

Evidentiality, Maximize Presupposition, and Gricean Quality in Okinawan*

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1. Introduction

1.1 Overview of the data

Okinawan¹ exhibits a three-way contrast with verbs describing past events,² as illustrated by the examples in (1), adapted from data in Shinzato (1991):³ These examples have one of three verb forms, which I label the *simple past* (1a), the *witnessed past* (1b), and the *inferential past* (1c). These three forms differ in two ways; first, they show a difference in evidentiality, as indicated in the English translations. Second, as emphasized by Shinzato, they differ in what kind of subject they are typically compatible with.

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¹Okinawan is a Northern Ryukyuan language, traditionally spoken on the main island of Okinawa as well as on nearby islands. The Ryukyuan languages are sister languages of Japanese, together with which they form the Japonic language family. Okinawan, like all varieties of Ryukyuan, exhibits a high degree of variation, even from one village to the next. The primary observations in this paper come from Shinzato (1991), with additional data from Miyara (2002) and Arakaki (2013, 2015). The data in these sources all come from the Naha/Shuri variety of Southern Okinawan, a de facto standard variety of the language associated historically with the center of the Ryukyu kingdom in Shuri, and with the primary population center in Naha. See Uemura & Lawrence (2003) for an English language overview of Shuri Okinawan and Ryukyuan, and Heinrich et al. (2015) for a recent collection of papers on a wide range of topics in Ryukyuan linguistics.

²The distinction between simple and witnessed past is only found with eventive verbs. The contrast is neutralized with stative verbs, adjectives, and verbs marked for progressive or resultative aspect. The data discussed in this paper focus on examples where witnessed and simple past are distinguished morphologically. Cases where the two forms are not overtly distinguished are left for future research.

³There is no standard orthographic practice for transcribing Okinawan. The examples in this paper are presented in a practical orthography based on the (modified) Hepburn system commonly used for Japanese. Contrastive glottal stops are represented by ‘ (an opening single quote). Morpheme breaks and associated glossing are my own; cited examples are modified to fit the transcription and glossing conventions adopted here.

- (1) a. *wanne=e/˘yaa=ya/are=e hanahichi=nu kusui nu-da-n*
 1S=TOP/2S=TOP/3S=TOP cold=GEN medicine drink-PST-IND
 “I took the medicine.”
- b. *wanne=e/˘yaa=ya/are=e hanahichi=nu kusui num-uta-n*
 1S=TOP/2S=TOP/3S=TOP cold=GEN medicine drink-WIT.PST-IND
 “He/You took the medicine.” (I saw it happen)
- c. *wanne=e/˘yaa=ya/are=e hanahichi=nu kusui nu-dee-n*
 1S=TOP/2S=TOP/3S=TOP cold=GEN medicine drink-INF.PST-IND
 “He/You took the medicine.” (It seems)

According to Shinzato (1991), declaratives with the simple past are unacceptable with non-first-person subjects, as indicated in (1a). Shinzato claims that this form marks “perceptual information acquired through experience”. The witnessed past acts as a kind of direct evidential, describing events that the speaker witnessed. Shinzato describes this form as marking “perceptual information acquired through observation”. For the example at hand, the use of the witnessed past (1b) requires that the speaker actually saw someone take the cold medicine. The inferential past, by contrast, is typically used to describe past events that the speaker did *not* witness, but infers from indirect evidence. For the example at hand, the inferential past in (1c) might be used if the speaker sees an empty medicine bottle near someone snoring peacefully on the sofa.

The paradigm in (1) presents the following puzzles. First, what is the nature of the evidential restrictions associated with the three past tense forms? Second, what is the nature of the person restrictions on the subject position? And finally, what is the relation between these restrictions?

1.2 Overview of the analysis

I argue that the simple past tense in Okinawan is just that. It encodes no evidential restrictions in its denotation. The restriction against simple past tense with second and third person subjects follows from competition with the two competing evidential past tense forms, which contribute evidential presuppositions. With non-first-person subjects, these two competing evidential-marked forms exhaust the space of adequate evidential grounds for assertion, and the principle of Maximize Presupposition (Heim 1991, Sauerland 2003) in combination with the Maxim of Quality (Grice 1975) requires that at least one of them be used. Sentences with first-person subjects, following the literature on Tibetan (DeLancey 1986, Garrett 2001), are typically grounded in *ego evidentiality*, which includes knowledge of one’s own actions, and does not depend on perception or inference. As with Garrett’s analysis of ego forms in Tibetan, ego evidentiality emerges as the default evidential category in Okinawan. I argue that this default ego interpretation derives from pragmatic competition, via the mechanism of Maximize Presupposition in conjunction with Gricean Quality and the Evidential Hierarchy.

