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A Formal Description of Dunan (Yonaguni-Ryukyuan) Honorifics

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1 Introduction

1.1 Dunan Dunan, or Yonaguni-Ryukyuan is a highly endangered language spoken in Yonaguni island, Yaeyama, Okinawa-prefecture, Japan. The intergenerational language transmission has ceased and the vitality of the language that was assessed based on UNESCO's criteria (UNESCO Ad Hoc Research Group on Endangered Languages 2013) is 1.75 to 2.125 out of 5, labeled as "severely endangered" (Yamada and Pellard 2013). The number of the fluent native speakers is estimated to be 328 out of the total population 1504 (as of Oct.31, 2014, see Yamada and Pellard 2013 for estimation) and they are all active bilinguals with some variant of Japanese (let's say Yonaguni dialect of Japanese). A large body of the younger generation seems to be passive bilinguals of Dunan with some variant of Japanese, but no objective assessment has been done to measure their Dunan ability (cf. Yamada et al. (to appear) for language intelligibility assessment of other Ryukyuan languages). See Yamada, Pellard and Shimoji (2017) for a grammar sketch and previous studies on Dunan.

1.2 Honorifics as obstacle for language revitalization Dunan language community members often say "the young people cannot use the honorifics properly" or "I do not want to use Dunan because the elderlies get upset if I do not use the honorifics properly." These are common phrases often heard in other Ryukyuan language communities and highlight the fact that honorifics are a major obstacle for language revitalization (Shigeno 2011). This paper describes the linguistic behavior of the Dunan honorifics to overcome this issue and briefly report an attempt to return it to the language community.

1.3 What it is Dunan (verbal) predicates have two forms. In this paper I label them the plain form and the honorific form. The distribution of these two forms depends on the age difference among the referent of some sentence arguments and/or the speaker of the utterance. For example, in a context where the referent of the nominative argument¹ is older than the speaker of the utterance, an utterance of (1)a with an honorific verb form is felicitous, while (1)b with a plain verb form is infelicitous (indicated by the "#" sign).

(1) Context: the referent of *asa* "grandfather" is older than the speaker of the utterance

- a. *asa=ja ma i ujaε-a-N.*
grandfather=TOP already meal eat.HON1-PERF-IND
"Grandfather has already had a meal."
- b. #*asa=ja ma i h-a-N.*
grandfather=TOP already meal eat-PERF-IND
"Grandfather has already had a meal."

I label one of the verb forms exemplified in (1)a the honorific form because it has some similarities with the Standard Japanese honorifics. In other words the age difference of some participants of the conversation that Dunan honorifics are sensitive to is a kind of social relationship, which is a peculiar feature of the Standard Japanese honorifics. However, the lexical meaning of Dunan honorifics has nothing to do with honoring or

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¹ I assume the topic marked arguments in all of the example sentences presented in this paper are the underlying nominative argument.

admiring, nor looking up or down some participants of the conversation, as is to be clear in Section 5.2.

In what follows, I will present a formal description concerning the predicate forms, starting with the list of lexical items. I will generalize it as felicity conditions the verb forms contribute to the utterances as a part of their lexical meaning, and propose a syntactic and semantic analysis for them. I will also briefly report a way to return these findings to the language community as a part of a language revitalization project.

2 Lexical items

(2) lists a pair of the plain form and the honorific form in their non-past indicative forms. The honorific forms are divided into two groups, glossed as HON(ORIFIC)1 and HON(ORIFIC)2, in terms of their felicity conditions that they contribute to the sentence they appear in. The glosses follow Yamada's (2016) analysis of the Dunan verbal morphology.

