Belief, Evidence, and Interactional Meaning in Urama[*]

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In Urama there are two clause-final particles, *ka* and *ra*, that encode a variety of both semantic and pragmatic meanings. While previous approaches have treated these particles as clause-type markers or evidential morphemes, this paper argues that one of these particles, *ka*, has another previously undocumented function in conversation: to mark speaker-knowledge and what the speaker assumes the addressee to know. We term these *interactional* uses of *ka* and *ra*. Functionally, the interactional use of *ka* follows from its clause-typing and speech act properties. Theoretically, Urama represents a language that has a grammatical strategy for tracking information in the Common Ground, which is close in spirit to evidentiality and clause-typing, but qualitatively different.

1. Introduction

The role that clause-final particles play in many Papuan languages is often to encode tense or mood meanings (Foley 1986). This paper discusses the use of two clause-final particles in Urama. These particles have been claimed to mark clause type, tense, or evidentiality in the (very scarce) literature on the language (cf. Brown 2009, Craig 2014, Brown et al. 2015). We present minimal pair contexts to support a view of these particles as encoding meaning that is both rooted in their "core" semantics, but goes beyond this in certain pragmatic contexts. The idea is that the use of these particles tracks information that is either known or new to the speech act participants. In a nutshell, sentences marked with the particle *ka* are declarative clauses, the illocutionary force of which is to assert new information to the Common Ground – the set of propositions that participants in a conversation assume to be true at any given point in that conversation. However, we investigate the status of sentences that lack this declarative *ka* particle, focusing in on what it means for a sentence to

lack the illocutionary force of assertion. We claim that this behavior fits into a larger typology based on what the speaker knows and doesn't know, vs. what the speaker believes the addressee knows and doesn't know. We term this usage of these particles *interactional*. This typology is filled out by other particles in the language, including clause-final *ra* and the epistemic modal prefix *ap-*, and similar phenomena cross-linguistically.

In addition to providing an account of the interactional uses of these particles, another aim of this paper is to demonstrate how the description of words and structures can be enriched through the application of field tests that target pragmatic and interactional meanings – a nascent but rapidly developing area of language documentation (cf. Matthewson 2004). Indeed, we argue that these uses in Urama are evident when contexts are carefully controlled, yielding the minimal pairs we present in section 3. It is the appearance of the particles in these controlled contexts that reveals their extended, interactional uses.

This paper is structured as follows: Section 2 outlines the distributional facts surrounding the clause-final particles *ka* and *ra*, and illustrates how they interact with the tense system of the language. Section 3 presents uses of *ka* that are above and beyond its role in the tense paradigm, and the pragmatics of these uses is provided. Section 4 situates the dynamics of the pragmatics of these particles in a typological and cross-linguistic setting, and Section 5 offers a brief conclusion.

2. The distribution of Urama clause-final particles

Urama is a language of the Kiwaian family spoken in the Gulf Province of New Guinea, in the delta region of the Kikori River (cf. Wurm 1971, 1973). The language is spoken primarily on Urama Island, and Wurm (1971:139) estimates the population at around 1700. While census data for this region is difficult to obtain, our consultant estimates a present-day population for the largest village (Kivaumai) at around 3,000. While English is taught in schools and both Tok Pisin and Hiri Motu are used for trade purposes, the use of Urama is encouraged in the home. Craig (2014) and Brown et al. (2015) provide relevant discussions of the setting, use, and vitality of the language.

Urama exhibits properties characteristic of Papuan languages generally (cf. Foley 1986, 2000), including a head-final constituent order and a set of postverbal particles that appear clause-finally. The most frequent of these particles are *ka* and *ra*. The clause-final particle *ka* appears on most present tense declarative clauses:[1]

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[1] Glosses used in this paper follow the Leipzig glossing conventions; glosses not found in those guidelines follow the conventions established in Brown et al. (2015). Glosses include: ALL =

(1) Umu=i   obo=i   ta   imapeduo   **ka**.
    dog=DEF   water=DEF LOC   swim   KA
    'The dog is swimming in the water.'

(2) Kikio huna=i   aimumuiai   **ka**.
    bird   big=DEF fly   KA
    'The big bird is flying.'

(3) Nu ro   mo hasi n-ema'ai   **ka**.
    3SG NOM 1SG hat   1-give   KA
    'S/he gave me a hat.'

Although *ka* usually appears clause-finally, it may form a stem with optional number agreement morphology that agrees with the subject. The examples below illustrate how the dual clitic *=do* and the plural clitic *=mo* appear attached to *ka*.[2]

(4) Nimoiti ro   baba'oi   n-ohiai   **ka=ido**.
    1DL   NOM   butterfly 1-catch   KA=DL
    'We both caught a butterfly.'

(5) Ubi   tuniha maketi   oito odau **ka=umo**.
    people all   market   ALL go   KA=PL
    'Everyone is going to the market.'