2. Semantics

In this section, I provide denotations for the three past tense forms described above. These denotations will form the basis for the pragmatic competition that is the topic of the next section. The analysis of these forms is situated within a view of evidentiality similar to that of Speas (2010). In particular, I take Okinawan evidentials to relate evidence-holders to eventualities (events and situations), rather than propositions. I do not treat Okinawan evidentials as contributing any kind of epistemic modality to the assertion. Before giving more details of their semantics, I first provide more details on how the three past tense suffixes analyzed in this paper fit into the larger system of Okinawan TAM morphology. This discussion will show that the three past tense forms exhibit the characteristic properties of a grammaticized evidential system (Aikhenvald 2004).

2.1 Background on the Okinawan TAM System

The three past tense forms described in the previous section are part of a larger TAM (Tense-Aspect-Mood) paradigm, in which distinctions are expressed by a set of suffixes that attach to the right of the verbal root in a particular order. This system is summarized schematically in (2).

(2) *The Okinawan TAM Paradigm*

ROOT	ASPECT	HON1	HON2	TENSE	MOOD
	-too- PROG	-mishee- HON	-yabi- POL	-u-/∅ PRS	-n IND
	-tee- RES			-ta- PST	-ra DUB
				-uta- WIT.PST	-ru EMPH
				-tee- INF.PST	⋮
				-tee- MIR	

Just after the verb root, there are two optional complementary aspectual morphemes, the *progressive* and the *resultative*. Between these aspect markers and the tense markers are two optional honorific morphology slots; this intervening morphology provides a way of telling which side of the aspect-tense boundary a particular marker occupies. The three forms examined in this paper all sit in the tense slot of the verbal paradigm, and are boxed in diagram (2).⁴

⁴This picture is built primarily on the analyses and data of Miyara (2002), Kudo et al. (2007), and Arakaki (2013, 2015), but differs in its details from these prior analyses. Further justification of this paradigm is beyond the scope of the current paper, but the interested reader is pointed to these sources and the references cited therein. The details of the paradigm are simplified here for the purposes of exposition. In particular,

In addition to the three past tense markers examined in this paper are a present (or non-past) marker, which is often phonologically null, and a mirative marker that is homophonous with the inferential past marker. As indicated by the arrows in the diagram, I suspect that the inferential past evolved historically from the resultative by a process of pragmaticalization (Diewald 2011). What I label the mirative morpheme might instead be thought of as one pragmatic use of the inferential past, but here I treat it as an independent morpheme, derived by pragmaticalization from the inferential past. I leave further investigation of the mirative, and its connection to the inferential past, to future research.⁵

The final slot of the Okinawan TAM paradigm is filled by one of a large number of mood markers. Both tense and mood are mandatorily marked in Okinawan, and the choice of mood marker is conditioned by a complex and as-yet underdescribed set of grammatical and pragmatic conditions. The data provided in Shinzato (1991) all appear with what I label the indicative (IND) mood suffix. Throughout this paper I also cite forms with indicative mood, whose semantic contribution is put aside in what follows. It should be noted, however, that the semantic and pragmatic effects described in this paper may be sensitive to the choice of mood marker as well as tense, a topic that I leave to future research.⁶

2.2 Simple Past

I analyze both the temporal and the evidential contributions of the forms discussed above within an event/situation semantics, building on the work of Faller (2004), Chung (2005), Deal (2008) and others in incorporating non-temporal properties of event descriptions into the tense-aspect system. Following Deal (2008), I model the temporal contributions of tense and aspect operators directly in terms of eventualities. I treat tense morphemes as operating on properties of eventualities, and returning properties of eventualities.⁷ The simple past tense suffix locates the temporal trace of the verbal event $\tau(e)$ before the utterance time t^* , as shown in the denotation in (3).

it may be possible to further decompose the witnessed past into a witness evidential morpheme *-u-* and past morpheme *-ta-*, and it might be that the inferential past morpheme can appear with additional past tense marking, in which case it would mark past evidence for a past event (with a double-shifted past interpretation). Further examination of these possibilities is left to future research.

⁵The connection between resultative or perfect aspect, indirect evidentiality, and mirativity is apparently a widely attested pattern cross-linguistically. In the diagram above, I have assigned these three meanings to three distinct morphemes, but the borders between them are not always clear. See Rett & Murray (2013) for recent discussion and formal analysis of the connection between indirect evidentiality and mirativity.

⁶Arakaki (2015) argues that the suffix I label indicative is itself responsible for evidentiality. Further discussion of this alternative view is beyond the scope of this paper.

