could equally intend to convey an indirect evidential meaning. Indeed, since sudden remembering and indirect evidentiality are both largely mind-internal processes, addressees would more or less consistently not be able to tell whether the speaker had suddenly remembered something or merely had indirect evidence for it. As in our earlier hypothetical, nothing rules out a mirative marker of this sort in principle provided we can find some contexts where these intentions will be distinguishable. However, we might again expect such a mirative to be comparatively rare.

Finally, what about mirative markers which do in fact conventionally encode surprise or counterexpectation? Surprisingly (in the intersubjective, non-m-performative sense that is), positive evidence for such miratives is actually in quite short supply. Of course, many miratives have been described in these terms and such cases are typical of all miratives, perhaps definitionally so. Despite this, we do not, for example, have negative felicity judgments in scenarios where expectations are suddenly met or where something is suddenly remembered. Moreover, as we have seen above (and as argued by Salanova & Carol (2016)), many or all languages have alternative evoking elements such as focus and focus-sensitive operators similar to *even*, *only*, and *almost* which can be used to express counterexpectation given the right contextually salient alternative set. To my knowledge, no one takes these elements to be miratives, yet they can be used to express surprise (whether or not they encode this as such). Beyond this, there are cases like exclamation intonation in English which have been regarded as miratives by some researchers (e.g. by Rett (2011)), and which may well encode surprise or counterexpectation. The Tagalog utterance-final particle *a* might be another candidate for this. More generally, it has been argued (e.g. by Gussenhoven (2002)) that all languages have more or consistent biologically based paralinguistic means of conveying basic emotions, surprise being one of them. Such phenomena however have scarcely been discussed in the literature on miratives and we leave their investigation to future research.

Summarizing, in this section, we have examined the cross-linguistic typology of mirative markers. While major empirical work is still needed on a great many points, empirical and theoretical concerns together suggest three major types of miratives we expect to find frequently, as summarized in (70).

(70) **3 classes of miratives:**

	Class 1	Class 2	Class 3
Mirative predicate	Revelation	New Information	Surprise
Mirative argument	Illocutionary update	Proposition	[UNKNOWN]
Examples	Yucatec Maya <i>bakáan</i> , Tagalog <i>pala</i> , (Thai <i>lɛɛw</i> ⁴⁵)	Guaraní <i>ra'e</i> , (Turkish <i>-miş</i> , Bulgarian <i>-l</i>)	(English exclamation intonation, Tagalog <i>a</i>)
English paraphrase	<i>oh</i>	<i>it turns out that</i>	N/A

7. Conclusions

In this paper, I have presented data from Yucatec Maya *bakáan*, a mirative morpheme undiscussed in previous literature on mirativity, and mentioned only in passing in previous descriptive literature. While the differences between various mirative notions discussed in previous literature have often been taken to be primarily issues of linguistic analysis or its conceptual underpinnings, I have made the empirical case that *bakáan* expresses sudden revelation, rather than new information, surprise, or counterexpectation. Beyond this, I have held that *bakáan* expresses revelation not about the propositional content of the sentence per se, but rather about the illocutionary update that it encodes. This claim has been supported with data from not only declaratives with *bakáan*, but also from ‘outside the speech act’ uses in imperatives and (to a lesser extent) interrogatives.

As discussed at length in §6, the data and analysis here have significant implications for the emergent typology of miratives, though much more empirical work is needed. Beyond the study of miratives themselves, the analysis developed here has clear consequences for the structure of illocutionary updates. Concretely, I have argued that the range of uses of *bakáan* with declaratives supports a ‘dual update’ theory in which declarative sentences conventionally encode both a proposal to update the Common Ground of the conversational participants as well as an actual update to the speaker’s individual public Discourse Commitments. While such a theory has various kinds of independent motivations discussed above, *bakáan* provides fairly direct support for it over competing theories which posit only one or the other of these two updates). For imperatives, however, the same reasoning lead us to conclude that they encode only a single update – a proposal to update the shared Effective Preferences of the conversational participants – but crucially not an update to the speaker’s individual Effective Preferences.

Scott AnderBois
scott.anderbois@Brown.edu

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