Due to the appearance of *ka* in declarative clauses, and its lack of occurrence in interrogatives, it has been argued that the particle is a type of clause-typing morpheme, which typically encodes "declarative mood" (Brown 2009). While the majority of declarative clauses are marked with *ka*, there are a substantial number that are not. Brown (2009) attributes many of these to discourse factors, claiming that the particle is a type of discourse particle. This analysis, however, provides only a vague explanation for the incidents where *ka* is missing in declarative contexts. Instead, the use of *ka* is partly conditioned by its role in the

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allative, ASS = assertive, DEF = definite, DL = dual, FUT = future, LOC = locative, MOD = modal, NEG = negative, NOM = nominative, N1 = non-first person, OBJ = object, PL = plural, Q = question, SG = singular, 1 = 1st person, 2 = 2nd person, 3 = 3rd person. The apostrophe <'> orthographically indicates a glottal stop. All other orthographic forms roughly correspond to their phonetic counterparts.

[2] A similar type of behavior is exhibited by the negative form *haka*, although a separate negative morpheme in these cases is not isolable. Anticipating the discussion of the particle *ra* below, it can be stated that the same holds true for the negative form of the particle, *hara*.

tense system, and also by the coding of addressee knowledge. We return to this second issue below.

In addition to its use in declaratives, *ka* also plays a role in the tense paradigm: most occurrences of *ka* are predictable given the proper combination of subject person and number, and tense. Urama makes use of six different tense distinctions, including distant past, intermediate past, near past, present, near future, and distant future (for details, see Brown et al. 2015). *ka* occurs in present, near past (as *vaka*), near future, and distant future contexts. This is illustrated in Table 1, where the paradigm for the verb *odau* 'to go' is used to exemplify these tenses, and where the auxiliaries *a'ai* 'to say' and *o'u* 'to come' are used in the near and distant future tenses, respectively (only singulars are presented for the sake of space):

Table 1: Partial tense paradigm for the verb *odau* 'to go'

	Present	**Near past**	**Near future**	**Distant future**
1st	nodau ka	nodau vaka	odaui na'ai ka	odaui no'u ka
2nd	odau ka	odau vaka	odaui a'ai ka	odaui o'u ka
3rd	odau ka	odau vaka	odaui a'ai ka	odaui o'u ka

In addition to its unmarked use in present tenses, *ka* also occurs in contexts with past time reference, but where the events have relevance to the time of utterance, yielding a perfect reading (cf. Comrie 1985).[3] Thus, the sentence in (3) could be translated as "S/he has given me a hat."

Whereas *ka* appears on declarative clauses, another clause-final particle *ra* is used to mark other non-declarative sentence types, such as interrogatives, conditionals, directives, and imperatives. Also like *ka*, the particle *ra* typically appears clause-finally, often with subject number markers suffixed to it. The following examples illustrate the occurrence of *ra* in interrogatives (6-7), directives/imperatives (8-9), and conditionals (10-11):

(6)   Ro   ro   kava obo=i   a-v-idio   **ra**?
        2SG NOM kava water=DEF   Q-N1-drink   RA
        'Did you drink kava?'

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[3] The tense in utterances marked with *ka* can often be interpreted as present perfect. Although the time of an event may not be contiguous with the time of utterance, the reference point is the present. Thus, *ka* is part of the present tense paradigm, but can have perfect or past implicatures. That *ka* is used for present tense, and not past is evidenced by the ungrammaticality that results in collocating *ka* with temporal adverbials such as *detu* 'yesterday' or *diata* 'more than two days ago to a week ago'.

(7) Ro moto=i   ididi   niro **ra**?
     2SG house=DEF   build   want RA
     'Do you want to build the house?'

(8) Na orioi emahibai **ra**.
     this game try   RA
     'You should try out this game.'

(9) Na eme=i   emahibai **ra**.
     this skirt=DEF try   RA
     'You should try on this skirt.'

(10) Ro ro   pa'eia   ai-a-v-iho   **ra**,
     2SG NOM   garden   ASS-Q-N1-eat RA

     ro   gimo ro   ohiai   taho'o   aike.
     2SG sick 2SG   catch   FUT.NEG   FUT.NEG

     'If you eat your vegetables, you will not get sick.'

(11) Ro ro   merekeke=i   a-v-i-arodio   **ra**,
     2SG NOM   children=DEF   Q-N1-OBJ.PL-look.after RA

     mo   ro   du=i   itai   n-a'ai   ka.
     1SG   NOM   food=DEF cook   1-AUX   KA

     'If you look after the kids, I will cook the meal.'

As with *ka,* the particle *ra* surfaces in certain portions of the tense paradigm, even in cases where this is in declarative clauses. For instance, *ra* occurs in the intermediate past (only in the singulars) and distant past (across all numbers, except for within 3rd person, where this is unmarked). Table 2 presents the paradigm for the verb *odau* 'to go' for intermediate and distant past (again, only singulars are presented):

Table 2: Partial declarative tense paradigm for verb *odau* 'to go'

	Intermediate past	Distant past
1st	nodau ra	ponodau ra
2nd	odau ra	podau ra
3rd	odau	podau

Despite occurring in the intermediate and distant past contexts, *ra* does not occur in near past contexts. This is likely due to the fact that *ra* is blocked by *vaka*, as the latter is more specialized for this purpose.

