

Negative bias, reminding, and pragmatic reasoning in Kipsigis belief reports*

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Abstract

Much work has explored how belief reports ($x V_{att} p$) function pragmatically not just as reports of x 's internal state, but as devices for indicating the status of p with respect to the Common Ground (CG). In addition to the case of factive verbs, which presuppose p , recent work has explored negatively biased belief verbs, which suggest that p must not be present in the input or output CG (e.g. Anvari et al. 2019; Glass To appear). Drawing from original fieldwork, I show that the biased belief verb *par* 'think' in Kipsigis (Kalenjin; Kenya) is best modeled as contributing, in addition to its basic belief semantics, an instruction for CG management (Krifka 2008): p must not be *added* to the CG. Together with context-sensitive pragmatic reasoning, this instruction explains the curious case of a verb that can be used both to suggest that p is false and to remind the addressee that p is true.

Keywords: Common Ground management, negative bias, reminding, belief reports, Kipsigis

1 Introduction

The Common Ground (CG) is the set of propositions that interlocutors agree to treat as true for the sake of a conversation (Stalnaker 1974; Karttunen 1974; Lewis 1979). An important distinction within the literature on the CG is that between CG content and management (Krifka 2008); CG content refers to the truth conditional information contained within the CG, while CG management concerns how the CG content should develop over the course of a conversation. There are many expressions that serve CG management functions across languages (e.g. questions, discourse particles); this paper focuses on the CG management function of belief reports.

Much work has explored how belief reports of the form $x V_{att} p$ can function pragmatically not just as reports of x 's internal state, but also as devices for indicating the status of p with

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respect to the CG.¹ In addition to the case of factive verbs, which are argued to presuppose *p* (e.g. Stalnaker 1974), recent work has explored negatively biased belief verbs, which suggest that *p* is false or unlikely and so should not be added to the CG (see e.g. Tagalog *akala*, Kierstead 2013; Taiwanese Southern Min *lih-tsun*, Hsiao 2017; Spanish *creerse*, Anvari et al. 2019; Mandarin *yǐwéi*, Glass To appear).

In this paper, I draw on original field data to describe and analyze the belief verb *par* ‘think’ in Kipsigis (Kalenjin; Kenya). The Kipsigis verbs *pwaat* (1a) and *par* (1b) both translate to ‘think’. Despite this similarity, use of *par* triggers additional inferences about the reported belief’s status in relation to the CG, while *pwaat* is neutral in this respect. For instance, *par* in (1b) strongly implies that the speaker is not actually sick, while *pwaat* in (1a) leaves the issue open.^{2,3}

- (1) a. *i-pwaat-e kaameε-nyʊʊn kole aa-mnyon-i.*
 3-think-IPFV mother-1SG C 1SG.POSS-be.sick-IPFV
 ‘My mother **thinks** that I’m sick.’
- b. *∅-par-e kaameε-nyʊʊn aa-mnyon-i.*
 3-think-IPFV mother-1SG.POSS 1SG-be.sick-IPFV
 ‘My mother **is under the impression** that I’m sick.’

The inferences triggered by *par* in sentences like (1b) parallel other cases of negatively biased belief verbs described in the literature. However, *par* serves a different function in the present tense with a 1st person belief holder. Here, *par* has a reminding function: the speaker uses *par* in (2) to indicate that their interlocutor should already know the reported belief.

- (2) I arrive home and see a guest. I don’t know who the guest is, so I ask my mother who they are. She replies:
a-par-e abuleyaanit.
 1SG-think-IPFV uncle
 ‘**Remember**, it’s your uncle.’ (Lit: ‘I think that it’s your uncle.’)

While this type of reminding function is found with other CG management elements (e.g. the German discourse particles *ja* and *doch*), it has not, to my knowledge, been reported for any negatively biased belief verbs and, at first glance, appears to be at odds with *par*’s negative bias function. In this way, Kipsigis *par* combines two familiar, yet seemingly contradictory, phenomena in a typologically unique way.

Against this backdrop, this paper offers a unified semantic and pragmatic analysis that ac-

¹Throughout the paper, I use *x* as shorthand for the belief holder and *p* for the reported belief.

²Abbreviations include: 1=first person, 2=second person, 3=third person, COP=copula, IPFV=imperfective aspect, MOD=modal, NEG=negation, PERF=perfect, POSS=possessive, PST=past tense, PL=plural, REFL=reflexive, SBJV=subjunctive, SG=singular, Q=yes/no question particle.

³3rd person indicative subject agreement is either null or *i-* as determined by the conjugation class of the verb (i.e. Class I or Class II). Many verbs alternate between the two classes with a semantic effect—specifically, anticausative vs. causative interpretation—while many others appear exclusively in one class with no semantic generalization predicting which class a verb is in. In my data, *pwaat* is always in Class II, while *par* is always in Class I. See Towett (1979) and Creider & Creider (1989) for more discussion of Kalenjin verb classes.

counts for both of *par*'s negative bias and reminding functions. I claim that *par* contributes, in addition to its basic belief semantics, an instruction for CG management: *p* must not be *added* to the CG. In formalizing this instruction, I propose a definedness condition that relies on existing pre- and postsuppositional machinery and directly incorporates insights from analyses of both negatively biased belief verbs and reminding discourse particles. Together with context-sensitive pragmatic reasoning, then, this CG management instruction explains the case of a verb that can be used both to suggest that *p* is false (1b) and to remind the addressee that *p* is true (2).

This analysis of *par* constructions contributes to a growing body of work on negatively biased belief verbs and offers a new perspective on the modeling of different types of CG management. More specifically, the Kipsigis data show that lexical items must be able to impose more complex requirements on the CG, beyond simply checking for membership of $(\neg)p$ in the CG *either* before *or* after utterance, as is standard in analyses of CG management (e.g. Repp 2013; Grosz 2016; Anvari et al. 2019; Glass To appear). Constructions with Kipsigis *par* are felicitous in a wide range of contexts, including when the input and output CG contain $\neg p$, say nothing with respect to *p*, or contain *p*. In this way, reference to membership of a particular proposition in one of either the input or the output CG is insufficient to capture the full range of effects seen with *par*; instead, a more complex definedness condition that makes reference to both CG_{in} and CG_{out} is required to model the central intuition that *par* requires *p* to not be added to the CG.

The paper is structured as follows. In §2, I describe the data, with a focus on *par*'s different interpretive effects with non-1st person vs. 1st person belief holders. §3 situates the Kipsigis pattern in the typology of CG management elements, including negatively biased belief verbs and reminding particles. In §4, I provide an analysis of *par* that spans the semantics-pragmatics interface and attributes its interpretive effects to a CG management instruction that *par* provides: *p* must not be added to the CG. §5 concludes.

2 The Kipsigis pattern

Kipigis is a Nilo-Saharan language of the Kalenjin sub-group spoken by about 1.9 million people in Western Kenya (Eberhard et al. 2021). The Kipsigis verbs *par* and *pwaat* both mean 'think', though use of *par* triggers additional inferences about *p*'s status in relation to the CG. Because *par* is a belief verb, its effect on the discourse depends on who the belief holder is—in particular, whether they are the speaker or someone else. For this reason, I describe sentences with non-1st person belief holders in §2.1, then consider sentences with 1st person belief holders in §2.2.

2.1 Interpretation with non-1st person belief holders

With non-1st person belief holders, use of *par* indicates that the speaker knows the reported belief to be false, is biased against the reported belief whether or not its truth is known, or finds the belief holder unreliable. First, if the speaker knows that *p* is false, statements with *pwaat* are strongly dispreferred in comparison to their counterparts with *par*, and statements with factive *ngen* 'know' are infelicitous, as illustrated in (3) - (4).⁴ I use #? to indicate strong dispreference—

⁴The Kipsigis data reported here come from my fieldwork with three US-based speakers in the Bay Area in CA and in Washington, DC. Judgements were elicited using many of the contexts in Glass (To appear), as well as additional

rather than outright infelicity (#)—as speakers can choose to use *pwaat* if they wish to appear neutral, regardless of whether they actually *are* neutral with respect to *p*.⁵

- (3) I'm healthy, but my mother thinks that I'm sick because I fooled her to skip school. I say:
- a. #? i-**pwaat**-e kaameε-nyʊʊn kole aa-mnyon-i.
3-think-IPFV mother-1SG.POSS C 1SG-be.sick-IPFV
'My mother **thinks** that I'm sick.'
 - b. ∅-**par**-e kaameε-nyʊʊn aa-mnyon-i.
3-think-IPFV mother-1SG.POSS 1SG-be.sick-IPFV
'My mother **is under the impression** that I'm sick.'
 - c. # i-**ngen** kaameε-nyʊʊn kole aa-mnyon-i.
3-know mother-1SG.POSS C 1SG-be.sick-IPFV
'My mother **knows** that I'm sick.'
- (4) Cheptoo's parents think that she's a very good child who doesn't drink or go to parties. But they're wrong—she actually does do these things! I say:
- a. #? i-**pwaat**-e siikiik-ap Cheepta kole mo-ye maiweek.
3-think-IPFV parents-of C. C NEG-drink alcohol
'Cheptoo's parents **think** that she doesn't drink alcohol.'
 - b. ∅-**par**-e siikiik-ap Cheepta mo-ye maiweek.
3-think-IPFV parents-of C. NEG-drink alcohol
'Cheptoo's parents **are under the impression** that she doesn't drink alcohol.'
 - c. # i-**ngen** siikiik-ap Cheepta kole mo-ye maiweek.
3-know parents-of C. C NEG-drink alcohol
'Cheptoo's parents **know** that she doesn't drink alcohol.'