(2) List of the honorific expressions

Plain Form	Honorific Form
a. ϕ -N “eat-IND”	a'. uja-N “eat.HON1-IND”
b. num-u-N “drink-PRES-IND”	b'. uja-N “drink.HON1-IND”
c. bu-N “be-IND”	c'. war-u-N “be.HON1-PRES-IND”
d. ζ ir-u-N “go-PRES-IND”	d'. war-u-N “go.HON1-PRES-IND”
e. ku-N “come-PRES-IND”	e'. war-u-N “come.HON1-PRES-IND” ²
f. nn-u-N “die-PRES-IND”	f'. mair-u-N “die.HON1-PRES-IND” ³
g. V “V”	g'. V-i war-u-N “V-MED HON1-PRES-IND” HON1
h. nd-u-N “say-PRES-IND”	h'. tsarir-u-N “say.HON2-PRES-IND”
i. t'amir-u-N “tell-PRES-IND”	i'. tsarir-u-N “tell.HON2-PRES-IND”
j. tura-N “give-IND”	j'. uja-N “give.HON2-IND”
k. V-i tura-N “V-MED give-PRES-IND”	k'. V-i uja-N “V-MED give.HON2-IND”
l. dara-N “let.go-IND”	l'. wara-N “let.go.HON2-IND”
m. tur-u-N “take-PRES-IND”	m'. tabar-u-N “take.HON2-PRES-IND”
n. V “V”	n'. V-i wara-N “V-MED HON2-IND” HON2

(2)a-f and (2)h-m are the verbs that have a suppletive honorific forms (2)a'-f' and (2)h'-m'. The honorific forms of the other verbs are formed by the verbs' medial form *V-i* “V-MED” followed by an auxiliary verb as in (2)g for HON1 and (2)n for HON2. The honorific forms of nominal and adjectival predicates employ a copula followed by the auxiliary honorific verb (2)g as in (3)a and (4)a. Note that the copular *av* does not appear in non-past indicative sentences in Dunan as in (3)b and (4)b.

(3) Honorific form of a nominal predicate

- a. asa=ja Dunan+t'u=du a-i war-u.
 grandfather=TOP Yonaguni+person=FOC COP-MED HON1-PTCP
 “Grandfather is a Yonagunian.”
- b. icitu=ja Dunan+t'u.
 Isitu=TOP Yonaguni+person
 “Isitu is a Yonagunian.”

(4) Honorific form of an adjectival predicate

- a. asa=ja tagi taga=du a-i wa-ta-ru.
 grandfather=TOP height tall=FOC COP-MED HON1-PAST-PTCP
 “Grandfather was tall.”
- b. icitu=ja tagi taga-N.
 Isitu=TOP height tall-IND
 “Isitu is tall.”

² There seems to be another honorific form *waikun*, but I have only heard its medial (*waiei*), past (*waisuta-*), and perfect (*wais-*) forms. The non-past indicative form *waikun* is constructed here based on the unique conjugation paradigm of *kun* “come.PRES.IND,” *ei* “come.MED,” *suta-* “come.Past-,” and *s-* “come.PERF-.”

³ There is an idiomatic honorific form *kan narun* “god become.”

Standard Japanese has more verbs that have a suppletive honorific form, such as “see” or “wear.”⁴ However, Dunan does not have suppletive honorific forms for the corresponding verbs. Their honorific forms are the plain verb in its medial form followed by the auxiliary honorific verb.

3 Setting up the presentation

The data that describes the behavior of the plain and the honorific forms is consist of a set of CONTEXT, SENTENCE, and FELICITY. The CONTEXT is the age difference of some participants of the conversation and presented with the notation (5), (6)a.⁵ The SENTENCE is a sentence with its main predicate either in a plain form or an honorific form (6)b. The FELICITY is either the utterance of the SENTENCE in the CONTEXT is felicitous (√) or infelicitous (#) (6)c.