Finally, there are cases involving certain combinations of person and number in which neither *ka* nor *ra* appears. As noted above, *ra* is used in present tense interrogatives, but only for singular subjects. In sentences with dual, trial, and plural subjects neither *ka* nor *ra* are used. In near past interrogatives, *ra* is used with all person and number combinations, while in intermediate past interrogatives it is used only with singular subjects, excluding 3rd person. In near and distant future contexts, *ra* is used only with singular subjects. In distant past, neither of the particles is used. Table 3 presents the paradigms for all tenses of the interrogative forms of the verb *odau* 'to go' (again, only the singulars are presented). For reference, the interrogative prefix *a-* occurs in the present and past tenses and is included as part of the verbal stem.

Table 3: Interrogative tense paradigm for *odau* 'to go'

	Present	**Near past**	**Intermed. past**	**Distant past**	**Near future**	**Distant future**
1st	anodau ra	anodau ra	anodau ra	anodau	odaui na'ai ra	odaui no'u ra
2nd	avodau ra	avodau ra	aodau ra	aodau	odaui va'ai ra	odaui vo'u ra
3rd	avodau ra	avodau ra	aodau	aodau	odaui va'ai ra	odaui vo'u ra

This paradigmatic structure, and the interactions between *ka/ra*, clause type, and tense marking is extremely complex. Tense marking is accomplished through several means, although there is only one dedicated morpheme that marks for tense (the distant past verbal prefix *p-*, which is not discussed here). This is similar to the morphology of Wola, as discussed by Sillitoe (2010), where person, number, tense, and evidentiality (including several different categories) contribute toward an overall complex paradigm. This can also be related to English, where modals are used to mark past perfect, along with the *-en* suffix (cf. *She ate lunch* vs. *She has eaten lunch*). In this way, the particles and other morphemes used to mark tense/clause type shouldn't be viewed as portmanteaux morphemes since they do not mark dedicated categories. Instead, they can be viewed as a set of compositional morphological collocations (possibly bordering on compositional morphological phrasemes). Thus, the "core" semantics of *ka/ra* can be considered to be the marking of tense and clause type. For more complete details of these categories and paradigms, as well as for an overview of the verbal morphology of the language, see Brown et al. (2015).

To summarize, the distribution of these morphemes is conditioned by both tense and clause type. The particles appear clause-finally, which would be a typical position for clause-typing morphemes in head-final SOV languages (Cinque 1999). The positioning of these particles is consistent with predictions

made by approaches that attempt to provide structural positions in the syntactic periphery to morphemes with largely pragmatic or illocutionary functions (Speas & Tenny 2003, Blain & Déchaine 2007), an approach that will be taken up in the sections to follow.

3. The pragmatics of *ka*

While there are positions in the paradigm where *ka* is not expected to appear, there are a number of apparently puzzling occurrences where *ka* is expected, but is optional in specific kinds of conversational contexts. Examples (12) and (13) are identical sentences, differing only in the presence vs. absence of *ka* (examples adapted from Craig 2014:67-68):

(12)   *Context: While Mevia was out of the room, Ginau slipped on something and fell over. When Mevia returned, Ginau is already back to work and Mevia is not aware that anything happened. Ginau says to Mevia:*

        Mo   ai-n-omoa   **ka**.
        1SG   ASS-1-fall   **KA**
        'I fell.'

(13)   *Context: While Mevia was out of the room, Ginau slipped on something and fell over. Mevia returns in time to see Ginau getting back up on his feet. Ginau says to Mevia:*

        Mo   ai-n-omoa.
        1SG   ASS-1-fall
        'I fell.'

The apparent optionality of *ka* in the minimal pairs in (12) and (13) suggests that the speaker can use *ka* in conversation to express meanings that go beyond those discussed above. The problem inherent in these examples is that according to the structure of the tense paradigm, the expectation is that *ka* or *vaka* should obligatorily appear if the clause is in the past or near past tense, respectively. There are, however, conversational contexts that condition the appearance of *ka* in these cases. We claim that the conversational uses of *ka* as shown in the alternation in (12) and (13) reflect the sensitivity of the speaker to what they believe the addressee knows. In other words, we call this the *interactional* use of *ka.* We elaborate on this claim below.

3.1   Methodology

Because of the difficulty of testing the conversational or interactional uses of *ka/ra* from the textual sources in Urama, contexts were developed and forms were elicited that target the contextual factors that condition the speaker's use of *ka* in conversation.[4]   Minimally contrastive pairs of contexts[5] were used to elicit utterances with *ka* and without *ka*, in tenses where these are not ruled out on independent grounds. These contexts were presented to our consultant, who was then asked to comment on what would be an appropriate utterance. At times, elicitors would play the role of conversational partner (in Urama) in order to elicit a response; at other times, scenarios were presented, and the consultant was asked whether a particular structure would be acceptable given the context.