⁷This differs technically from Deal's system, in which tense morphemes denote properties of situations, combining with aspectual phrases that also denote properties of situation by modification. This difference is not a substantive one as far as I can tell. The more substantive difference is that here I do not formally distinguish events and situations; they are combined into a single type e (eventualities). In Deal's system, aspect operates on a property of events to return a property of situations (the topic situation), and tense modifies the resulting property of situations, relating the topic situation to the utterance situation. For simplicity I ignore the contribution of aspect in what follows. In particular, I do not assume the presence of a null aspect operator between the verb and tense, as is required in Deal's system and in more familiar systems in which aspect converts properties of events to properties of times.

$$(3) \quad \llbracket \text{PST} \rrbracket = \lambda P \lambda e. P(e) \wedge \tau(e) < t^*$$

Tense morphemes combine with verb phrases (or aspectual phrases), which denote properties of eventualities. In the case of the simple past, this results in denotations like the following:

$$(4) \quad \begin{array}{l} \text{wanne-}e \text{ hanahichi=nu kusui nu-da-n} \\ \text{1S-TOP cold=GEN medicine drink-PST-IND} \\ \text{“I drank the medicine.”} \\ = \lambda e. \text{drink}(sp)(\text{medicine})(e) \wedge \tau(e) < t^* \end{array}$$

The open event argument in the above denotation can be existentially closed off, or alternatively filled by a variable that gets valued contextually (cf. Partee 1973, Kratzer 1998); the details are not relevant here. The important point is that there are no evidential restrictions in this denotation, nor anything contributed by the past tense suffix that would served to restrict the predicate to first person subjects. I argue that these restrictions arise from pragmatic competition with the witnessed and inferential past, whose semantics I now describe.

2.3 Witnessed Past

The witnessed past suffix *-uta-* combines the past tense semantics of the simple past with an additional presupposition that the speaker witnessed the event being described:⁸

$$(5) \quad \llbracket \text{WIT.PST} \rrbracket = \lambda P \lambda e : \text{WITNESS}(sp, e). P(e) \wedge \tau(e) < t^*$$

For the purposes of this paper, the WITNESS relation can be left as a primitive, but I would like to suggest a way in which it might be further analyzed. In particular, we can follow Faller (2004, 70) in defining the *e-trace* function (6a), which gives the spatiotemporal coordinates of an event, and the *P-trace* function (6b), which gives the spatiotemporal coordinates of an agent’s perceptual field, here that of the speaker:

$$(6) \quad \begin{array}{l} \text{a. } e\text{-trace}(e) = \{ \langle t, l \rangle \mid t \subseteq \tau(e) \ \& \ \text{AT}(e, t, l) \} \\ \text{b. } P\text{-trace}(sp) = \{ \langle t, l \rangle \mid t \subseteq \tau(sp) \ \& \ \text{PERCEIVE}(sp, t, l) \} \end{array}$$

Faller uses these two functions in defining the semantics of the Cuzco Quechua past tense suffix *sqa*, which simultaneously places the event prior to the utterance time (the past tense function), while also requiring that the event’s e-trace not be contained completely within the speaker’s P-trace (the indirect evidential function).

⁸Alternatively, the witnessed past might be decomposed into a witness morpheme *-u-* and the (simple) past morpheme *-ta-* described earlier. Such a decompositional analysis is argued for by Miyara (2002). Under such an analysis, the evidential presupposition would be contributed by the WIT morpheme *-u-*, and the past tense semantics by the PST morpheme described above. The combination of these two morphemes would then give the same effect as the denotation in (5).

In Faller’s account, the indirect evidential use of *sqa* follows from the semantic requirement that the event not have taken place completely within the speaker’s perceptual field. That is, the (relevant portion of the) e-trace of the verbal event cannot be contained within the speaker’s P-trace.⁹ The Okinawan witnessed past tense, by contrast, could be modeled as *requiring* that the e-trace be included in the speaker’s P-trace:

$$(7) \quad \llbracket \text{WIT.PST} \rrbracket = \lambda P \lambda e : \forall \langle t, l \rangle \in e\text{-trace}(e) [\langle t, l \rangle \in P\text{-trace}(sp)]. P(e) \wedge \tau(e) < t^*$$

This of course raises the question of what it means for the spatio-temporal trace of an event to be “included” in someone’s perceptual field. However this is spelled out technically, the intuitive result will be that the speaker has to have perceived the entire event. For the following example, it would require that the entirety of the drinking event have been perceived by the speaker:

$$(8) \quad \begin{array}{l} \textit{are-e} \quad \textit{hanahichi=nu} \quad \textit{kusui} \quad \textit{num-uta-n} \\ \text{3S-TOP} \quad \text{cold=GEN} \quad \text{medicine} \quad \text{drink-WIT.PST-IND} \\ \text{“He drank the medicine.” (I saw it)} \\ = \lambda e : \forall \langle t, l \rangle \in e\text{-trace}(e) [\langle t, l \rangle \in P\text{-trace}(sp)]. \text{drink}(x)(\text{medicine})(e) \wedge \tau(e) < t^* \end{array}$$

Although the data are not completely clear at this point, it seems that this requirement may be too strong. In particular, it is unclear that the speaker needs to have witnessed the “entire” event in order to felicitously use the witnessed past.