The contexts in (3) - (4) establish that the speaker knows the reported beliefs to be false. Consequently, the sentences with *par* in the b. examples are preferred, since they highlight that the reported beliefs are incorrect. Consultants report that the a. examples are less appropriate in these contexts because they “give the impression that [the belief holder] could be right or wrong”, even though it is already known that they are mistaken. Likewise, belief reports with factive *ngen* ‘know’ are incoherent, since they would require *p* to be true, as seen in the c. examples.

Second, use of *par* indicates that the speaker is biased against *p*, whether or not the truth of the reported belief is known. In (5) - (6), A does not know if Arap Ruto has arrived—evidenced by their initial question. B responds with information about Arap Bett's belief state, using either *pwaat* or *par*. Only in the case of a belief report with *pwaat* (5) is it appropriate for A to assume that Arap Bett is correct and that Arap Ruto has arrived; this assumption licenses A's response in

contexts suggested by speakers and myself. To collect the judgements reported here, I first asked Kipsigis speakers if a particular sentence was appropriate in a given context. Then, once I had identified the viable alternatives in this way, I presented speakers with the same context and all viable alternatives to identify their (dis)preferences. This methodology enabled me to make a three-way distinction between felicitous, dispreferred, and infelicitous.

⁵As seen in (3) - (4), *pwaat* and *par* involve different syntactic complementation strategies: *pwaat* must co-occur with *kole*, while *par* cannot. §4.4 discusses this pattern, where I build on the analysis in Driemel & Kouneli (2022) to show that the semantics of *kole* cannot be responsible for the interpretive differences between *pwaat* and *par*.

(5). When B reports Arap Bett’s belief using *par* (6), it is inappropriate for A to accept this belief as true.

- (5) A: *ka-ko-it* Arap Ruto-i?
 PST-3.PERF-arrive son.of R.-Q
 ‘Has Arap Ruto arrived?’
 B: *i-pwaat-e* Arap Beet kole *ka-ko-it*.
 3-think-IPFV son.of B. C PST-3.PERF-arrive
 ‘Arap Bett **thinks** that he has.’
 A: *nen aa-wa ki-kat-kεε* any.
 then 1SG-go 1PL-greet-REFL now
 ‘Then I’ll go greet him now.’ (Lit: ‘Then I’ll go, we’ll greet each other now.’)
- (6) A: *ka-ko-it* Arap Ruto-i?
 PST-3.PERF-arrive son.of R.-Q
 ‘Has Arap Ruto arrived?’
 B: *∅-par-e* Arap Beet *ka-ko-it*.
 3-think-IPFV son.of B. PST-3.PERF-arrive
 ‘Arap Bett **is under the impression** that he has.’
 A: *#nen aa-wa ki-kat-kεε* any.
 then 1SG-go 1PL-greet-REFL now
 ‘Then I’ll go greet him now.’ (Lit: ‘Then I’ll go, we’ll greet each other now.’)

The difference between these cases of speaker bias and those in which the reported belief is false is particularly clear in future-oriented sentences, where the truth of *p* cannot be known in the present moment. In (7), for example, a journalist is reporting a political candidate’s belief about the upcoming election.

- (7) We turn on a Kalenjin TV station and see an impartial journalist of unknown political affiliation discussing the upcoming election. The journalist says:
- a. *i-pwaat-e* Jesika kole *∅-sindanisi-e εεn lewenisiet*.
 3-think-IPFV J. C 3-win-IPFV in election
 ‘Jessica **thinks** that she will win the election.’
- b. *#∅-par-e* Jesika *∅-sindanisi-e εεn lewenisiet*.
 3-think-IPFV J. 3-win-IPFV in election
 ‘Jessica **is under the impression** that she will win the election.’

(7b) is inappropriate for an impartial journalist to say because it suggests that the journalist doubts that Jessica will win the election. Speakers comment that this sentence comes across as though the journalist is mocking the candidate who wrongly believes that she will win. However, by introducing explicit bias into the context, speakers’ felicity judgements flip. If the journalist is instead a biased political pundit as in (8), sentences with *par* like (8b) are ideal.

- (8) We turn on a Kalenjin TV station and see a biased political pundit who believes that Jessica will lose the upcoming election. The pundit says:

- a. #? i-**pwaat**-e Jεsika kole ∅-sindansi-e εεn lewenisiet.
 3-think-IPFV J. C 3-win-IPFV in election
 ‘Jessica **thinks** that she will win the election.’
- b. ∅-**par**-e Jεsika ∅-sindansi-e εεn lewenisiet.
 3-think-IPFV J. 3-win-IPFV in election
 ‘Jessica **is under the impression** that she will win the election.’

An identical pattern of speaker bias is observed with 2nd person belief holders. An impartial journalist cannot felicitously report their addressee’s future-oriented belief using *par*, as evidenced by the infelicity of (9b).

- (9) During an interview, a presidential candidate says *Atinye komong’unet ne oo kole kipelisie i εεn lewenisiet* ‘I have a lot of faith that we will win the election.’ An impartial journalist replies:
- a. ii-**pwaat**-e kole i-pelisie-i εεn lewenisiet.
 2SG-think-IPFV C 2SG-win-IPFV in election
 ‘(So) you **think** that you’ll win the election.’
- b. # i-**par**-e i-pelisie-i εεn lewenisiet.
 2SG-think-IPFV 2SG-win-IPFV in election
 ‘(So) you **are under the impression** that you’ll win the election.’

The parallelism between (7) with a 3rd person belief holder and (9) with a 2nd person belief holder shows that this speaker bias is not tied to a 3rd person belief holder. Instead, this interpretive effect arises with any non-1st person belief holder.⁶

Third, speakers use *par* to indicate that they find the belief holder unreliable, even if they do not know the truth of the reported belief themselves. For instance, in an out-of-the-blue context where the speaker has no reason to doubt the belief holder’s reliability, statements with *pwaat* are perfectly natural (10a), while those with *par* are infelicitous (10b).

- (10) We walk up to some people at a party and hear them talking about who has and hasn’t arrived. We have no idea if Arap Ruto is here, nor any idea why Arap Bett has the beliefs that he does. I say:
- a. maa-ngen koto ka-ko-it Arap Ruto anan tomo lakini i-**pwaat**-e
 NEG.1SG-know if PST-3.PERF-arrive son.of R. or not.yet but 3-think-IPFV
 Arap Beet kole ka-ko-it.
 son.of B. C PST-3.PERF-arrive
 ‘I don’t know if Arap Ruto has arrived yet, but Arap Bett **thinks** that he has.’
- b. # maa-ngen koto ka-ko-it Arap Ruto anan tomo lakini ∅-**par**-e
 NEG.1SG-know if PST-3.PERF-arrive son.of R. or not.yet but 3-think-IPFV
 Arap Beet ka-ko-it.
 son.of B. PST-3.PERF-arrive
 ‘I don’t know if Arap Ruto has arrived yet, but Arap Bett **is under the impression**

⁶Negative bias also arises with plural, non-1st person belief holders, though I omit the data for reasons of space.

that he has.’

Consultants comment that (10b) is inappropriate because the speaker has no information that would allow them to judge Bett’s belief, as use of *par* suggests. However, when the context establishes that the belief holder is unreliable in some way as in (11), *par* becomes natural.

- (11) Arap Bett is drunk and is acting confused. I have no idea if Arap Ruto is here or not, but I have reason to doubt Arap Bett’s reliability. I say:

maa-ngen koto ka-ko-it Arap Ruto anan tomo lakini Ø-**par**-e Arap
NEG.1SG-know if PST-3.PERF-arrive son.of R. or not.yet but 3-think-IPFV son.of
Beet ka-ko-it.

B. PST-3.PERF-arrive

‘I don’t know if Arap Ruto has arrived yet, but Arap Bett is **under the impression** that he has.’

In this way, even when the sentence explicitly states that the speaker does not know whether or not *p* is true, *par* statements are appropriate when the belief holder is deemed unreliable.

2.2 Interpretation with 1st person belief holders

With 1st person belief holders, *par* has different interpretive effects depending on the tense of the belief verb. Intuitively, this distinction arises because individuals can stand in different relationships with their past beliefs vs. their present ones. People typically assume that their present beliefs are true—otherwise, they would not believe them. However, it is entirely possible for individuals to recognize their past beliefs as false, if their epistemic state has changed in some relevant way. In the past tense, then, speakers use *par* with a 1st person belief holder when they thought that the reported belief was true, but have since learned that it is false (12) - (13).