Example (14) is an out-of-the-blue interaction: the addressee, Mevia, needs some help moving something and checks if the speaker of (14), Ginau, can help. Because Mevia is unaware of what Ginau is doing, the fact that Ginau is eating is not shared knowledge between Ginau and Mevia. As such, Ginau asserts the proposition *I am eating* using a *ka*-marked declarative clause:

(14)   *Context: Mevia calls Ginau in the next room and asks what Ginau is doing; Ginau answers:*

Mo   du=i   n-iho   **ka**.
1SG   food=DEF   1-eat   **KA**
'I am eating (the food).'

However, in the related context in (15) Mevia *knows* that Ginau is doing something, even though Mevia does not know specifically what this activity is. In this context, Ginau can see Mevia's reflection in the window, peering into the room. Ginau then forms the belief that Mevia is aware that Ginau is eating:

(15)   *Context: Mevia peaks around the corner and can see that Ginau is doing something, but cannot tell what it is, so Mevia asks what the speaker is doing. Ginau answers:*

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[4] This is not to downplay the role of spontaneous conversational data in investigating these kinds of phenomena. This type of data is arguably the most useful in teasing out these issues (cf. Gipper 2011, Hintz & Hintz 2014 for examples), and would complement the current methods appropriately; however, due to constraints in elicitation with a single speaker, direct elicitation and textual data are what is available for the current study.
[5] These contrastive contexts were first discovered during the elicitation of intransitive verbs, where sentences both with and without *ka* were volunteered by our consultant. Initial probing of the contexts where the lack of *ka* was felicitous led to the formation of the hypotheses to be tested.

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Mo    du=i        n-iho.
1SG   food=DEF    1-eat
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'I am eating the food.'

The crucial observation here is that Ginau's use of a *ka*-less sentence expresses his belief that Mevia *knows* that Ginau is eating. It should also be noted that the lack of *ka* in example (15) does not imply that the clause is interpreted in another tense, as there is no tense in which *ka/ra* do not normally appear for first person singular for declaratives (cf. Tables 1 and 2 above).

The following example in (16) further demonstrates how the knowledge state of the speaker (in these cases Ginau) with respect to his interlocutors conditions Ginau's use of *ka*. The exchange between Ginau and Mevia would be felicitous if Mevia saw Ginau talking on the phone and asked 'Who is that?', and Ginau answered 'my sister', but where Mevia had no prior knowledge of who Ginau is talking to:

(16)   *Context: Mevia sees through the window Ginau speaking on the phone; however, Mevia can't hear what Ginau is saying. Mevia asks Ginau who he is speaking to.*

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Mevia: Wotu   ro?
       who    NOM
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       'Who is that?'

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Ginau: Mo   niavapo=i             ka.
       1SG  younger.sibling=DEF   KA
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       'It's my sister.'

In comparison, the following exchange in (17) would occur if Ginau was talking on the phone and Mevia heard Ginau speaking Urama. In this context, Mevia might think that Ginau was talking to his sister because of the fact that Ginau's sister is the only other person that has a phone and who also speaks Urama.

(17)   *Context: Mevia is in the room while Ginau is on the phone speaking to someone in Urama, knowing that Ginau often speaks to his sister; Mevia asks if it is her.*

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Mevia: Ro    niavapo=i             ra?
       2SG   younger.sibling=DEF   RA
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       'Is that your sister?'

Ginau: Mo   niavapo=i.
      1SG   younger.sibling=DEF
      'It's my sister.'

While examples (16) and (17) exhibit different interrogative types (a polar question that specifies a referent and a content question, respectively), they are both marked by *ra* in the same way. To our knowledge, there is no pragmatic difference between these interrogative types with respect to the use of the clause-final particle(s).

      All of the cases above involve conversational interactions: Ginau responds to Mevia's questions using *ka* to express whether or not Ginau believes that Mevia already knows the 'answer' to her questions. Example (18) shows this from another perspective, one that also draws out the affirmative quality of a *ka*-less sentence. In this context, Mevia can hear a dog barking loudly outside. She checks with Ginau to see if he can also hear the dog; Ginau affirms this using a *ka*-less sentence, which expresses Ginau's belief that Mevia can also hear the dog:

(18)   *Context: There is a dog barking loudly outside and Mevia asks if Ginau can hear the dog; Ginau replies*

      Mo   ro   umu=i   nama   n-orovidio.
      1SG NOM dog=DEF now   1-hear
      'I hear the dog.'

There are two relevant observations to track with (18). First, the definite enclitic =i triggers its own presupposition: that a dog exists. As such, the existence of a dog is already a part of the CG. However, secondly, this is distinct from the presupposition introduced by the lack of ka in (18), which expresses Ginau's belief that Mevia also knows Ginau hears the dog. In other words, that Ginau hears the dog is already entailed by the common ground.

      It should be noted that in monologic narratives (for instance, as found in Brown et al. 2015), the use of *ka* is primarily as a tense marker: when new topics are introduced, this tends to coincide with the use of *ka*, and where subsequent information is presented, *ka* is absent. This is also consistent with its use as a marker of tense. While these issues are beyond the scope of the present article, the use of these particles in different genres, as well as in conversational data, is a prime focus for future research.