(5) Notation for age difference

$x >_{\text{age}} y$ iff x is older than y

$x \leq_{\text{age}} y$ iff x is younger than or as old as y

(6) The data: a set of CONTEXT, SENTENCE, and FELICITY

a. CONTEXT: $x >_{\text{age}} y$ where $x, y \in \{ \text{NOM}, \text{N.NOM}, \text{SPK} \}$

NOM = the human referent of the nominative argument of the sentence (b)

N.NOM = the human referent of the non-nominative argument of the sentence (b)

SPK = the speaker of the utterance of the sentence (b)

b. SENTENCE: PLAIN or HON1/HON2

c. FELICITY: the sentence (b) in the context (a) is felicitous (√) or infelicitous (#)

Before moving on to the actual data with examples sentences, I point out that the age of the addressee or the listener (LSN) of the utterance is irrelevant for the choice of the predicate form, as summarized in the elicitation results (7) and (8).⁶ Thus the CONTEXT settings to be presented in this paper will omit the listener variable to keep the example sentences to the point.

(7) The age of the listener is irrelevant for the distribution of HON1

CONTEXT	SENTENCE	
	PLAIN	HONORIFIC1
a. $\text{NOM} >_{\text{age}} \text{SPK} >_{\text{age}} \text{LSN}$	#	√
b. $\text{NOM} >_{\text{age}} \text{LSN} >_{\text{age}} \text{SPK}$	#	√
c. $\text{LSN} >_{\text{age}} \text{NOM} >_{\text{age}} \text{SPK}$	#	√
d. $\text{SPK} >_{\text{age}} \text{NOM} >_{\text{age}} \text{LSN}$	√	#
e. $\text{SPK} >_{\text{age}} \text{LSN} >_{\text{age}} \text{NOM}$	√	#
f. $\text{LSN} >_{\text{age}} \text{SPK} >_{\text{age}} \text{NOM}$	√	#

(8) The age of the listener is irrelevant for the distribution of HON2

CONTEXT	SENTENCE	
	PLAIN	HONORIFIC2
a. $\text{NOM} >_{\text{age}} \text{N.NOM} >_{\text{age}} \text{LSN}$	√	#
b. $\text{NOM} >_{\text{age}} \text{LSN} >_{\text{age}} \text{N.NOM}$	√	#
c. $\text{LSN} >_{\text{age}} \text{NOM} >_{\text{age}} \text{N.NOM}$	√	#
d. $\text{N.NOM} >_{\text{age}} \text{NOM} >_{\text{age}} \text{LSN}$	#	√
e. $\text{N.NOM} >_{\text{age}} \text{LSN} >_{\text{age}} \text{NOM}$	#	√
f. $\text{LSN} >_{\text{age}} \text{N.NOM} >_{\text{age}} \text{NOM}$	#	√

⁴ The verb that means “sleep” is *nindun* but its honorific form is *dugu-i warun* “rest-MED HON1” instead of *nind-i warun* “sleep-MED HON1” or a suppletive form. I do not know if there are some other pairs like this.

⁵ The field data indicates that psychological or social distance, formality, and other factors such as what was discussed in Potts and Kawahara (2002) are very weak to almost irrelevant in Dunan honorifics.

⁶ Thus I consider Dunan not to have a counterpart of the Standard Japanese addressee honorifics (Harada’s (1976) “polite words”). However, the verbal suffix *-arir-*, which otherwise appears as the passive or the circumstantial possibility suffix, sometimes seems to be employed to express politeness for an addressee, especially in a formal speech in front of many people. The exact environment is hard to point out and I leave this issue for a future research.

4 HONORIFIC1

The distribution of HON1 is sensitive to the age difference between the human referent of the nominative argument (NOM) and the speaker of the utterance (SPK). When NOM is older than SPK, the main predicate of the sentence must be in its honorific form as in (9)-(10). (9) exemplifies the case of a suppletive honorific form and (10) a form with the auxiliary honorific verb.

- (9) *asa* “grandfather” is older than the speaker of the utterance
- a. { NOM _{>age} SPK, HON1, √ }
- asa=ja ma i ujae-a-N.
grandfather=TOP already meal eat.HON1-PERF-IND
“Grandfather has already had a meal.”
- b. { NOM _{>age} SPK, PLAIN, # }
- # asa=ja ma i h-a-N.
grandfather=TOP already meal eat-PERF-IND
“Grandfather has already had a meal.”
- (10) *eiñei* “the teacher” is older than the speaker of the utterance
- a. { NOM > SPK, HON1, √ }
- eiñei=ŋa suŋuti dum-i wa-ta-N.
teacher=NOM book read-MED HON1-PAST-IND
“The teacher read the book.”
- b. { NOM _{>age} SPK, PLAIN, # }
- # eiñei=ŋa suŋuti dum-ita-N.
teacher=NOM book read-PAST-IND
“The teacher read the book.”