- (12) I went to school because I thought there was a meeting, but it was actually cancelled. When I get home, my mom asks why I went to school, so I respond:

a. #? kaa-**pwaat**-e kole mii tuiyeet ra.
PST.1SG-think-IPFV C COP meeting today

‘I **thought** there was a meeting today.’

b. kaa-**par**-e mii tuiyeet ra.
PST.1SG-think-IPFV COP meeting today

‘I **was under the impression** that there was a meeting today.’

- (13) I left my car with a friend while I was out of town because I thought they would use it. But when I get back, I learn that they actually don’t know how to drive! I say:

a. #? kaa-**pwaat**-e kole ii-ngen i-get karnt.
PST.1SG-think-IPFV C 2SG-know 2SG-drive car

‘I **thought** you knew how to drive a car.’

b. kaa-**par**-e ii-ngen i-get karnt.
PST.1SG-think-IPFV 2SG-know 2SG-drive car

‘I **was under the impression** that you knew how to drive a car.’

The pattern seen here parallels that in (3) - (4) with 3rd person belief holders; *par* suggests that *p* is false, which is only possible in the past tense with 1st person belief holders.

Yet in the present tense, speakers use *par* with a 1st person belief holder for a very different purpose. In sentences like the a. examples in (14) - (16), *par* serves a reminding function. Speakers report that, in these types of sentences, *par* suggests that the addressee should already know *p* or, in the words of one consultant, that “[the reported belief] is already a foregone conclusion”. *Par* serves not to weaken the strength of these statements, but rather to highlight the fact that *p* should be common knowledge—for reasons ranging from shared cultural norms (14) to prior knowledge (15) to physical context (16).

(14) Church meetings are always loud, which we both know. We hear lots of noise, and you ask me what it is. I respond:

- a. α-**par**-e mii tuiyeet ra.
1SG-think-IPFV COP meeting today
'Of course, there's a meeting today.' (Lit: 'I think that there's a meeting today.')
- b. # α-**pwaat**-e α-le mii tuiyeet ra.
1SG-think-IPFV 1SG-C COP meeting today
'I **think** there's a meeting today.'
- c. #? mii tuiyeet ra.
COP meeting today
'There's a meeting today.'
- d. # α-**ngen** α-le mii tuiyeet ra.
1SG-know 1SG-C COP meeting today
'I **know** there's a meeting today.'

(15) Nick and Sharon live in Oakland, which I should know because I've been to their house before. When they invite me over for dinner, I ask them what city they live in, thinking it's Berkeley. They want to remind me where they live by saying:

- a. α-**par**-e ki-meny-e Oakland.
1SG-think-IPFV 1PL-live-IPFV Oakland
'We live in Oakland, **as you know**.' (Lit: 'I think that we live in Oakland.')
- b. # α-**pwaat**-e α-le ki-meny-e Oakland.
1SG-think-IPFV 1SG-C 1PL-live-IPFV Oakland
'I **think** we live in Oakland.'
- c. #? ki-meny-e Oakland.
1PL-live-IPFV Oakland
'We live in Oakland.'
- d. # α-**ngen** α-le ki-meny-e Oakland.
1SG-know 1SG-C 1PL-live-IPFV Oakland
'I **know** we live in Oakland.'

(16) I see a friend heading outside in a t-shirt and shorts, even though it's the middle of winter. I want to remind them that it's way too cold for that kind of outfit! I say:

- a. α -**par**-e kartit ra.
1SG-think-IPFV cold today
'**Hang on**, it's cold today.' (Lit: 'I think that it's cold today.')
- b. # $\alpha\alpha$ -**pwaat**-e $\alpha\alpha$ -le kartit ra.
1SG-think-IPFV 1SG-C cold today
'I **think** it's cold today.'
- c. #? kartit ra.
cold today
'It's cold today.'
- d. # $\alpha\alpha$ -**ngen** $\alpha\alpha$ -le kartit ra.
1SG-know 1SG-C cold today
'I **know** it's cold today.'

In uttering these statements, the speaker is not indicating doubt on their part about *p*; in each of these examples, the speaker is certain of the truth of the reported belief and justified in having this belief. For this reason, the equivalent statements with the neutral belief verb *pwaat* are infelicitous, as seen in the b. examples. Instead, competition here is between the *par* statement and the bare proposition, which is acceptable though dispreferred, as it does not explicitly serve a reminding function. For instance, speakers suggest that the c. examples are more polite, since they do not highlight that the addressee is forgetting something, but are less suited to the context, which explicitly calls for reminding. Finally, while the equivalent attitude reports with *ngen* 'know' are more coherent in (14) - (16) than in the negative bias cases, even here speakers prefer the bare proposition *p* over the *ngen* statement—presumably because stating *p* commits the speaker to knowing *p*, making the attitude report with *ngen* unnecessary (see Simons 2007:1048 for such an analysis of English *I know p*).⁷

Further evidence of *par*'s reminding function is found in (17), where the *par* statement is infelicitous when the speaker cannot assume the reported belief to be shared knowledge with their addressee. The sentence in (17a) with *par* is infelicitous because the addressee cannot be assumed to already know that they should speak to Arap Ruto; rather, getting advice from the advisor about what the addressee should do is the goal of the conversation.

- (17) Arap Ruto is in charge of the linguistics department. I'm planning to go to Kenya and need permission to do so. I talk to my advisor, and she says:
- a. # α -**par**-e yaache ii-ng'olaal-chi Arap Ruto.
1SG-think-IPFV should 2SG-speak-APPL son.of R.
'**As you know**, you should speak to Arap Ruto.'
 - b. yaache ii-ng'olaal-chi Arap Ruto.
should 2SG-speak-APPL son.of R.
'You should speak to Arap Ruto.'

⁷This claim, of course, raises the question of why anyone would say *I know p*, when they could just say *p*. Following Simons (2007), I assume that *I know p* is preferred over *p* in some contexts given other discourse considerations like focus (e.g. on the attitude holder or *know*); this analysis aligns with the fact that the *ngen* statements in the d. examples in (14) - (16) are made significantly better when *ngen* 'know' receives stress.

Consultants note that (17a) is odd for an advisor to use because it comes across as if they are reminding their addressee for not already speaking to Arap Ruto or not knowing to do so.

Notably, this reminding function is restricted to 1st person belief holders. Although the context in (18) sets the stage for a reminding use of *par*, this reading is unavailable with 3rd person *par*. Speakers note that *par* in (18a) implies that the speaker believes the doctor to be wrong, which is inappropriate given their expertise. In this way, *par* has only a negative bias reading with a 3rd person belief holder. To get at a reminding function, speakers embed the doctor's belief—reported with the neutral belief verb *pwaat*—under 1st person *par* (18b).

(18) You go to the doctor because you're coughing and have a sore throat. The doctor thinks that you have Covid, but didn't run a test because he ran out. He sends you home, but tells you to isolate and follow the Covid guidelines. I see you leaving the house and want to remind you about your diagnosis. I say:

- a. # \emptyset -*par*-e dakitaari i-tiny-e koroona.
 3-think-IPFV doctor 2SG-have-IPFV Covid
 ‘Remember, according to the doctor, you have Covid.’
- b. α -*par*-e i-pwaat-e dakitaari kole i-tiny-e koroona.
 1SG-think-IPFV 3-think-IPFV doctor C 2SG-have-IPFV Covid
 ‘Remember, the doctor thinks that you have Covid.’

The same pattern is seen with 2nd person belief holders. Use of 2SG *par* in a reminding scenario like (19) is infelicitous, as it implies that the speaker doubts the addressee's belief. Instead, the report of the addressee's belief must be embedded under 1st person *par* (19b). In this way, *par*'s reminding function is restricted to instances with a 1st person belief holder in the present tense.⁸

(19) This morning, you told me that you were feeling sick and weren't going to school today. But when I see you a bit later, you're getting dressed and putting things in your backpack, as if you're going to school. I want to remind you what you told me earlier, so I say:

- a. # *i-par*-e ii-mnyoon-i.
 2SG-think-IPFV 2SG-be.sick-IPFV
 ‘Wait a minute, according to you, you're sick.’
- b. α -*par*-e ii-pwaat-e kole ii-mnyoon-i.
 1SG-think-IPFV 2SG-think-IPFV C 2SG-be.sick-IPFV
 ‘Wait a minute, you think that you're sick.’

⁸I have found speaker variation with respect to the availability of a reminding function with a 1st person plural belief holder. For one speaker, use of 1PL *par* to serve a reminding function in (1) is natural, since the speaker is responding on behalf of themselves and their partner, while another speaker disprefers (1).

- (1) Nick and Sharon live in Oakland, which I should know because I've been to their house before. When they invite me over for dinner, I ask them what city they live in, thinking that it's Berkeley. They want to remind me where they live by saying:
ki-par-e ki-meny-e Oakland.
 1PL-think-IPFV 1PL-live-IPFV Oakland
 ‘We live in Oakland, as you know.’