3.2   Presupposition and markedness

The following generalizations come out of the minimally different contexts above: *ka* is found only in declarative clauses, the illocutionary force of which is assertion. However, speakers can use *ka* in certain conversational contexts to express an interactional meaning that manipulates its assertive quality: *ka* is not used when the speaker believes that the addressee knows that the proposition *p* – the semantic content expressed by the sentence – is true, even though the normal morphosyntactic configuration in terms of tense would require the use of *ka*. Given that the pragmatic use of *ka* is to type clauses as declarative, from a purely functional perspective the use of *ka*-less sentences makes intuitive sense in the conversational contexts discussed above: if the speaker believes that the addressee knows that *p* is true (and of course assuming that the speaker also believes *p* is true), then there is no need for the speaker to assert *p*; hence, no need to grammatically type a clause as declarative.

These generalizations can be cast straightforwardly using fairly standard theoretical notions that track how information is used to drive a conversation forward. Under the standard view of assertion, the proposition denoted by a *ka*-marked sentence is added to the Common Ground (CG) – the set of propositions assumed to be true by all of the participants of a conversation at any given point in time (Stalnaker 2002). For example, the speaker of the declarative sentence in (12) is asserting the proposition *I fell.* The speaker of (12) judges this to be new information, and the sentence representing the proposition is marked with the declarative *ka* morpheme. This means that the CG is updated accordingly to include the proposition *I fell.* However, if a speaker reasonably assumes that the CG already contains the proposition *I fell* at a certain point in the conversation, the use of the *ka*-less sentence is felicitous. In other words, *ka*-less sentences functionally lack assertive force.

The consequence of this analysis is that an Urama speaker has the grammatical means to talk about propositions that are already assumed to be true by both the speaker and addressee. More specifically, when a proposition *p* is entailed by the CG, the use of *ka* is obviated. This is not entirely uncommon cross-linguistically, as languages often have various grammatical strategies for talking about propositions that the speaker assumes the addressee is already aware of. Consider how English handles the context in (19), where the speaker does not assume that the addressee has knowledge of the event, vs. (20), where the addressee has direct knowledge of the event:

(19)   *Context: While Bailey was out of the room, Alex slipped on something and fell over. When Bailey returned, the speaker is already back to work and Bailey is not aware that anything happened. Alex says to Bailey*

'I fell.'

(20)   *Context: While Bailey was out of the room, Alex slipped on something and fell over. Bailey returns in time to see Alex getting back up on his feet. Alex says to Bailey*

'I fell!' (where '!' encodes exclamatory intonational contour)
'I fell, of course.'
'Obviously I fell'
'I fell, can't you see/are you blind or something?!'

In English a speaker expresses this special meaning using a variety of illocutionary modifiers, as shown in (20), including exclamatory intonation and illocutionary adverbs such as *obviously*. This type of behavior is contrasted with Urama below.

A crucial observation is that the speaker's use of *ka* is conditioned by what the speaker *believes* to be a part of the CG. This hinges on what assertion is: the illocutionary force of assertion expresses the speaker's commitment to the truth of a proposition. Now, with *ka*-less sentences it may be the case that the addressee, in reality, does *not* know that *p*; but what is relevant is that the speaker believes that the addressee knows that *p*. A similar effect is found with presupposition: imagine a variation of (20) where Alex utters a sentence with the presupposition trigger *again,* as in "I fell again." Alex's use of *again* presupposes that the proposition *I fell* is already entailed by the CG (Heim 1982, 2002, Soames 1982).[6] Bailey may or may not be aware of this fact; rather, Alex's statement "I fell again" registers his belief that *I fell* is something that Bailey already knows about Alex, and that it happened to him again.

We can extend a presuppositional analysis to *ka*-less sentences in a straightforward way: a speaker's use of a *ka*-less sentence presupposes that the proposition *p* expressed by the sentence is entailed by the CG. In other words, there is no need to mark the sentence with *ka* because the speaker already believes the content of *p* is part of the CG, which, in turn, provides a grammatical cue that the speaker believes the addressee already knows that *p*. Indeed, the felicitous use of any of the responses in (20) requires that the speaker knows that *p* (*I fell*) is entailed by the CG. A central claim of our analysis is that a certain kind of syntactic structure – a *ka*-less sentence – triggers a presupposition. While unique,

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[6] More specifically, the speaker *pragmatically presupposes* that *p* is entailed by the CG. Additionally, propositions can become part of the CG through means other than assertion. Peterson (2010) shows that with using certain grammatical evidentials speakers can pragmatically presuppose *p* if they can, for example, hear or see that *p* is true.

this is not as unusual as it might seem, given that there is no lexical element in the sentence to trigger the kind of presupposition we are concerned with. It is known independently that presupposition triggers are not limited to lexemes such as *again* or the semantic content of a verb (for example, factive or change of state verbs). Certain syntactic structures such as questions and clefts trigger presuppositions. As such, we claim that the presupposition is a part of the structure of a *ka*-less sentence.[7]

This analysis leads to the question of what kind of speech act a *ka*-less sentence constitutes: if *ka* marks a declarative sentence – the default illocutionary force of which is assertion – then what is the illocutionary force of a *ka*-less sentence? There are two ways to approach this question. First, there is a burgeoning area of research into languages that grammatically encode speech acts that are similar to assertion but weaker, meaning that they come with fewer or even no commitments on the part of the speaker regarding the truth of the proposition represented by a sentence (Faller 2002, Portner 2006, Déchaine 2007, Peterson 2009, 2010); it is possible that Urama is one of these languages. Another answer to this question is parsimonious: if *ka*-marked sentences have the (default) illocutionary force of assertion, then *ka*-less sentences should lack illocutionary force altogether. In other words, they do not constitute a speech act, or they constitute an 'empty' speech act. This should not be considered an unusual outcome; in fact, this is predicted by the function of *ka*.