On the other hand, when SPK is older than NOM, the main predicate of the sentence must be in its plain form as in (11)-(12). (11) exemplifies the case of a suppletive honorific form and (12) a form with the auxiliary honorific verb.

- (11) The speaker of the utterance is older than *icitu* “Isitu”
- a. { SPK _{>age} NOM, HON1, # }
- # icitu=ja ma i uyaе-a-N.
Isitu=TOP already meal eat.HON1-PERF-IND
“Isitu has already had a meal.”
- b. { SPK _{>age} NOM, HON1, √ }
- icitu=ja ma i h-a-N.
Isitu=TOP already meal eat-PERF-IND
“Isitu has already had a meal.”
- (12) The speaker of the utterance is older than *icitu* “Isitu”
- a. { SPK _{>age} NOM, HON1, # }
- # icitu=ŋa suŋuti dum-i wa-ta-N.
Isitu=NOM book read-MED HON1-PAST-IND
“Isitu read the book.”
- b. { SPK _{>age} NOM, HON1, √ }
- icitu=ŋa suŋuti dum-ita-N.
Isitu=NOM book read-PAST-IND
“Isitu read the book.”

The data sets (9)-(12) are summarized in (13), based on which the HON1 felicity condition (14) is proposed.

(13) Distribution of HON1

CONTEXT	SENTENCE	
	PLAIN	HONORIFIC1
a. NOM _{>age} SPK	# (9)b, (10)b	√ (9)a, (10)a
b. SPK _{>age} NOM	√ (11)b, (12)b	# (11)a, (12)a

(14) HON1 Felicity condition (to be revised in the next section)

The main predicate of a sentence is in its HON1 form iff $NOM >_{age} SPK$

The main predicate of a sentence is in its PLAIN form iff $SPK \geq_{age} NOM$

In this sense, the Dunan HON1 is very similar to the Standard Japanese subject honorifics (Harada's (1976) "respect words" or Kikuchi's (1994) "sonkei-go").

5 HONORIFIC2

5.1 Basic data The behavior of HON2 is a bit more complicated than that of HON1, so let us start with a simple case. The distribution of HON2 is sensitive to the age difference between the human referent of the nominative argument (NOM) and that of the non-nominative argument (N.NOM). When N.NOM is older than NOM, the main predicate of the sentence must be in its honorific form as in (15)-(16). (15) exemplifies the case of a suppletive honorific form and (16) a form with the auxiliary honorific verb.

(15) *asa* "Grandfather" is older than *aya* "1SG.NOM"

a. { N.NOM $>_{age}$ NOM, HON2, \checkmark }

aya asa=ŋki unu tsa=nu na tsari-ta-n.
1SG.NOM grandfather=DAT PROX grass=GEN name tell.HON2-PAST-IND
"I told Grandfather the name of the grass."

b. { N.NOM $>_{age}$ NOM, PLAIN, # }

aya asa=ŋki unu tsa=nu na t'am-ita-n.
1SG.NOM grandfather=DAT PROX grass=GEN name tell-PAST-IND
"I told Grandfather the name of the grass."

(16) *abu* "Grandmother" is older than *aya* "1SG.NOM"

a. { N.NOM $>_{age}$ NOM, HON2, \checkmark }

aya abu=ŋki nnani ts-am-i wara-ta-n.
1SG.NOM grandmother=DAT kimono wear-CAUS-MED HON2-PAST-IND
"I helped Grandmother put on her kimono."

b. { N.NOM $>_{age}$ NOM, PLAIN, # }

aya abu=ŋki nnani ts-ami-ta-n.
1SG.NOM grandmother=DAT kimono wear-CAUS-MED
"I helped Grandmother put on her kimono."