The semantics could be weakened so as to require only some overlap of the e-trace and P-trace as follows:

$$(9) \quad \llbracket \text{WIT.PST} \rrbracket = \lambda P \lambda e : \exists \langle t, l \rangle \in e\text{-trace}(e) \cap P\text{-trace}(sp). P(e) \wedge \tau(e) < t^*$$

Since in this denotation only partial overlap is required, the speaker would only need to have witnessed some subpart of the drinking event (for example, looking up to see someone taking a drink from a glass, and looking down again). This denotation might prove to be too weak; is seeing just some tiny fraction of a drinking event enough to license the witnessed past? Although the question requires further fieldwork, I suspect that the speaker has to have perceived some *sufficient portion* of the event, where “sufficient” will mean something like “sufficient to conclude that the full event took place”.¹⁰

Determining the exact amount of perception necessary for the licensing of the witnessed past will require further fieldwork, so in what follows I will use the denotation in (5), leaving the WITNESS relation as a primitive. The one thing that *is* clear is that *indirect* evidence does *not* license the witnessed past form. For example, seeing an empty bottle of cold medicine and inferring that someone drank it would not license the use of the witnessed past. Such situations instead require the inferential past form, whose semantics I now describe.

⁹The “relevant portion” of the event’s e-trace is specified by the topic time.

¹⁰The issue is particularly clear with achievement predicates; for example, witnessing someone in the act of baking a cake does not warrant the conclusion that they actually finished baking the cake. Future fieldwork on the witnessed past should address how its semantics interacts with the aspectual class of different predicates.

2.4 Inferential Past

Like the witnessed past, the inferential past suffix *-tee-* encodes a presupposition about the speaker's evidence for the eventuality described by the verb:

$$(10) \quad \llbracket \text{INF.PST} \rrbracket = \lambda P \lambda e : \exists s [\text{INFER}(sp, e, s)]. P(e) \wedge \tau(e) < t^*$$

$\text{INFER}(x, e, s)$ should be read as “ x infers that eventuality e occurred based on evidence situation s ”. The INFER relation is more complex than the WITNESS relation, since it refers to an evidence situation s in addition to the verbal event e , and relates these to each other and to the speaker. We need to require further that e and s do not overlap, so that the evidence situation is not part of the event itself. This restriction may be included as part of the semantics of INFER , or it may derive as an implicature through pragmatic competition with the witnessed past.

Historically, the inferential past derives from the present resultative, with which it is homophonous. Given its historical origins as a resultative aspect marker, the inferential past canonically indicates inference from results/effects to causes. Spelling out the full range of evidence licensed by this morpheme will require further research, but the kind of evidence allowed by this marker does not include direct perception of the event itself, which is marked by the witnessed past. It also seems not to be licensed by reportative evidence, a fact that will become important in the next section.

One final comment: the denotation in (10) does not include any modalization of the asserted content. This contrasts with a large number of formal semantic treatments of indirect evidentials, which since the seminal analysis of Izvorski (1997) have typically been treated as epistemic modals of one kind or another; notable examples of such treatments are found in McCready & Ogata (2007) and Matthewson et al. (2007). I see no evidence that the Okinawan inferential past is modal. In particular, the kind of data that Izvorski adduces in support of the modal analysis, such as contextual variability in the apparent modal force of the resulting claim, do not seem to be found with the Okinawan evidential tenses. Rather, all three forms seem to assert the same basic thing; the difference, as I have laid out above, seems to consist purely in what grounds the speaker has for making that assertion. As seen in the next section, the fact that all three past tense forms have the same at-issue assertive content makes them candidates for a particular kind of pragmatic competition, from which the restrictions observed at the beginning of the paper will be derived.