Finally, from another perspective, we can view the alternation of *ka* and *ka*-less sentences as a kind of markedness effect. Under this view Urama is a 'mirror' image of a language such as English. For example, a cleft construction

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[7] A presuppositional analysis of *ka* predicts the usual effects of presupposition (including pragmatic presupposition). Among these are (i) presupposition accommodation and failure, and (ii) interactions with negation. The effects in (i) are especially difficult to test in a field situation with an under-studied language such as Urama (see Matthewson 2006 for discussion). As such, we have not been able to test what happens to an addressee when a speaker uses a *ka*-less sentence but where the addressee does not know that *p*, which would constitute a presupposition failure under our analysis. Conversely, we have not been able to test sentences with *ka* where the addressee *does* know *p*; however, there is suggestive evidence that in contexts where the addressee knows *p* but *ka* is nonetheless used by the speaker, sentences offered to the consultant tend to be corrected. Additionally, the effects in (ii) likewise pose practical difficulties. Under this analysis, the prediction is that negated propositions not marked with *ka* presuppose that the addressee already knows that ¬*p;* i.e. they do not negate the belief that the addressee knows *p*. We leave the testing of this prediction to future research, as the practical semantic difficulties are compounded by morphological ones: as noted above, negation is expressed with *haka* and *hara*, with no possibility of isolating the negation from the potential illocutionary marker in these morphemes. We would like to raise the point that despite these practical problems, and despite the lack of data with respect to these two issues, the fact that the analysis *makes* predictions such as these is a desirable characteristic of the analysis.

such as "It was Bailey who called Alex" presupposes that someone called Alex. This is a syntactically and semantically marked form of "Bailey called Alex". In Urama it is the opposite: example (15), which is syntactically and pragmatically a 'simpler' sentence lacking declarative *ka*, is a marked form of (14), which contains more syntactic and pragmatic content (including *ka*). Thus, the state of affairs in Urama is that "marked" structure is constructed by means of subtraction of morphological material.

4. Discussion

There are two general points of discussion that will be raised around these clause-final particles in Urama. The first is that while they exhibit chracteristics similar to evidentials, they are argued to be different. The second is that the behaviors of *ka* and *ra*, along with the modal prefix *ap-*, can be placed into a typology that employs categories used in other languages.

4.1 *ka* is not an evidential

In recent work on the topic, Craig (2014) claims that *ka* is a grammatical evidential that has the somewhat unusual characteristic of encoding the *addressee's* evidence for an assertion. However, there are three observations that suggest that *ka* is not an evidential, at least under a relatively specific (but widely held) view of what defines grammatical evidentiality (cf. Aikhenvald 2004). First, grammatical evidentials typically occur in paradigms, where each member of that paradigm grammatically encodes something about the *speaker's* type of evidence and source of information for their claim. More specifically, the members of an evidential paradigm correspond to a systematic arrangement of evidential meanings (direct, indirect, visual, report, etc.). As such, if *ka* were a grammatical evidential, we might expect other kinds of evidential meanings to be lexically encoded in Urama, such as a reportative evidential (which encodes evidence in the form of a report). We have not discovered any other evidentials in Urama that could form a paradigm of evidentiality with *ka*. If anything, under Aikhenvald's typology of evidential marking, *ka* would be a plausible candidate as a kind of *indirectivity* marking, which would mean that *ka* encodes that evidence exists, but that it does not specify what kind of evidence there is (much like the evidential uses of epistemic *must* in English; cf. von Fintel and Gillies 2007).

Secondly, *ka* as a marker of indirectivity would mean that it is only felicitous in contexts that have evidence (likely indirect) of *some* kind, even if it does not specify the type of evidence. However, *ka* can be used in contexts that lack (indirect) evidence of any kind. Thirdly – and most importantly – evidentials give the speaker the grammatical means to talk about states, events or activities

that she cannot assert, but that she has evidence for. In the cases discussed in the previous section we were concerned with Ginau's use of *ka*. Under standard evidential analyses, this would mean that *ka* encodes *Ginau's evidence* for the proposition asserted – not Mevia's. Nonetheless, it is worth mentioning that there is a plausible connection of the Urama facts to other languages that appear to grammaticize 'addressee-oriented evidence'.