To summarize, the specific interpretive effects triggered by *par* depend on the person of the belief holder, as well as the tense of the belief verb, as outlined in Table 1. With non-1st person belief holders, use of *par* indicates that *p* is false, the speaker is biased against *p*, or *x* is unreliable. With 1st person belief holders, *par*'s effects differ across tenses. In the past tense, *par* suggests that *p* is false, as with non-1st person belief holders. Yet in the present tense, *par* serves to remind listeners that they should already know *p*. In this way, *par* serves two seemingly contradictory purposes: to suggest that *p* is or may be false and to remind the addressee that *p* is true.

Table 1: Summary of interpretive effects with *par*

Context	Interpretive effect
non-1st person <i>par p</i>	Suggests that <i>p</i> is or may be false
1st person past <i>par p</i>	Suggests that <i>p</i> is or may be false
1st person present <i>par p</i>	Reminds the addressee of <i>p</i>

3 Negatively biased belief and reminding across languages

The negative bias and reminding functions seen with Kipsigis *par* are attested independently across a range of languages. However, *par* is unique in using a single lexical item to accomplish both of these seemingly distinct functions. In this section, I sketch the typology of negatively biased belief verbs, as well as a sample of elements with reminding functions, to show how the Kipsigis pattern fits into the larger, cross-linguistic picture.

Negatively biased belief verbs are reported in several languages, including Tagalog (*akala*; Kierstead 2013), Taiwanese Southern Min (*lih-tsun*; Hsiao 2017), Spanish (*creerse*; Anvari et al. 2019), and Mandarin (*yǐwéi*; Glass To appear). With non-1st person belief holders, these verbs show similar behaviors to Kipsigis *par*. For instance, both Spanish *creerse* and Mandarin *yǐwéi* strongly suggest that the reported belief is false or unlikely. The Spanish sentence in (20) implies that it is not actually raining, while the Mandarin sentence in (21) is preferred when the speaker is known to be healthy (i.e. *p* is known to be false). These data parallel the pattern seen with non-1st person Kipsigis *par* in §2.1.⁹

(20) *Spanish*

(Anvari et al. 2019:ex. 1)

⁹Other languages also have different ways of encoding a similar type of negative bias. For instance, as a reviewer points out, German Konjunktiv I is a reportative subjunctive that serves a function similar to Kipsigis *par* in non-1st person cases; the sentence in (1) suggests that *p* is false or unlikely. Here I highlight that negatively biased belief verbs are not the only way to derive negative bias in belief reports, but leave for future research the question of whether German Konjunktiv I warrants a similar, CG management-style analysis (see also Glass To appear:25).

(1) *German*

Er denkt, sie sei zuhause.
 he thinks she is.SBJV at.home
 'He thinks that she is at home.'

Juan se cree que está lloviendo.
 J. REFL believes that it.is raining
 ‘Juan REFL believes that it is raining.’

- (21) *Mandarin* (Glass To appear:ex. 4)
 I tell you that I’ve been faking an illness to skip school. I say:
 Māma yīwéi wǒ bīng le.
 mother YIWEI I sick ASP
 ‘Mother is **under the impression** that I’m sick.’

However, *par*’s reminding function with a 1st person belief holder is unique in the space of previously described negatively biased belief verbs. Other such verbs that have been described in sufficient detail in the literature have no reminding function and are often incompatible with a 1st person belief holder. For instance, Spanish *creerse* is infelicitous with a 1st person belief holder (22), while 1st person Mandarin *yīwéi* is necessarily interpreted as past tense (23a) or—with enough contextual support—very hedged (23b). Crucially, these verbs lack any sort of reminding function, which differentiates the pattern in (22) - (23) from the Kipsigis one in §2.2.

- (22) *Spanish* (Anvari et al. 2019:ex. 13)
 # Me creo que está lloviendo.
 REFL I.believe that it.is raining
 NOT: ‘Remember, it’s raining.’

- (23) *Mandarin* (Glass To appear:ex. 11-12)
 a. wǒ yīwéi jīntiān yǒu ge jiǎngzuò.
 I YIWEI today have CL talk
 ‘I **thought** there was a talk today.’
 NOT: ‘Remember, there’s a talk today.’
 b. wǒ gèrén yīwéi nǐ jīnggāi zhèyàng zuò.
 I personally YIWEI you should this.way do
 ‘Personally, I **would think** that you should do this.’
 NOT: ‘You should do this, **as you know**.’

Although it is previously unreported for a negatively biased belief verb, *par*’s reminding function is familiar from discourse particles like German *ja* and *doch*. Both *ja* and *doch* instruct the addressee to retrieve from the CG a proposition that is not currently being considered; *doch* then comes with the additional meaning component that the current proposition is at odds with something conveyed previously (Döring 2016). For instance, in sentences like the follow-up in (24b), use of *ja* instructs the addressee to retrieve a forgotten proposition from the CG—namely, that Maria has already said that she would like to do the job. Although the addressee has perhaps forgotten this fact, use of *ja* suggests that they should already know *p*.

- (24) *German* (Döring 2016:ex. 39)
 a. Ich würde Maria als Sprecherin vorschlagen.
 I would M. as speaker recommend
 ‘I would recommend Maria as the speaker.’

- b. Sie hat **ja** gesagt, sie würde die Aufgabe gern übernehmen.
 she has JA said she would the task like to.take.over
 ‘She said she would like to take over this task.’
 where $p = \{w : \text{Maria said that she would like to take over this task in } w\}$

In this way, the two functions served by Kipsigis *par* are familiar on their own; a number of verbs—including Spanish *creerse* and Mandarin *yǐwéi*—accomplish only negative bias, while the German discourse particles *ja* and *doch* serve only a reminding function. The novelty of the Kipsigis pattern lies in its combination of these two phenomena in a single lexical item. This unique combination of familiar elements has ramifications for the analysis of Kipsigis *par*. As detailed in the following section, analyses of negatively biased belief verbs typically assume that the speaker is committed to p being false or unlikely, while analyses of reminding elements like *ja* and *doch* assume the opposite—that the speaker is committed to p being true. In short, existing accounts that capture either negative bias or reminding are unable to capture the other function. Against this backdrop, in the following section, I draw inspiration from these two bodies of literature to provide a unified analysis of Kipsigis *par* that accounts for its full range of effects.

4 Analyzing Kipsigis *par*

My analysis of Kipsigis *par* spans the semantics-pragmatics interface. Semantically, in addition to its standard belief semantics, *par* contains an instruction for CG management: that p is not to be added to the CG. Pragmatically, then, speakers reason about why this must be the case, which implicates that the reported belief is false or unlikely, the belief holder is unreliable, or the reported belief is already in the CG. This bipartite analysis accounts for the full range of interpretive effects associated with *par*, while requiring minimal semantic differences between *par* and *pwaat*. Then, to conclude this section, I consider two other possible analyses, which seek to explain *par*’s negative bias and reminding functions through different mechanisms, and I show that these alternatives are unable to capture the full range of *par*’s effects.

4.1 Semantics of *par*

I assume a framework in which utterances are updates to the CG (Karttunen 1974; Stalnaker 1978). For instance, upon utterance of the belief report in (25), there are two propositions that can enter the CG: that the speaker’s mother has a particular belief (i.e. x *thinks* p) and that the speaker is sick (i.e. p).

- (25) i-**pwaat**-e kaamεε-nyʊʊn kole aa-mnyon-i.
 3-think-IPFV mother-1SG.POSS C 1SG-be.sick-IPFV
 ‘My mother **thinks** that I’m sick.’

- a. Proposition 1: The speaker’s mother has a particular belief.
 b. Proposition 2: The speaker is sick.

The asserted content of (25)—what the speaker directly proposes to add to the CG—is the proposition in (25a). Given assumptions about cooperation in discourse (Grice 1989), listeners typically

assume that the speaker of (25) is being truthful and accept the proposition in (25a) by default. This proposition enters the CG, leading to CG update of the form in (26); acceptance of this proposition results in an output CG, which contains the input CG plus the asserted proposition.

$$(26) \quad \text{CG}_{\text{out}} = \text{CG}_{\text{in}} \cup \{x \text{ thinks } p\}$$

In addition, the proposition in (25b) can be added to the CG, although update of this sort depends on how interlocutors evaluate the likelihood of the proposition and the reliability of the belief holder. While the inference from $x \text{ thinks } p$ to p is not part of the asserted content of a belief report, listeners often take x 's belief in p as evidence for p itself—especially if p seems reasonable and x is viewed as reliable (see e.g. the evidential uses of attitude reports in Simons 2007). In this way, interlocutors' acceptance of p as true after utterance of a belief report relies on pragmatic reasoning about the belief itself and the belief holder, though this inference is not straightforwardly classified as presupposition or conversational implicature. In (25), for example, if the reported belief is plausible and the belief holder is reliable, then the proposition in (25b) can enter the CG as well. In this case, CG update takes the form in (27).

$$(27) \quad \text{CG}_{\text{out}} = \text{CG}_{\text{in}} \cup \{x \text{ thinks } p, p\}$$

In this way, attitude reports with *pwaat* allow two types of CG update: just the proposition $x \text{ thinks } p$ can be added to the CG, or the propositions $x \text{ thinks } p$ and p can both be added to the CG. The fact that *pwaat* allows for these two CG update possibilities aligns with speaker intuitions that use of *pwaat* “leaves the issue open” as to whether or not the reported belief is true. If p is added to the CG—in addition to $x \text{ thinks } p$ —then it is assumed to be true. However, p does not need to be added to the CG, since such an inference is based on pragmatic reasoning about both p and x , which leaves open the possibility that it is false.