On the other hand, when NOM is older than N.NOM, the main predicate of the sentence must be in its plain form as in (17)-(18). (17) exemplifies the case of a suppletive honorific form and (18) a form with the auxiliary honorific verb.

(17) *aya* "1SG.NOM" is older than *icitu* "Isitu"

a. { NOM $>_{age}$ N.NOM, HON2, # }

aya icitu=ŋki unu tsa=nu na tsari-ta-n.
1SG.NOM Isitu=DAT PORX grass=GEN name tell.HON2-PAST-IND
"I told Isitu the name of the grass."

b. { NOM $>_{age}$ N.NOM, PLAIN, \checkmark }

aya icitu=ŋki unu tsa=nu na t'am-ita-n.
1SG.NOM Isitu=DAT PORX grass=GEN name tell-PAST-IND
"I told Isitu the name of the grass."

(18) *aya* "1SG.NOM" is older than *icitu* "Isitu"

a. { NOM $>_{age}$ N.NOM, HON2, # }

aya icitu=ŋki nnani ts-am-i wara-ta-n.
1SG.NOM Isitu=DAT kimono wear-CAUS-MED HON2-PAST-IND
"I helped Isitu put on her kimono."

b. { NOM $>_{age}$ N.NOM, PLAIN, \checkmark }

aya icitu=ŋki nnani ts-ami-ta-n.
1SG.NOM Isitu=DAT kimono wear-CAUS-MED
"I helped Isitu put on her kimono."

Many verbs that alternate between the PLAIN and the HON2 forms take a human dative argument in addition to a human nominative argument. However the HON2 auxiliary verb can follow a verb that takes a non-dative argument as exemplified in (19) which has an accusative argument. Thus I use the cover term N.NOM for a human referent of non-nominative argument. As for the sentences in (19), note that Dunann does not have an overt case marker for the accusative case. The notation (*=*ŋki*) in (19) indicates having the dative case marker =*ŋki* is ungrammatical.

(19) *abu* “Grandmother” is older than *ieitu* “Isitu”

- a. { N.NOM $>_{\text{age}}$ NOM, HON2, \checkmark }
ieitu=ŋa *abu(*=ŋki)* *adant-i* *wara-ta-N.*
Isitu=NOM *Grandmother.ACC(*=DAT)* *calm.down-MED* *HON2-PAST-IND*
 “Isitu calmed down Grandmother.”
- b. { N.NOM $>_{\text{age}}$ NOM, PLAIN, # }
 # *ieitu=ŋa* *abu(*=ŋki)* *adant-ita-N.*
Isitu=NOM *Grandmother.ACC(*=DAT)* *calm.down-PAST-IND*
 “Isitu calmed down Grandmother.”

The data sets (15)-(18) are summarized in (20), based on which the HON2 felicity condition (21) is proposed.

(20) Distribution of HON2

CONTEXT	SENTENCE	
	PLAIN	HONORIFIC2
a. NOM $>_{\text{age}}$ N.NOM	# (15)b, (16)b	\checkmark (15)a, (16)a
b. N.NOM $>_{\text{age}}$ NOM	\checkmark (17)b, (18)b	# (17)a, (18)a

(21) HON2 Felicity condition

- The main predicate of a sentence is in its Hon2 form iff N.NOM $>$ NOM
 The main predicate of a sentence is in its Plain form iff NOM $>$ N.NOM

In this sense the Dunan HON2 appears to be similar to the Standard Japanese object honorifics (Harada’s (1976) “condescending words” or Kikuchi’s (1994) “Type A *kenjoo-go*”). However it differs from the Standard Japanese object honorifics as demonstrated in the following subsections.