3. Pragmatics

The semantics of the three past tense forms outlined in the previous section are as follows:

- $$(11) \quad \begin{array}{l} \text{a.} \quad \llbracket \text{PST} \rrbracket = \lambda P \lambda e. P(e) \wedge \tau(e) < t^* \\ \text{b.} \quad \llbracket \text{WIT.PST} \rrbracket = \lambda P \lambda e : \text{PERCEIVE}(sp, e). P(e) \wedge \tau(e) < t^* \\ \text{c.} \quad \llbracket \text{INF.PST} \rrbracket = \lambda P \lambda e : \exists s [\text{INFER}(sp, e, s)]. P(e) \wedge \tau(e) < t^* \end{array}$$

The non-presuppositional entailments of the three tense forms in (11) are identical. The two evidential past tense suffixes have the same at-issue content as the regular past tense suffix, but with additional evidential presuppositions. Thus, the truth conditions of the sentences in (1), modulo the referent of the subject, are also identical; only the presuppositions are different. In this section, I show how the differing presuppositions of these forms derive the subject restrictions observed in (1), due to pragmatic competition between the forms based on the intersecting pragmatic principles of Maximize Presupposition, Gricean Quality, and the Evidential Hierarchy.

3.1 Restricting the simple past to first-person subjects

The principle of Maximize Presupposition (Heim 1991, Sauerland 2003) says that if two forms have identical non-presuppositional entailments, then the form with stronger presuppositions blocks the form with weaker presuppositions. Consider the sentences in (1) with a third-person subject referring to Taro. If the speaker witnessed Taro taking the medicine, this satisfies the presupposition in (11b), and thus licenses the witnessed past form (1b). This in turn is predicted to block the simple past form (1a), in accordance with Maximize Presupposition, since the truth conditions of (1a) are just like those of (1b) modulo the latter's additional presupposition. Similarly, a context in which the speaker infers that Taro took the medicine (from, say, an empty bottle, improved cold symptoms, medicinal halitosis, or the like) satisfies the presupposition in (11c), thus licensing the inferential past form (1c). This again blocks the simple past form (1a).

Maximize Presupposition thus only allows for the use of the simple past (1a) in those contexts where the speaker has neither direct perceptual nor indirect inferential evidence for the proposition being asserted. But in general, assertion is constrained by the maxim of Quality. In Grice's formulation, this maxim makes two requirements on proper assertion, the first relating to the speaker's beliefs toward the truth of the proposition, and the second relating to the speaker's evidence for the proposition:

1. Do not say what you believe to be false.
2. Do not say that for which you lack adequate evidence. (Grice 1975)

The second clause of the Quality maxim requires "adequate evidence" for assertion. Given the blocking effects triggered by Maximize Presupposition, this would mean that an assertion using the simple past would require adequate evidence that is neither direct perceptual nor indirect inferential. Thus, a felicitous utterance of a simple past tense sentence will require some other form of evidence that is deemed "adequate" for the purposes of Quality. For sentences with non-first-person subjects, I suggest that direct perception and indirect inference in fact cover the normal spectrum of adequate evidence. This in turn means that non-first person subjects will (normally) be blocked from appearing with the simple past by a combination of Maximize Presupposition and Gricean Quality. The same holds true for second-person subjects.

Why are first-person subjects not blocked in simple past tense sentences? The answer is the existence of a third category of sufficient evidence, namely *ego evidence*. This category

of evidence has been described for Tibetan (DeLancey 1986, Garrett 2001), and according to the analysis of Garrett (2001) is the default evidential category in Tibetan. For the purposes of this paper, ego evidence consists of knowledge acquired through first-person action; you know you've done something because you *experienced* doing it (not because you *witnessed* yourself doing it). Such evidence is not available in principle for sentences with non-first person subjects. Ego evidence thus provides adequate evidential grounds that are not covered by either of the two evidentially marked forms, but this evidence is only available in sentences with first-person subjects. This derives the restriction of simple past tense forms to sentences with first-person subjects.

3.2 Exceptional licensing of simple past with non-first-person subjects: reportative evidence

Although Shinzato (1991) claims that the simple past is impossible with non-first-person subjects, other researchers claim that there are contexts that license the use of non-first-person subjects with the simple past. Such contexts involve *reportative* evidence, which I now discuss.

Miyara (2002, 101–102) claims that simple past tense sentences with third person subjects are possible, but that they are interpreted as being based on reportative evidence, providing examples like the following:

- (12) a. *Jiraa=ya saki num-uta-n.*
Jiraa=TOP sake drink-WIT.PST-IND
'Jira drank alcohol.' (I saw him) (Miyara 2002, 101)
- b. *Jiraa=ya saki nu-da-n.*
Jiraa=TOP alcohol drink-PST-IND
'Jira drank alcohol.' (Miyara 2002, 102)

The sentence in (12a) indicates that the speaker witnessed Jira drinking alcohol, since it is marked with the witnessed past. The example in (12b) would be expected to be ill-formed or pragmatically unacceptable given the data laid out by Shinzato, but Miyara reports that it is acceptable with a reportative interpretation. That is, the speaker is understood not to have seen Jira drink alcohol, or to infer it based on the kind of evidence associated with the inferential past, but instead is interpreted as having heard from someone that Jira was drinking alcohol.