By contrast, I argue that *par* statements are more restricted in the type of CG update that they allow. The meaning of *par* contains two parts. Its at-issue content states that in all the worlds compatible with x 's beliefs, p holds (i.e. standard belief semantics). Its not-at-issue content provides a CG management instruction, stating that p must not be *added* to the CG. I formalize this instruction as a definedness condition requiring that p must not be in CG_{out} or must be in CG_{in} . A sample denotation for *par* is in (28), though other formalizations of both the at-issue and not-at-issue content are compatible with my analysis; the key takeaway is that *par* comes with a bipartite definedness condition that restricts the shape of the CG before *or* after utterance.

$$(28) \quad \llbracket \text{par} \rrbracket = \llbracket \text{think} \rrbracket = \lambda p \lambda x \lambda w. \forall w' \in \text{Dox}_{x,w} [p(w') = 1]$$

defined only when

- a. $p \notin \text{CG}_{\text{out}}$, or
- b. $p \in \text{CG}_{\text{in}}$

$$(29) \quad \text{Paraphrase of (28a) - (28b): Do not add } p \text{ to the CG.}$$

This definedness condition ensures that p is not added to the CG in the following way. If p is not in CG_{in} , then it simply cannot be added to the CG upon acceptance of the *par* statement,

since (28a) mandates that p must not be in CG_{out} . On the other hand, if p is already in CG_{in} , par continues to be defined (28b), though p cannot be non-trivially added to the CG, since it is already there. Because p is in the input CG, it must also be in the output CG—even without any contribution from the par statement—given that CG_{out} is built additively upon CG_{in} .¹⁰ In this way, the condition in (28) captures the intuition that p must not be added to the CG when a speaker makes a par statement, at least not in any non-trivial way.

For comparison, a sample denotation for $pwaat$ is in (30). $Pwaat$ differs only minimally from par , in that it does not impose a definedness condition. The absence of this condition allows for the two types of CG update described above.¹¹

$$(30) \quad \llbracket pwaat \rrbracket = \llbracket think \rrbracket = \lambda p \lambda x \lambda w. \forall w' \in \text{Dox}_{x,w} [p(w') = 1]$$

Evidence that par 's definedness condition is not-at-issue content comes from its behavior in projection contexts; in particular, the negative bias seen with par persists in yes-no questions and antecedents of conditionals.¹² With yes-no questions, par continues to be infelicitous when the reported belief is true, as seen in (31).

- (31) You told your family three months ago that you'd be home tomorrow. You're checking to make sure that they remember. You say:
- a. toos oo-**pwaat**-i kole a-nyoon-e kaa kaaroon-i?
MOD 2PL-think-IPFV C 1SG-come-IPFV home tomorrow-Q
'Do you (pl) **think** that I'm coming home tomorrow?'
 - b. # toos o-**par**-e a-nyoon-e kaa kaaroon-i?
MOD 2PL-think-IPFV 1SG-come-IPFV home tomorrow-Q
'Are you (pl) **under the impression** that I'm coming home tomorrow?'

Par is only appropriate if the speaker is not coming, but their family thinks that they are (32).

- (32) You're definitely not coming home tomorrow, but your family seems to think that you are. You say:
- a. #? toos oo-**pwaat**-i kole a-nyoon-e kaa kaaroon-i?
MOD 2PL-think-IPFV C 1SG-come-IPFV home tomorrow-Q
'Do you **think** that I'm coming home tomorrow?'
 - b. toos o-**par**-e a-nyoon-e kaa kaaroon-i?
MOD 2PL-think-IPFV 1SG-come-IPFV home tomorrow-Q
'Are you **under the impression** that I'm coming home tomorrow?'

¹⁰I assume that the inability of par statements to remove a proposition from the CG has a separate explanation that I do not build into par 's definedness condition, since this type of CG revision is a non-canonical discourse move that often requires a special mechanism (Farkas & Bruce 2010; Bledin & Rawlins 2016); for instance, Mandarin $yíwéi$ is defined whenever $p \notin CG_{out}$, yet it cannot be used to remove p from the CG (Glass To appear).

¹¹For the rest of the paper, I use $\llbracket think \rrbracket$ as shorthand for $\lambda p \lambda x \lambda w. \forall w' \in \text{Dox}_{x,w} [p(w') = 1]$ or an equivalent.

¹²It is impossible to test whether par 's interpretive effects persist under negation, since this verb cannot be negated while retaining its 'think' meaning. Par also means 'kill', though these constructions involve standard transitive syntax rather than clausal embedding. When par is negated, it no longer means 'think' and instead only means 'kill'.

Par's interpretive effects also project from the antecedent of a conditional. In (33), the context establishes that the reported belief is false and, consequently, the *par* statement is preferred over the alternative with *pwaat*—even though the attitude verb is in a conditional antecedent.

- (33) We know that there's no test tomorrow because we're going on a field trip. But Nancy is paranoid and might think that there's going to be a surprise test on the field trip. I say:
- a. #? kot ko-**pwaat**-e Nancy kole mii tiemuutik kaaroon, ko-sooman-i nguuni.
 if 3.SBJV-think-IPFV N. C COP test tomorrow 3.SBJV-study-IPFV now
 'If Nancy **thinks** there's a test tomorrow, she's studying now.'
- b. kot ko-**par**-e Nancy mii tiemuutik kaaroon, ko-sooman-i nguuni.
 if 3.SBJV-think-IPFV N. COP test tomorrow 3.SBJV-study-IPFV now
 'If Nancy **is under the impression** that there's a test tomorrow, she's studying now.'

Crucially, the denotation of *par* in (28) is compatible with the wide range of contexts where *par* statements are felicitous. As seen in §2, *par* statements serve two seemingly contradictory functions: to suggest that *p* is or may be false and to remind the addressee that *p* is true. *Par*'s negative bias function is similar to that seen with other such belief verbs cross-linguistically (§3). On this use of *par*, I assume that the input CG contains $\neg p$ or says nothing with respect to *p*. When *p* is known to be false (3) - (4), the input CG contains $\neg p$. In these cases, *par*'s definedness condition requires that *p* not be in the output CG either, preventing revision of the CG from $\neg p$ to *p*. Likewise, when the truth or falsity of *p* is unknown (5) - (9), the input CG says nothing with respect to *p*. In these cases too, use of *par* is only defined if $p \notin \text{CG}_{\text{out}}$, thereby preventing update to $\text{CG}_{\text{in}} \cup \{x \text{ thinks } p, p\}$.

On the other hand, *par*'s reminding function is reminiscent of that seen with the German discourse particles *ja* and *doch* (§3). While the exact modeling of *ja* and *doch* are controversial, it is accepted that, in terms of CG management, statements with *ja* and *doch* do not have the goal of updating the CG with *p*, since *p* is already in the CG (see e.g. Repp 2013; Döring 2016; Grosz 2016). Here, I adopt a central insight from this literature: that reminding functions arise when a proposition is already in the CG, even though an interlocutor might be forgetting this. In this way, reminding uses signal what a speaker takes to be CG, which is often redundant but can be informative if the listener has forgotten something.¹³ Applying this idea to *par*, I assume that the input CG already contains *p* when a reminding *par* statement is made. When *p* is already in the input CG (14) - (17), the output CG must remain the same with respect to *p*, since CG_{out} is built upon CG_{in} . This means that *p* continues to be part of the output CG as well.

In this way, statements with *par* are compatible with a wide range of input and output CGs: those that contain $\neg p$, say nothing with respect to *p*, or contain *p*. Table 2 summarizes the input and output CGs that are possible with a *par* statement.

¹³It is possible for a proposition to be in the CG without all interlocutors realizing it, even while maintaining a Stalnakerian view of the CG as the set of propositions that interlocutors have agreed to treat as true (Stalnaker 1974). Crucially, there is no requirement that all interlocutors are currently attending to all of these propositions, making it possible for someone to have accepted a proposition *p* as true, but then to forget that they accepted *p*.

Table 2: Input and output CGs compatible with *par* statements

	CG _{in}	<i>par</i>	CG _{out}
$p \notin \text{CG}_{\text{in}}$	$\{\neg p\}$	\rightarrow	$\{x \text{ thinks } p, \neg p\}$
	\emptyset	\rightarrow	$\{x \text{ thinks } p\}$
$p \in \text{CG}_{\text{in}}$	$\{p\}$	\rightarrow	$\{x \text{ thinks } p, p\}$

In light of this distribution, *par*'s not-at-issue content cannot be modeled as a condition on just one of either the input or the output CG, as there is no unified description that captures the range of contexts where *par* is appropriate. In the framework adopted here, presupposition can be modeled as a restriction on the input CG (Stalnaker 1974); for a presupposition to be met, the CG must look a particular way *before* utterance of the trigger. For instance, to capture the idea that *x knows p* presupposes *p*, a prominent analysis of English *know* is that it is defined if and only if the input CG already contains *p* (e.g. Potts 2005); that is, $\llbracket \text{know} \rrbracket$ is defined only when $p \in \text{CG}_{\text{in}}$. To capture *know*'s factive presupposition, then, it is sufficient for the definedness condition to refer only to CG_{in} .