Aikhenvald (2004) discusses two languages in which similar types of addressee-oriented evidence have been discovered: Meithei and Archi. Meithei is a Tibeto-Burman language where the evidential expressing non-firsthand evidence can indicate that, although the speaker has evidence for their utterance, the addressee does not have 'access' to the evidence for what the speaker said (Chelliah 1997). The evidential *-ləm* in example (21) encodes indirect evidence for the proposition asserted by the speaker:

(21) əy-nə   čət-khi-pə-tə   má   čák   čá-ləm-li
     I-CONTR go-STILL-NOM-LOC he   rice   eat-EVD-PROG
     'When I arrived there he was obviously eating dinner.'
     (Chelliah 1997:221)

As Chelliah (1997:221) notes, though, "-*ləm* can be used to oppose the speaker's knowledge, which is based on evidence no longer available, with the hearer's ignorance concerning the content of the proposition." This yields the following type of example:

(22) mətəm ə-mə-tə   mə-hák   yam-nə   phəÏzə-ləm-í
     time   ATT-one-LOC 3P-here   lot-ADV   pretty-EVD-NHYP
     '(You can't see it but) Once upon a time she was very beautiful.'
     (Chelliah 1997:222)

This non-firsthand marker in Meithei is also used for the narration of past events, perhaps in the same way that *ka* is used throughout narratives in order to describe things that have *just* happened, and to help move the story along.

In the Caucasian language Archi, a non-firsthand marker can be used for addressee-oriented information (Kibrik 1977, cited in Aikhenvald 2004). In this case, either the speaker *or* the addressee, *or* both were not eyewitnesses to the action before the statement was uttered. The non-firsthand marker in Archi is also able to be used if "the speaker participated in a situation the meaning of which is unknown to the hearer, and turns out to be unexpected for the hearer" (Aikhenvald, 2004:199). Aikhenvald also cites the Nambiquara languages as cases where the evidence that is coded is available to both the speaker and addressee.

Aikhenvald (2004) explains that in both Archi and Meithei, the evidential markers expressing first person non-firsthand evidence provide "information about the speaker which is unknown and new to the addressee, effectively covering two observers ("you" and "me")" (p. 234). It is also worth pointing out the resemblance of these approaches to van Bergen et al.'s (2011) analysis of Dutch *eigenlijk*, which they propose is used according to the speaker's estimation of the state of beliefs of the addressee, and whether a proposition will be expected for the addressee, or not. This appears to be similar with the behaviors of *ka* in Urama, where *ka* encodes knowledge of information unfamiliar to the addressee. In order for the speaker to know that the addressee also has access to the evidence for the proposition expressed in their utterance, there needs to be some shared knowledge in the CG between them. Information which is in the CG is reported as new evidence, regardless of whether it is new for the speaker, or for the addressee. While evidentials in Archi and Meithei express evidence source for the speaker, and at the same time a lack of access to the evidence for the addressee, *ka* appears to be able to express both evidence held by the speaker, and evidence held by the addressee, depending on whether *ka* or Ø is used in a sentence.

In addition, there are several recent reports of languages that exhibit extremely similar properties. Urama comes very close to resembling the behaviors of 'perspectival' epistemic marking in languages such as Foe (Rule 1977), Kakataibo (Zariquiey 2015), Kurtöp (Hyslop 2014), Kogi (Bergqvist 2011, 2012, 2015), certain dialects of Quechua (Hintz & Hintz 2014), and Yurakaré (Gipper 2011). Furthermore, the behaviors of *ka* and *ra* can be placed into the wider theoretical systems that have been proposed for encoding speaker/addressee knowledge, such as "territory of information" (Kamio 1997), "multiple perspective" (Evans 2005), or the typological approach of epistemic marking by Bergqvist (2015). Bergqvist provides an overview of the various ways of including speaker vs. speaker-addressee perspective, and is perhaps most relevant to the data at hand. The authors listed above contribute toward the construction of a larger theory of "knowledge encoding", and we believe that the Urama pattern fits squarely within their typologies and perspectives.

4.2   Knowledge, belief, and interaction cross-linguistically

Our claim is that the *ka/Ø* alternation grammaticizes what the speaker believes the addressee knows. We believe that this can establish a typology of speaker/addressee knowledge, along the lines of Landaburu's (2007) foundational work on Andoke.

Nisgha (Tsimshianic) provides a clear case of a language that grammatically fills out all of the logical possibilities given the parameters of speaker vs. addressee knowledge and belief in this knowledge. In example (23), B

responds to A's question about what A is eating. B uses the sentence-final enclitic *=ist* to express B's belief that A already knows what B is eating:

(23)   Nisgha (Tarpent 1987:494)

      A.   agu=hl   gi-gib-i-n?
            what=CNDET   REDUP-eat-TR-2SG.II
            '(Hey) what are you eating?'

      B.   q'almoos=ist
            crab=AFFIRM
            'Why, crab of course! (can't you tell?)'

Tarpent (1987) identifies a grammatical paradigm, given in Table 4, that is defined by the speaker's knowledge and what the speaker thinks the addressee knows about the propositional content under discussion:

Table 4: Interaction and knowledge in Nisgha (adapted from Tarpent 1987:490)

	S knows that *p*	S doesn't know that *p*
S believes A knows that *p*	*=ist* AFFIRMATIVE	*=a:* INTERROGATIVE
S believes A doesn't know that *p*	*=a'* ASSERTIVE	*=ima* MODAL