Given that reportative/hearsay evidence is adequate for the purposes of Quality, and given moreover that such evidence does not satisfy the presuppositions of either the witnessed or inferential past, the account so far in fact predicts that the simple past could be used in contexts where the speaker has such evidence for the asserted proposition. Since there is no past tense marker that explicitly encodes reportative evidence, Maximize Presupposition will not block the simple past from being used in reportative contexts.

However, the simple past with a reportative interpretation is predicted to be felicitous only to the extent that reportative evidence is adequate for the purposes of Quality. And in fact, there seems to be contextual variation as to whether such evidence is considered

adequate. This can be seen from the following examples from Arakaki (2013) (modified slightly from the original):

- (13) a. Context 1: It is Saturday morning and Ryu tells his mother that he is going to school at 1pm for a club activity, although there is no school on Saturday. When his mother comes back from shopping at half past one and she finds that Ryu is not there, she understands that he has gone to school. Then, a friend of Ryu's drops by and asks if Ryu is home. The mother answers:
Ryu=ya gakkoo=nkai 'nz-a-n.
Ryu=TOP school=to go-PST-IND
"Ryu went to school."
- b. Context 2: You happened to meet Yuki, a friend of yours, in a café when you had finished your coffee and were about to leave. You had a chat with her and she told you that she would go to university after a coffee break. You left the café and thirty minutes later, you passed the café again, but she was not there anymore. Later you tell your friend that you met Yuki at the café.
Yuki=ya daigaku=nkai 'nz-a-n.
Yuki=TOP university=to go-PST-IND
"Yuki went to the university." (Arakaki 2013)

Both of the above examples involve a simple past tense assertion with a third person subject, and both assertions are made in contexts providing hearsay evidence. But according to Arakaki, the first utterance is felicitous while the second is not. Arakaki explains the difference as follows:

A family member is usually supposed to know about other family members' habits or schedules if they live together. On the other hand, information arising from coming across someone at a café . . . is subject to many unexpected factors; for example, Yuki could go to a beauty salon or the department store, not university. On its own, Yuki's report that *she would go to university* cannot be considered best evidence because, since she is not related to the speaker, her statement of intent alone is not considered firm enough evidence. (Arakaki 2013, 46)

Arakaki's own analysis of evidential distinctions in Okinawan is rather different than the one pursued here, and the details of her approach and a comparison with my own are beyond the scope of this paper. However, the contrast she observes between the two above examples can be taken to show that whether or not reportative evidence is sufficient to license assertion is highly context dependent, and in general depends on the quality of the reportative evidence and the degree to which the report is likely to guarantee the truth of the proposition.¹¹ This contextual volatility may explain why Shinzato (1991) describes such sentences as bad across the board; reportative evidence does not seem to be sufficient

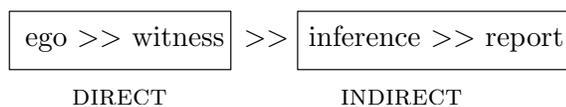
¹¹Contextual variability in the adequacy of particular evidence types for the purposes of assertion is discussed by Davis et al. (2007), who argue for a model of assertion that builds this kind of variability into the

in general to license assertion, but only does so in particular circumstances like the one in (13a).

3.3 Blocking witnessed and inferential past with first-person subjects

Why, finally, are first-person subjects blocked with the witnessed and inferential past forms? This final piece of the puzzle requires appeal to an evidential hierarchy. I adopt the following basic hierarchy, which corresponds essentially to that of Willett (1988, 57), but adjusted to reflect the categories and terminology used here:

(14) *Evidential Hierarchy*



The hierarchy here reflects the four evidential categories that the data above show the Okinawan system to be sensitive to. As already seen, the general category of “direct” evidence is divided into two subtypes corresponding to events/situations that are directly experienced (ego) versus directly perceived (witness). The latter is overtly marked in Okinawan, while the former emerges as a default interpretation of the simple past due to competition with overtly marked evidential forms. The general category of “indirect” evidence is subdivided into inferential evidence, marked overtly in Okinawan by the inferential past, and reportative/hearsay, which emerges as a more marked interpretation for the simple past, again from competition with the two overtly marked evidential past forms.