5.2 The age of SPK is irrelevant All of the example sentences in (15)-(18) have as the nominative argument the first person singular pronoun, i.e. the speaker of the utterance. This is the prototypical case, or rather required, for the Standard Japanese object honorifics. However, NOM does not have to be the SPK for Dunan HON2.⁷ The NOM in the example sentences in (22) is *keeta* “Keita,” not the SPK, and still patterns with (15)-(18). The N.NOM *Yuuu* “Yuuu” is older than the NOM *keeta* “Keita” and the verb must be in its HON2 form as shown by the felicity contrast in (22)a-b.

(22) the speaker of the utterance is older than *yuuu* “Yuuu,” who is older than *keeta* “Keita”

- a. { SPK $>_{\text{age}}$ N.NOM $>_{\text{age}}$ NOM, HON2, \checkmark }
keeta=ŋa *yuuu=ŋki* *nnani* *ts-am-i* *wara-ta-N.*
Keita=NOM *Yuuu=DAT* *kimono* *wear-CAUS-MED* *HON2-PAST-IND*
 “Keita helped Yuuu put on his kimono.”
- b. { SPK $>_{\text{age}}$ N.NOM $>_{\text{age}}$ NOM, PLAIN, # }
 # *keeta=ŋa* *yuuu=ŋki* *nnani* *ts-am-ita-N.*
Keita=NOM *Yuuu=DAT* *kimono* *wear-CAUS-PAST-IND*
 “Keita helped Yuuu put on his kimono.”

Moreover, the sentences in which the first person singular pronoun, the SPK, appearing as the N.NOM obeys the felicity condition. The N.NOM in the example sentences (23) is *anu* “1SG” or the SPK, and still patterns with (15)-(18). The N.NOM *anu* “1SG,” which just happens to be the SPK, is older than the NOM *keeta* “Keita” and the verb must be in its HON2 form as shown by the felicity contrast in (23)a-b. This data illustrates that Dunan

⁷ The restriction in terms of a perspective (*uchi* “SPK’s side” vs. *soto* “non-SPK’s side”, see Harada (1976) and Kikuchi (1994)) is not present in Dunan either. The NOM in (22) is not a member of the SPK’s side and the N.NOM in (22) is not a member of the non-SPK’s side.

honorifics has nothing to do with honoring or admiring, nor looking up or down some participants of the conversation.

(23) the speaker of the utterance is older than *keeta* “Keita”

- a. { N.NOM $>_{age}$ NOM, HON2, \checkmark }
 keeta= η a anu= η ki nnani ts-am-i wara-ta-n.
 Keita=NOM 1SG=DAT kimono wear-CAUS-MED HON2-PAST-IND
 “Keita helped me put on his kimono.”
- b. { N.NOM $>_{age}$ NOM, PLAIN, # }
 # keeta= η a anu= η ki nnani ts-am-ita-n.
 Keita=NOM 1SG=DAT kimono wear-CAUS-PAST-IND
 “Keita helped me put on his kimono.”

Indeed, whether the SPK is older or younger than the NOM or the N.NOM is irrelevant for the predicate choice between the PLAIN and the HON2 forms. The summary of the elicitation results in (24) clarifies this point. In other words, the age of the SPK is irrelevant for the predicate choice unless it appears as the NOM or the N.NOM.

(24) Distribution of HON2

CONTEXT	SENTENCE	
	PLAIN	HONORIFIC2
a. NOM $>_{age}$ N.NOM $>_{age}$ SPK	\checkmark	#
b. NOM $>_{age}$ SPK $>_{age}$ N.NOM	\checkmark	#
c. SPK $>_{age}$ NOM $>_{age}$ N.NOM	\checkmark	#
d. N.NOM $>_{age}$ NOM $>_{age}$ SPK	#	\checkmark
e. N.NOM $>_{age}$ SPK $>_{age}$ NOM	#	\checkmark
f. SPK $>_{age}$ N.NOM $>_{age}$ NOM	#	\checkmark

In the next subsections, I will present more data manipulating the age of the SPK’s age with respect to that of the NOM and N.NOM. The HON2 felicity condition is borne out but the HON1 felicity condition will face a necessity of revision in such complicated contexts.