Along similar lines, lexical items can also place restrictions on the CG after an utterance—a phenomenon known as postsupposition (Brasoveanu 2009; Lauer 2009). In contrast to presupposition, the CG must look a particular way *after* utterance of the trigger for a postsupposition to be met. Glass (To appear) uses postsupposition to analyze the negatively biased belief verb *yǐwéi* in Mandarin, proposing that *yǐwéi* requires the output CG to be compatible with $\neg p$. This account can be formalized as in (34); to capture *yǐwéi*'s postsupposition, it is sufficient for the definedness condition to refer only to CG_{out} .¹⁴

- (34) $\llbracket \text{yǐwéi} \rrbracket = \llbracket \text{think} \rrbracket$
 defined only when $p \notin \text{CG}_{\text{out}}$

Both pre- and postsuppositional analyses have been proposed to account for negatively biased belief verbs across languages. Glass (To appear) offers the postsuppositional analysis above for Mandarin *yǐwéi*, while Anvari et al. (2019) offer a presuppositional analysis of the negatively biased belief verb *creerse* in Spanish, which they argue is contrafactive. They claim that, in order for *creerse*'s presupposition to be met, the input CG must contain $\neg p$.

¹⁴In fact, the postsupposition proposed for Mandarin *yǐwéi* in Glass (To appear) has parallels in work on CG management outside the realm of attitude reports; specifically, the postsupposition that $p \notin \text{CG}_{\text{out}}$ is nearly identical to the CG management content proposed for the FALSUM operator in Repp (2013) and Romero (2015) (1).

- (1) $\llbracket \text{FALSUM} \rrbracket$: (Romero 2015:ex. 25)
- a. at-issue content: $\lambda p_{\langle s, t \rangle} . \neg p$
 - b. CG management content: $\lambda p_{\langle s, t \rangle} . \lambda w_s . \forall w' \in \text{Epi}_x(w) [\forall w'' \in \text{Conv}_x(w') [p \notin \text{CG}_{w''}]]$
 where $\text{Epi}_x(w)$ is the attitude holder's epistemic alternatives and $\text{Conv}_x(w)$ is the set of worlds compatible with the attitude holder's conversational goals

Although Repp and Romero do not call the content in (1b) postsupposition—in particular, $p \notin \text{CG}_{w''}$ —it enforces the same restriction on the shape of the output CG as Glass's analysis of *yǐwéi*.

- (35) $\llbracket \text{creerse} \rrbracket = \llbracket \text{think} \rrbracket$
 defined only when $\neg p \in \text{CG}_{\text{in}}$

Coupled with a syntactic account of neg-raising, this analysis captures the fact that *creerse* typically implies that its complement is false, but suggests that it is true when embedded under negation.

However, it is impossible to extend either type of pre- or postsuppositional analysis directly to Kipsigis *par*, since neither the input nor the output CG of a *par* statement necessarily contains a particular proposition, as highlighted in Table 2. *Par* does not require that the input CG contain $\neg p$ —as suggested for Spanish *creerse* (Anvari et al. 2019)—because it is licensed in cases where the input CG contains p and so cannot also contain $\neg p$. Likewise, *par* does not require that p be absent from the output CG—as argued for Mandarin *yǐwéi* (Glass To appear)—since it is licensed in cases where the output CG contains p . These types of analyses, which make reference to just one of either the input or the output CG, simply cannot capture the pattern seen with 1st person present tense *par*, in which p is in both the input and output CG. This analytic difference is necessitated by Kipsigis sentences like (14) - (17), which have a reminding function that is unavailable with Spanish *creerse* and Mandarin *yǐwéi* (§3).

Instead, I have proposed that *par* imposes a weaker requirement: that updating CG_{in} with x *par* p cannot involve the non-trivial addition of p to the CG. To formalize this intuition, I have relied on a bipartite definedness condition that uses familiar pre- and postsuppositional machinery. The definedness condition in (28) makes reference to the output CG—like postsupposition—and the input CG—like presupposition; in fact, (28a) is the same requirement proposed for Mandarin *yǐwéi* in Glass (To appear), while (28b) is the definedness condition often associated with factive predicates like English *know*. In this way, the individual building blocks of *par*'s meaning are familiar. The novelty of the Kipsigis pattern stems from the fact that a single lexical item can be used in either type of context—with the overall effect of preventing non-trivial update of the CG with p . In this way, the unique constellation of properties found with Kipsigis *par* falls out of a new combination of familiar mechanisms.¹⁵

Furthermore, even though each part of *par*'s definedness condition is framed in terms of just the input or output CG, they indirectly enforce comparison across input and output CGs, given how CG_{out} is built upon CG_{in} . If $p \notin \text{CG}_{\text{out}}$ (28a), then p must also be absent from CG_{in} because this set forms the foundation for CG_{out} . Likewise, if $p \in \text{CG}_{\text{in}}$ (28b), then p must also be in CG_{out} due to the generally additive nature of CG update. In short, by imposing requirements on the input or output CG, the definedness condition in (28) indirectly speaks to the shape of the CG on

¹⁵An alternative approach is to adopt the analysis in Anvari et al. (2019) or Glass (To appear), which rules out 1st person present tense sentences with *par*, then rule this reading back in via a pragmatic rescue strategy. The intuition here is that *par*'s negative bias function is somehow default; only when this use is necessarily blocked—as with 1st person belief holders in the present tense—does the reminding function become available. However, if this rescue strategy were based on general pragmatic principles, there is no reason why it would not also be available with Spanish *creerse* or Mandarin *yǐwéi*, yet these forms generally disallow 1st person present interpretations. By contrast, on my analysis, the variation between Kipsigis vs. Spanish and Mandarin is built into the lexical entry for *par*. In my opinion, this is a more natural way to capture cross-linguistic variation, instead of proposing that general pragmatic principles variably hold across languages.

Second, the utterance in (39)—repeated from (8b)—suggests that the speaker is biased against p , even though the truth of p is currently unknown. As previously, competition here is between the *par* statement and the neutral belief report with *pwaat*.

- (39) Ø-*par*-e Jɛsika Ø-sindani-e ɛɛn lewenisiet.
 3-think-IPFV J. 3-win-IPFV in election
 ‘Jessica is under the impression that she will win the election.’ vs. *pwaat* belief report

Upon hearing the utterance in (39), listeners reason as outlined in (40).

- (40) Upon hearing (39), listeners reason:
- a. For $\llbracket(39)\rrbracket$ to be defined, either $p \notin CG_{out}$ or $p \in CG_{in}$.
 - b. The speaker intends for their utterance to have a defined truth value.
 - c. Given (40a) and the fact that p is not in the input CG, the speaker must intend for p to not be in CG_{out} .
 - d. The speaker cannot know if Jessica will win the election, but they would not object to this information being added to CG_{out} if they considered it likely.
 - e. Because the possibility of adding p to CG_{out} is ruled out (40c), the speaker must view p as unlikely to be true.

The reasoning here parallels that just described, though it differs in that the speaker cannot be assumed to know if the reported belief is true—contrary to (38d). Given (40d), listeners instead conclude that the speaker intends for p to not be added to CG_{out} because they are biased against it in some way. In the case of (39), this bias stems from the speaker’s personal beliefs about the upcoming election, though the same reasoning applies across different sources of bias. For instance, while I list the unreliability of the attitude holder as a separate effect in (36c), the same type of pragmatic reasoning applies in these cases; the only difference between (39) and these cases is the reason for the speaker’s bias (e.g. personal belief vs. an unreliable attitude holder).¹⁶

This type of pragmatic reasoning also correctly predicts that speakers must have a reason for using *par* when they do not know if p is true. As noted in §2, when the input CG says nothing with respect to p , *par* statements are infelicitous in out-of-the-blue contexts. For instance, (39) is inappropriate for an impartial journalist with no known political affiliation to report and only becomes acceptable when used by a biased political pundit. Likewise, *par* statements are natural when the belief holder is deemed unreliable (e.g. they are drunk), as shown in (11), though these same statements are infelicitous in out-of-the-blue contexts (10b). This pattern is expected given the pragmatic reasoning described here because it hinges on how listeners reason about

¹⁶Another possible reason to use *par* has to do with the type of evidence for a reported belief. When a speaker considers a belief holder’s evidence to be weak, *par* statements are felicitous. This use is mainly attested for one speaker, which is why I do not include it in the main text, but the effect lines up with the facts reported here, which hold across speakers. However, determining what exactly constitutes weak evidence is a question for future research, since it does not align neatly with evidential scales like those proposed by Willett (1988). For instance, if a speaker considers indirect evidence or hearsay to be sound, *par* cannot be used, while direct evidence that the speaker deems faulty in some way can license *par*. I leave exploring the link between evidence source and *par* to future work.

ngen would implicate that *ngen*'s presupposition is not met, giving rise to negative bias but not reminding with non-1st person belief holders.