The picture in (14) shows a ranking of these four forms. Intuitively, the ranking reflects the general reliability of the four kinds of evidence, although as discussed in Davis et al. (2007) in particular contexts the relative reliability of evidence from these sources may not reflect the general trends encoded in the hierarchy. Pragmatically speaking, there seems to be a general pressure to use forms corresponding to the highest ranked evidence type compatible with Quality. That is to say, a speaker should use a form that picks out the “best” evidence type from the hierarchy, given the available evidence. So, if a speaker has both direct perceptual (witness) evidence and inferential evidence available, this principle says that he should use the utterance that indicates direct perceptual evidence. This pragmatic principle in turn leads to a kind of implicature; namely, if a speaker uses a form associated with a particular evidence type, then that speaker implicates the non-existence of evidence types higher on the scale.

Given the pragmatic principle outlined above, using one of the evidentially marked forms with a first person subject would implicate the non-existence of ego evidence. But given that in general first-person action guarantees the existence of the personal experience of having done the action, this implicature is absurd. Thus, the witnessed and inferential

effect that evidentials have on what they term the *quality threshold*. The model of Okinawan evidentials proposed here leaves the pragmatic threshold for assertion static; contextual variability is determined by whether particular instances of reportative evidence are sufficient for the purposes of assertion.

past is not normally compatible with first-person subjects. In normal contexts, the result is that first person is restricted to occurring with the simple past form, since marking it with one of the other forms would falsely implicate the non-existence of ego evidence.

We might imagine that this restriction would be lifted in unusual contexts involving inebriation, memory loss, identity crises, and the like. The details of which forms are used in such contexts need to be explored further, but initial impressions suggest that such contexts do in fact lift the restriction as expected. Miyara (2002) claims that the restriction against first-person subjects with the witnessed past is also lifted in dream reports, providing examples like the following:

- (15) *chinuu yimi=nji wannee tui=nneeshi sura tub-uta-n.*
yesterday dream=in 1S.TOP bird-like sky fly-WIT.PST-IND
'In a dream last night, I flew like a bird.'

This sentence uses the witnessed past, and according to Miyara makes for a more “vivid”¹² utterance. Further research should help elucidate which contexts license first-person subjects with both witnessed and inferential past markers.

A final note: Maximize Presupposition and the Evidential Hierarchy make conflicting demands when it comes to first person subjects. In general, ego evidence will be accompanied by both direct perceptual and inferential evidence. For example, if I drink a glass of beer, I will have self-knowledge of this action (ego evidence); I will also presumably witness the action in some sense, and will also see the empty glass when I am finished drinking. Maximize Presupposition would then require the use of either the witnessed or inferential past, given that their presuppositions were thus satisfied. This suggests that the Evidential Hierarchy trumps Maximize Presupposition when it comes to competing evidential forms. This in turn suggests that there are non-trivial questions regarding how conflicting pragmatic pressures are ranked, a question that should be further explored in future research.

4. Implications

In Okinawan, the evidentially unmarked simple past form competes with two evidentially marked forms under the simultaneous pragmatic pressures of Maximize Presupposition, Gricean Quality, and the Evidential Hierarchy. The person restrictions in (1) result from this competition. Like in the Tibetan system as analyzed by Garrett (2001), ego evidentiality emerges as a kind of default evidentiality. Garrett (2001) says that the “ego” evidential category is “apparently unique to the Tibeto-Burman language family”. The evidence from Okinawan suggests that ego evidentiality is also found in Ryukyuan, and for similar reasons; ego evidentiality is not marked as such, but emerges as a by-product of pragmatic competition between forms. This paper has spelled out a concrete system within which such competition takes place, building on pragmatic principles motivated elsewhere in the literature, and showing how these principles interact with a particular set of morphemes to derive a number of interpretative restrictions not encoded semantically.

¹²*iki iki shiteiru* in the original Japanese.

More generally, I have shown how an evidentially unmarked form can acquire an evidentially restricted meaning by competition with true evidentials. I think that these same pragmatic pressures apply to evidential systems in other languages, with differences between languages arising from differences in the evidential inventory of each language. Evidential paradigms are often analyzed as including a phonologically null evidential morpheme. The analysis in this paper suggests that such forms might instead be analyzed as non-evidential forms that acquire evidential restrictions through pragmatic competition with evidentially marked forms.