      The expressive spaces that are determined by the speaker's knowledge and what the speaker thinks the addressee knows is not unique to Nisgha: English also has the means to express these kinds of meanings, except that, unlike Nisgha, English has a wide variety of linguistic strategies for doing so, a sample of which is given in Table 5:

Table 5: Interaction and knowledge in English

	S knows that *p*	S doesn't know that *p*
S believes A knows that *p*	'Of course' 'Obviously' Rhetorical questions *etc*.	Polar questions Wh-questions Interrogative intonational contour *etc*.
S believes A doesn't know that *p*	Ø (declarative clause type)	Epistemic modals ('might', 'must') Illocutionary adverbs ('apparently')

Urama seems to be in a position somewhat between Nisgha and English: like Nisgha, Urama has a limited paradigm that encodes the speaker's perspective of the propositional content in conversation; like English, one of these meanings is zero marked:

Table 6: Interaction and knowledge in Urama

	S knows that *p*	S doesn't know that *p*
S believes A knows that *p*	Ø	*ra*
S believes A doesn't know that *p*	*ka*	*ap-*

One slot in this typology that is yet to be discussed is the morpheme encoding both that the speaker believes the addressee doesn't know that *p*, and the speaker also doesn't know that *p*. This corresponds to an epistemic modal. There are several candidates for epistemic modals in Urama, though the verbal prefix *ap-* provides the clearest case. In the following example, a speaker may see someone lying asleep in the sun, leaving the speaker with the impression that the person could be sick with malaria (and is thus in the sun to keep warm). A statement such as in (24) requires the epistemic modal *ap-* prefixed to the verb:

(24)   Nu   gimo   ap-a'ai   ka.
        3SG   sick   MOD-AUX   KA
        'S/he might be sick.'

While the modal prefix *ap-* co-occurs here with the particle *ka*, the appearance of *ka* is due to tense marking, and not to its interactional uses; i.e. *ap-* can occur independently of *ka*.

These morphemes fill out the typology above, and put Urama on a comparative basis with English, Nisgha, etc. The interesting difference is in what types of knowledge get encoded by what types of morpheme. While Nisgha marks all four distinctions with different morphemes, English leaves the "S knows that *p*" / "S believes A doesn't know that *p*" cell unmarked. This is the opposite of Urama, which morphologically marks the same cell, but leaves the "S knows that *p*" / "S believes A knows that *p*" cell unmarked. This relates to the functional notion of markedness mentioned above, but where we now have a parametric difference in how this is encoded in languages: English marks whether S believes whether A knows that *p*, but Urama marks whether S believes A doesn't know that *p*, and Nisgha marks both.

The dynamics of the clause-final particles in Urama can be set within the context of Foley's (1986) discussion around "outer operators" in Papuan

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languages. Foley's class of outer operators includes the categories of tense, "status" (essentially the realis vs. irrealis distinction), illocutionary force, and evidentials. These morphemes are labeled outer operators because they scope over entire utterances instead of the internal parts of utterances, and as such are typically expressed as (post)verbal particles or bound verbal affixes. Foley notes that the meanings of these morphemes are often bound up with tense, with the primary distinction being between tense and status, but that there is often a close semantic correlation between status and illocutionary force. In Foley's discussion, it is evident that Fore marks imperatives and questions the same, but marks declaratives differently. This morphological marking of assertion vs. non-assertion is similar to the Urama pattern of marking, though without the interactional dynamics. Hua marks all declarative clauses with illocutionary force, a state of affairs reminiscent of Urama in that most declarative clauses will by nature be marked by *ka.* And while quite different, Oksapmin encodes "viewpoints" (Lawrence 1983; cf. Loughnane 2009 for an extended discussion of evidentiality in Oksapmin), a pragmatic notion similar to evidentiality, but still qualitatively different from the behavior of the interactional particles identified in Urama.[8]

5. Conclusion

The dynamics of knowledge encoding and conversational interaction are rich cross-linguistically, and we expect this is no different in Papuan languages. While there is a superficial understanding of how these systems work across these languages, there is a new interest in carefully documenting these types of system. This is particularly evident in San Roque and Loughnane's (2012) work on documenting the evidential systems of the languages of the New Guinea highlands. While there are numerous Papuan languages, many of which are genetically unrelated, there are still many shared and areal features, which makes these comparisons speculative, but probably worthwhile. By documenting the Urama system above, and by placing it in a comparative and typological context (including the above-mentioned Papuan languages), this paper aims to launch a research agenda centered around a careful examination of these issues in Papuan languages.

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[8] A plausible extension of our analysis would be to claim that *ka* is indeed a fully-fledged clause typing morpheme, such that *ka* types a clause as a declarative (à la Brown 2009). As such, the illocutionary force of a *ka*-sentence would be assertion, and a *ka*-less sentence would involve the (direct) speech act of something along the lines of 'presenting,' as suggested above. However, we believe the prudent move at this point is to leave a clause type analysis to further research, as other kinds of evidence would be needed to support it (including a fuller understanding of other kinds of clause types and speech acts in Urama).

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