However, this analysis falls short in contexts where *ngen* is not licensed but reminding uses with a non-1st person belief holder remain unavailable. Such a context is found in (43), repeated from (18). Here, the *ngen* statement is infelicitous because the doctor lacks the proper justification required for their belief to be reported as knowledge. A reminding use of 3rd person *par* continues to be unavailable—even without competition with *ngen*—which shows that this competition cannot be solely responsible for the restriction.

- (43) You go to the doctor because you're coughing and have a sore throat. The doctor thinks that you have Covid, but didn't run a test because he ran out. He sends you home, but tells you to isolate and follow the Covid guidelines. I see you leaving the house and want to remind you about your diagnosis. I say:
- a. # \emptyset -*par*-e dakitaari i-tiny-e koroona.
 3-think-IPFV doctor 2SG-have-IPFV Covid
 ‘Remember, according to the doctor, you have Covid.’
 - b. # *i-ngen* dakitaari kole i-tiny-e koroona.
 3-know doctor C 2SG-have-IPFV Covid
 ‘The doctor **knows** that you have Covid.’

Instead, I suggest that the restriction on *par*'s reminding use arises due to a preference for some kinds of pragmatic reasoning over others. *Par* statements are defined in two different environments: when *p* is not in CG_{out} (44a), which gives rise to negative bias, or when *p* is already in CG_{in} (44b), which gives rise to reminding.

- (44) $\llbracket par \rrbracket$ is defined only when:
- a. $p \notin CG_{out}$, or
 - b. $p \in CG_{in}$

I propose that the condition in (44a) is a default, preferred over the one in (44b) whenever possible. With 1st person belief holders, only (44b) is possible, since interlocutors know that the speaker believes *p*, which rules in a reminding use here. Yet with non-1st person belief holders, both conditions are, in principle, possible because interlocutors do not know whether the speaker believes *p*; in such cases, the Kipsigis data show that (44a) takes precedence over (44b).

It is possible that this preference is grounded in conversational principles. I assume that the primary goal of conversation is to shrink the context set by adding truthful propositions to the CG, so that interlocutors can determine which possible world they are in. To achieve this goal, it is essential that truthful information be added to the CG *and* that false or unjustified information be kept out of the CG. The use of *par* when (44a) is met does exactly this: it prevents the addition of a false or unjustified proposition to the CG. By contrast, the use of *par* when (44b) is met is useful, but does not serve the primary goal of conversation as directly; while it is helpful to remind interlocutors what the CG already looks like, it is arguably not as essential to the development of a conversation as avoiding false CG update. At present, I leave this preference for one

line of pragmatic reasoning over another as a stipulation—perhaps grounded in conversational principles—since there is no clear alternative that captures the restriction. However, understanding how to integrate such a preference into a model of definedness conditions and pragmatic reasoning is a question for further work.

To conclude this section, I provide evidence that the inferences triggered by *par* are conversational implicatures. Support for this analysis comes from the fact that these effects can be reinforced without redundancy and are cancellable—two hallmarks of conversational implicature (Hirschberg 1985; Grice 1989; Potts 2014). For instance, in contexts where *p* is known to be false, speakers can reinforce the falsity of *p* without redundancy. These continuations are particularly natural if the speaker provides additional explanation for the false belief.

- (45) We all know that I’m perfectly healthy. But my mother thinks that I’m sick because I fooled her to skip school.
 Ø-*par*-e kaamεε-nyʊʊn aa-mnyon-i lakini maa-mnyon-i. Kaa-ng’al-e
 3-think-IPFV mother-my 1SG-be.sick-IPFV but NEG.1SG-be.sick-IPFV PST.1SG-lie-IPFV
 si maa-we sʊgʊl.
 so.that NEG.1SG-go school
 ‘My mother is **under the impression** that I’m sick, but I’m not sick. I was lying to not go to school.’

Par’s other interpretive effects, like the unreliability of *x*, are also reinforceable, as seen in (46).

- (46) Arap Bett is very drunk and is acting confused. I don’t know if Arap Ruto is here or not, but I have reason to doubt Bett’s reliability.
 Ø-*par*-e Arap Bett ka-ko-it Arap Ruto lakini maa-pwaat-e kole
 3-think-IPFV son.of B. PST-3.PERF-arrive son.of R. but NEG.1SG-think-IPFV C
 ka-ko-it. Ø-poogit-i Arap Bett. Maa-yon-i che Ø-mwa-e.
 PST-3.PERF-arrive 3-be.drunk-IPFV son.of B. NEG.1SG-believe-IPFV REL.PL 3-say-IPFV
 ‘Arap Bett is **under the impression** that Arap Ruto has arrived, but I don’t think that he has. Arap Bett is drunk. I don’t believe what he says.’

The fact that these effects can be reinforced without redundancy suggests that they are not part of the asserted content of *par*, but instead arise as conversational implicature.

Par’s interpretive effects are also cancellable, though cancellation requires more contextual support than reinforcement. Continuations like that in (47) are not contradictory, but they are marked discourse moves that typically require the use of veracity emphasizees like *εεn iman* ‘in truth’. In particular, the speaker’s use of *par* in the first half of (47a) suggests that *p* should not be added to the CG simply because many people believe it—even though it ultimately ends up being true. The follow-up in (47b) then explains the unexpected reason why *p* is true, at which point it can be added to the CG. In this way, cancellation after use of *par* must serve some rhetorical purpose, intentionally setting up the expectation that *p* is false in order to subvert this expectation in a surprising or interesting way.

- (47) My friend Lydia invented a famous app, and people think she made millions from it. Actually, although my friend never made any money from her app, she inherited money from her parents. I say:
- a. Ø-**par**-e piik mogoriot Lydia, ako εen iman ko mogoriot...
 3-think-IPFV people rich.person L. and in truth 3 rich.person
 ‘People **are under the impression** that Lydia’s rich, and she actually is...’
 - b. Lakini moo mogoriot kiin ko-alda ap. Kii-goo-chi siigiik-chik rabımk.
 but NEG rich.person when 3-sell app PST-give-APPL parents-3.POSS money
 ‘But she’s not rich from selling the app. Her parents gave her the money.’

Interestingly, negatively biased belief verbs in other languages show a similar pattern in terms of cancellation difficulty. The interpretive effects of Spanish *creerse* cannot be cancelled (Anvari et al. 2019:ex. 10), while those of Mandarin *yǐwéi* are more difficult to cancel than to reinforce (Glass To appear:ex. 27-28). In fact, these different behaviors between reinforcement and cancellation align with recent work on the typology of conversational implicatures, which finds that they are universally reinforceable, though there is more variation in whether they are cancellable. In particular, manner and quantity implicatures can always be reinforced, but they can only be cancelled when their content does not address the Question Under Discussion (Rett 2020). In this way, the behaviors discussed here provide evidence that the inferences triggered by use of *par* over the neutral alternative *pwaat* or the bare proposition *p* are conversational implicatures.

4.3 The grammatical status of 1st person present *par*

Because *par*’s reminding function is so different from its negative bias use and is restricted to 1st person belief holders, it is worth considering the possibility that 1SG present *apare* is a distinct lexical item from the other forms of *par*. For instance, perhaps *apare* is a discourse particle akin to German *ja* or *doch* that is only related to the negative bias use of *par* historically. Yet even if this were the case, the analysis of *par* would have to be compatible with a semantic change pathway that derives a reminding function from a negative bias one, since *apare* is linked to *par* at least morphophonologically. Existing analyses of negative bias do not allow for this possibility. As outlined in §4.1, existing pre- and postsuppositional accounts require $\neg p$ to be in CG_{in} (Anvari et al. 2019) or for CG_{out} to be compatible with $\neg p$ (Glass To appear). These requirements preclude the development of *par*’s reminding function, since it would not be licensed with a 1st person belief holder in the present tense in the first place. By contrast, the analysis here provides a synchronic derivation for *par*’s reminding function (if it is a verb) or lays the groundwork for the diachronic development of this function (if it is a discourse particle).

Additionally, there is evidence to suggest that 1SG present *apare* is synchronically a verb. First, it contains decomposable verbal morphology, including 1SG subject agreement *a-* and imperfective aspect *-e*, and it surfaces clause-initially, which is the only grammatical position for the verb in Kipsigis (Bossi & Diercks 2019).¹⁸ Second, Kipsigis does not generally have discourse particles; to my knowledge, there are no such particles in the language. While this is not proof

¹⁸While this section is concerned specifically with the grammatical status of 1SG present *apare*, evidence that *par* is generally a verb comes from the fact that it takes verbal morphology, including tense, aspect, and indicative and subjunctive subject agreement (in the environments where one would expect these moods to appear in the

that they do not exist, it makes for a marked contrast with languages like German, which have a large inventory of these particles. Given this, if *apare* were a discourse particle, it would be a member of a small class of elements. Third, *apare* can occur with verbal intensifiers like *ime*. This element can surface in many postverbal positions—even quite distant from the intensified verb (48). Crucially, *ime* can combine with *apare* on its reminding use, as seen in (49); here, even though *ime* is not adjacent to *apare*, it highlights the fact that the addressee should already know *p*, as suggested by speaker comments and ‘clearly’ in the translation.