References

- Aikhenvald, Alexandra. 2004. *Evidentiality*. Oxford: Oxford University Press.
- Arakaki, Tomoko. 2013. *Evidentials in Ryukyuan: The Shuri variety of Luchuan*. Leiden/Boston: Brill.
- Arakaki, Tomoko. 2015. The tense-aspect-mood systems of the Ryukyuan languages. In *Handbook of the Ryukyuan languages*, ed. Patrick Heinrich, Shinsho Miyara, & Michinori Shimoji, chapter 10, 227–252. de Gruyter Mouton.
- Chung, Kyung-Sook. 2005. Space in tense: The interaction of tense, aspect, evidentiality, and speech acts in Korean. Doctoral dissertation, Simon Fraser University.
- Davis, Christopher, Christopher Potts, & Margaret Speas. 2007. The pragmatic values of evidential sentences. In *Proceedings of Semantics and Linguistic Theory 17*, ed. Masayuki Gibson & Tova Friedman. Ithaca, NY: CLC Publications.
- Deal, Amy Rose. 2008. Events in space. In *Proceedings of SALT 18*, ed. Tova Friedman & Satoshi Ito, 230–247.
- DeLancey, Scott. 1986. Evidentiality and volitionality in Tibetan. In *Evidentiality: The linguistic coding of epistemology*, ed. Wallace Chafe & Hohana Nichols, volume 20 of *Advances in Discourse Processes*, chapter 12, 203–213. Norwood, N.J.: Ablex.
- Diewald, Gabriele. 2011. Pragmaticalization (defined) as grammaticalization of discourse functions. *Linguistics* 49:365–390.
- Faller, Martina. 2004. The deictic core of ‘non-experienced past’ in Cuzco Quechua. *Journal of Semantics* 21:45–85.
- Garrett, Edward. 2001. Evidentiality and assertion in Tibetan. Doctoral dissertation, UCLA.
- Grice, H. P. 1975. Logic and conversation. In *Syntax and semantics 3: Speech acts*, ed. Peter Cole & Jerry L. Morgan, 41–58. Academic Press.
- Heim, Irene. 1991. Artikel und Definitheit. In *Semantik: Ein internationales Handbuch der zeitgenössischen Forschung*, ed. Arnim von Stechow & Dieter Wunderlich, 487–535. Berlin: de Gruyter.
- Heinrich, Patrick, Shinsho Miyara, & Michinori Shimoji, ed. 2015. *Handbook of the Ryukyuan languages*. Berlin: de Gruyter Mouton.
- Izvorski, Roumyana. 1997. The present perfect as an epistemic modal. In *Proceedings of SALT 7*, ed. Aaron Lawson, 222–239.

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- Kratzer, Angelika. 1998. More structural analogies between pronouns and tense. In *Proceedings of SALT 8*, ed. Devon Strolovitch & Aaron Lawson, 92–110.
- Kudo, Mayumi, Yoriko Takaesu, & Hiromi Yakame. 2007. Shuri hougen no asupekuto tensu evidensharitii [aspect, tense and evidentiality of Shuri dialect in Okinawa prefecture]. *Osaka Daigaku Daigakuin Bungakukenyuuka Kiyou* 47:151–183.
- Matthewson, Lisa, Henry Davis, & Hotze Rullmann. 2007. Evidentials as epistemic modals: Evidence from St'át'imcets. *Linguistic Variation Yearbook* 7:201–254.
- McCready, Eric, & Norry Ogata. 2007. Evidentiality, modality, and probability. *Linguistics and Philosophy* 30:147–206.
- Miyara, Shinsho. 2002. Okinawa chuunanbu hougen doushi no modariti [Modality in verbs of Central and Southern Okinawan dialects]. *Gengo Kenkyu* 122:79–114.
- Partee, Barbara. 1973. Some structural analogies between tenses and pronouns in English. *The Journal of Philosophy* 70:601–609.
- Rett, Jessica, & Sarah E. Murray. 2013. A semantic account of mirative evidentials. In *Proceedings of SALT 23*, ed. Todd Snider. CLC Publications.
- Sauerland, Uli. 2003. A new semantics for number. In *Proceedings of Semantics and Linguistic Theory (SALT) 13*, ed. Rob Young & Yuping Zhou, 258–275.
- Shinzato, Rumiko. 1991. Epistemic properties of temporal auxiliaries: A case study from Okinawan, Japanese, and Old Japanese. *Linguistics* 29:53–77.
- Speas, Margaret. 2010. Evidentials as generalized functional heads. In *Edges, heads, and projections*, ed. Anna Maria Di Sciullo & Virginia Hill, 127–150. John Benjamins Publishing Company.
- Uemura, Yukio, & Wayne P. Lawrence. 2003. *The Ryukyuan language*. Endangered Languages of the Pacific Rim. Osaka, Japan: ELPR.
- Willett, Thomas. 1988. A cross-linguistic survey of the grammaticization of evidentiality. *Studies in Language* 12:51–97.

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