5.3 HONORIFIC2 overrides HONORIFIC1 What would the verb form be if the age difference among the relevant referent is rather complicated? Namely, which one of the verb forms, the PLAIN, the HON1 or HON2, does the sentence take in a context where the N.NOM is older than the NOM that in turn older than the SPK (25)?

(25) A complicated CONTEXT: N.NOM $>_{age}$ NOM $>_{age}$ SPK

- a. That N.NOM $>_{age}$ NOM requires the verb to be HON2
 b. That NOM $>_{age}$ SPK requires the verb to be HON1

We might expect that the verb in such a CONTEXT takes both HON1 and HON2 to meet their felicity conditions because the auxiliary verbs can follow another verbal complex. However, the sequences resulting from such a combination in either order are simply ungrammatical as in (26)a-b. The HON2 and HON1 in the example sentences in (26)a and (26)b respectively are properly conjugated to the medial form so that another auxiliary verb can follow, but the native speaker consultants did not accept these constructed example sentences as a Dunan sentence.

(26) *obasan* “aunty” is older than *yoeimisan* “Yoshimi,” who is older than the speaker of the utterance

- a. { N.NOM $>_{age}$ NOM $>_{age}$ SPK, HON2+HON1, * }
 * yoeimisan= η a obasan= η ki nnani ts-am-i warae-i wa-ta-n.
 Yoshimi=NOM Aunty=DAT kimono wear-CAUS-MED HON2-MED HON1-PAST-IND
 “Yoshimi helped Aunty put on his kimono.”
- b. { N.NOM $>_{age}$ NOM $>_{age}$ SPK, HON1+HON2, * }
 * yoeimisan= η a obasan= η ki nnani ts-am-i wa-i wara-ta-n.
 Yoshimi=NOM Aunty=DAT kimono wear-CAUS-MED HON1-MED HON2-PAST-IND
 “Yoshimi helped Aunty put on his kimono.”

If you want a single sentence to felicitously express the intended meaning of (26) in the CONTEXT (25), you need to have the verb in HON2 form alone (27)a. Having HON1 alone (27)b or PLAIN form (27)c would not give

you a felicitous sentences in such a CONTEXT.

(27) *obasan* “aunty” is older than *yoeimisan* “Yoshimi,” who is older than the speaker of the utterance

- a. { N.NOM $>_{age}$ NOM $>_{age}$ SPK, HON2, \surd }
 yoeimisan= η ja obasan= η ki nnani ts-am-i wara-ta-N.
 Yoshimi=NOM Aunty=DAT kimono wear-CAUS-MED HON2-PAST-IND
 “Yoshimi helped Aunty put on his kimono.”
- b. { N.NOM $>_{age}$ NOM $>_{age}$ SPK, HON1, # }
 # yoeimisan= η ja obasan= η ki nnani ts-am-i wa-ta-N.
 Yoshimi=Nom aunty=Dat kimono wear-CAUS-MED HON1-PAST-IND
 “Yoshimi helped aunty put on his kimono.”
- c. { N.NOM $>_{age}$ NOM $>_{age}$ SPK, PLAIN, # }
 # yoeimisan= η ja obasan= η ki nnani ts-am-ita-N.
 Yoshimi=Nom aunty=Dat kimono wear-CAUS-PAST-IND
 “Yoshimi helped aunty put on his kimono.”

The above discussion indicates that when the CONTEXT competes for HON2 and HON1, the felicity condition attributed by HON2 overrides that of HON1. Thus, I revise the felicity conditions to those in (28) and summarize them as a generalization for the predicate choice in Dunan.