(48) ma-mach-e {ime} ko-wa sɔgɔl {ime} Kiproono {ime}.
 NEG-want-IPFV INE 3.SBJV-go.SG school INE K. INE
 ‘Kiproono really doesn’t want to go to school.’

(49) We’re walking through the garden and see animal tracks. The steps are clearly those of a cow: they’re the shape of cow hooves and spaced out like cow hooves. Yet I ask you what animal it was. You reply:
 a-par-e tɛɛta ime.
 1SG-think-IPFV cow INE
 ‘This is **clearly** a cow.’ (Lit: ‘I definitely think that this is a cow.’)

Together, these facts suggest that *apare* is a verb. However, even if this conclusion turns out to be incorrect and *apare* is a discourse particle, the analysis here provides a better foundation for deriving its reminding function than other analyses of negatively biased belief verbs.

4.4 Against a syntactic alternative

Although this paper focuses on the interpretive differences between belief reports with *pwaat* and *par*, these two constructions also involve slightly different syntactic complementation strategies. In this section, I describe the syntactic differences between *pwaat* and *par* statements and show that they cannot be responsible for the interpretive differences described in §2. As seen throughout the paper, complementation with *pwaat* requires the element *kole* (50a), while *par* cannot occur with *kole* (50b).

(50) a. i-pwaat-e kaameɛ-nyɔɔn *(kole) aa-mnyon-i.
 3-think-IPFV mother-1SG.POSS C 1SG-be.sick-IPFV
 ‘My mother thinks that I’m sick.’
 b. ∅-par-e kaameɛ-nyɔɔn (*kole) aa-mnyon-i.
 3-think-IPFV mother-1SG.POSS C 1SG-be.sick-IPFV
 ‘My mother thinks that I’m sick.’

Some other complement-taking verbs that require *kole* include: *ngen* ‘know’, *mwa* ‘say’, *ruaatit* ‘dream’, and *nereech* ‘be angry’. In this way, verbs that use the *kole* embedding strategy come from a variety of lexical classes and include factive and non-factive verbs.

language). Illustrative data examples can be seen throughout the paper; for instance, indicative vs. subjunctive subject agreement on *par* is found in (3) - (4) vs. (33b).

Diercks & Rao (2019) treat *kole* as a complementizer; hence its glossing to this point in the paper. However, recent work by Driemel & Kouneli (2022) argues that it is actually the lexical verb *le* ‘say’ with the 3rd person subjunctive agreement prefix *ko-*. For this reason, I refer to this element as “complementizer-like *le*” here. Evidence for this analysis comes from the unique agreement behaviors of complementizer-like *le*; in particular, it shows prefixal agreement with whichever matrix argument is the logophoric center of the belief report. In this way, it often agrees with the matrix subject, though it can also agree with a matrix object when it qualifies as the source of the information reported in the embedded clause (51).¹⁹

- (51) ka-i-kas-ε:n Kìplàngàt {kò-lé / ì-lé} kà-∅-tʃɔ:r Kìbê:t rabɪ:nɪk.
 PST-2SG-hear-APPL K. 3-LE 2SG-LE PST-3-steal K. money
 ‘You heard from Kiplangat that Kibet stole the money.’ (Driemel & Kouneli 2022:ex. 35)

Driemel & Kouneli argue that these agreement behaviors arise because *le* is an embedded lexical verb meaning ‘say’ that agrees with its subject—a null logophoric *pro* that is co-referential with the matrix argument controlling agreement on *le*. On this analysis, sentences like (51) actually involve two instances of embedding: the matrix verb *kas* ‘hear’ embeds a subjunctive TP containing *le* and a logophoric *pro* subject, which then embeds an indicative CP containing the embedded verb *tʃɔ:r* ‘steal’. (52) schematizes this state of affairs; the most crucial observation is that sentences like (51) are actually *triclausal* rather than *biclausal*.

- (52) [CP matrix verb_{ind} [TP logophoric *pro* ... le_{subj} [CP embedded verb_{ind}]]]

Driemel & Kouneli then extend their morphosyntactic analysis of *le* to its semantics, suggesting that embedded clauses headed by *le* are sets of contentful saying events. On this analysis, then, there are two differences between statements with *pwaat* vs. *par*: 1) *pwaat* statements have saying semantics that are absent in *par* statements, and 2) *pwaat* statements contain a subjunctive TP that is absent in *par* statements. In the remainder of this section, I consider these differences and show that they cannot be responsible for the interpretive effects described here.

First, there are reasons to doubt that complementizer-like *le* contributes the same saying semantics that *le* has when used as a matrix attitude verb. For instance, complementizer-like *le* is used in dream reports (53), which do not typically involve speaking, and appears in attitude reports with attitude holders who are incapable of speech, like cameras (54).

- (53) koo-aa-rwaatit *(ko-le) koo-∅-tien Kibeet.
 PST-1SG-dream 3.SBJV-LE PST-3-dance K.
 ‘I dreamed that Kibet danced.’
- (54) koo-∅-geer kamera *(ko-le) koo-it Kibeet.
 PST-3-see camera 3.SBJV-LE PST-arrive K.
 ‘The camera saw that Kibet arrived.’

¹⁹Complementizer-like *le* can also display other morphology indicative of its verbal status, including: suffixal agreement with indirect objects of speech verbs, the applicative morpheme *-chi*, and the reflexive particle *-keε*. See Driemel & Kouneli (2022) for more discussion of these syntactic patterns.

The obligatory use of complementizer-like *le* in (53) - (54) suggests that, if it has verbal semantics, they must be highly bleached, rather than those found with matrix attitude verb *le*. Yet most crucially, saying semantics alone would not derive the interpretive effects described here; there is no reason why the absence of saying semantics in *par* statements would suggest that the reported belief is false or that the belief holder is unreliable, for instance.

The second difference between *pwaat* and *par*—specifically mood selection of the verbs—seems more promising, since mood selection often correlates with the level of certainty indicated by an attitude verb. The subjunctive is often used cross-linguistically with verbs of doubting (Siegel 2009), in which case one might expect *par* to select for this mood. However, the Kipsigis pattern is the opposite; *par* selects for an indicative clause, while *pwaat* selects for a subjunctive clause with *le*, which then embeds an indicative clause containing the reported belief. In Kipsigis, subjunctive agreement is in complementary distribution with overt tense marking. Therefore, evidence that *par* embeds an indicative clause comes from the fact that the full range of tense distinctions persists in these embedded clauses. (55) illustrates this point with the three past tenses found in Kipsigis: recent, yesterday, and distant past.

- (55) We know that no one saw Chepkoech {earlier today / yesterday / last year}, but Kiprono’s confused and mistakenly thinks that I saw her at these various times. I say:
- a. Ø-**par**-e Kiproono kaa-geer Chεεpkɔεch.
3-think-IPFV K. PST.1SG-see C.
‘Kiproono is **under the impression** that I saw Chepkoech (recently).’
 - b. Ø-**par**-e Kiproono koo-α-geer Chεεpkɔεch.
3-think-IPFV K. PST-1SG-see C.
‘Kiproono is **under the impression** that I saw Chepkoech (yesterday).’
 - c. Ø-**par**-e Kiproono kii-α-geer Chεεpkɔεch.
3-think-IPFV K. PST-1SG-see C.
‘Kiproono is **under the impression** that I saw Chepkoech (long ago).’

This selectional property of *par* suggests that its interpretive effects are not due to the mood of the embedded clause; selection of the indicative should not contribute any negative bias, nor should the absence of the subjunctive. Furthermore, beliefs reported with both *pwaat* and *par* ultimately surface in the indicative, at least after embedding under complementizer-like *le* for *pwaat* statements. This parallelism makes it even less likely that *par*’s negative bias arises due to the mood of the embedded clause. These facts, then, suggest that the syntactic differences between *pwaat* and *par* statements are not responsible for the interpretive effects described here.

5 Conclusion

This paper describes and analyzes the belief verb *par* ‘think’ in Kipsigis, which serves two seemingly contradictory functions: with a non-1st person belief holder, *par* suggests that the reported belief is false or unlikely, while with a 1st person belief holder in the present tense, *par* reminds the addressee that the reported belief is true. While these functions are familiar on their own (see e.g. other negatively biased belief verbs like Spanish *creerse* and Mandarin *yǐwéi*, and reminding

discourse particles like German *ja* and *doch*), Kipsigis *par* is unique in that a single lexical item can serve both functions depending on the context. To capture these different uses of *par*, I propose that it comes with a not-at-issue instruction for CG management: that *p* not be added to the CG. In competition with the neutral belief verb *pwaat* (in negative bias cases) or the bare proposition *p* (in reminding cases), context-sensitive pragmatic reasoning derives the specific interpretive effects seen with *par*. In formalizing this analysis, I show that *par* cannot be modeled using a filter on just one of the input or output CG, as is standard in analyses of CG management. Instead, *par* requires a more complex definedness condition that imposes requirements on the shape of both the input and output CG, following work on pre- and postsupposition.