(28) Generalization for the predicate choice

- a. HON1 iff NOM $>_{age}$ SPK, given the SENTENCE does not take a N.NOM
 b. Plain iff Spk \geq_{age} Nom, given the Sentence does not take a N.Nom
 c. HON2 iff N.NOM $>_{age}$ NOM (overrides HON1’s felicity condition)
 d. Plain iff Nom \geq_{age} N.Nom (overrides Hon1’s felicity condition)

The prediction made by the revised felicity conditions (28) is borne out in the CONTEXT of NOM $>_{age}$ N.NOM \geq_{age} SPK, which differs from the one in (26) and (27) with respect to the age difference between the NOM and the N.NOM. In such a context, the verb is in the PLAIN form instead of the HON2 form, as shown by the felicity contrast in (29)a,c. Note that the verb takes a human non-nominative argument and thus having a HON1 form is infelicitous, as shown in (29)b.

(29) *abu* “Grandmother” is older than *ieitu* “Isitu” and the speaker of the utterance

- a. { NOM $>_{age}$ N.NOM \geq_{age} SPK, HON2, # }
 # abu= η ja ieitu= η ki nnani ts-am-i wara-ta-N.
 grandmother=NOM Isitu=DAT kimono wear-CAUS-MED HON2-PAST-IND
 “Grandmother helped Isitu wear his kimono.”
- b. { NOM $>_{age}$ N.NOM \geq_{age} SPK, HON1, # }
 # abu= η ja ieitu= η ki nnani ts-am-i wa-ta-N.
 grandmother=NOM Isitu=DAT kimono wear-CAUS-MED HON1-PAST-IND
 “Grandmother helped Isitu wear his kimono.”
- c. { NOM $>_{age}$ N.NOM \geq_{age} SPK, PLAIN, \surd }
 abu= η ja ieitu= η ki nnani ts-am-ita-N.
 grandmother=NOM Isitu=DAT kimono wear-CAUS-PAST-IND
 “Grandmother helped Isitu wear his kimono.”

6 Semantics and syntax of the Dunan honorifics

This section proposes an event semantic analysis of the Dunan honorifics that captures the generalization for the predicate choice stated as the felicity conditions in (28). I assume that the phonological forms are assigned to a sequence of the morpho-syntactic items. Thus for example the phonological forms of the predicates in (30)a,b are assigned to the sequence of <V, Voice> as illustrated in (31)a,b.

(30) CONTEXT: NOM $>_{age}$ SPK

- a. asa= η ja i ujae-a-N.
 grandfather=NOM meal eat.HON1-PERF-IND
 “Grandfather had a meal.”

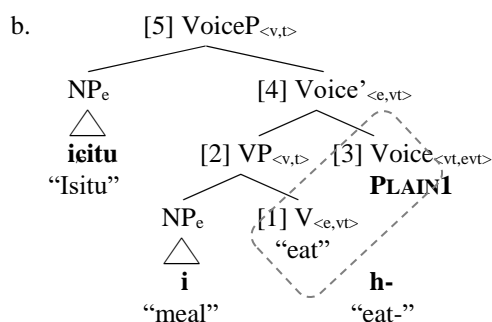
(33)[5] denotes what we wanted, namely a set of eating-of-the-meal events whose agent is the grandfather, and a felicity condition such that the grandfather is older than the speaker of the utterance in the context c .

A non-honorific Voice head PLAIN1 also has a felicity condition that states that the speaker of the utterance is older or as old as the introduced agent as in (34). (35) demonstrates how the PLAIN1 Voice head works. Note that if this PLAIN1 Voice head appears in (33) instead of the HON1 Voice head, the phonological form for the $\langle V, \text{Voice} \rangle$ sequence would be $h-$ “eat” and the not-at-issue meaning does not match to the CONTEXT, and the sentence would be infelicitous even though the semantic calculation goes without any problem.

$$(34) \llbracket \text{PLAIN1} \rrbracket^c = \lambda P_{vt}. \lambda x. \lambda e. \text{Agt}(x)(e) \ \& \ P(e) \quad : \text{SPK}_c \geq_{\text{age}} x$$

at-issue meaning : not-at-issue meaning

- (35) a. CONTEXT: $\text{SPK} \geq_{\text{age}} \text{NOM}$
 icitu= η a i h-a-N.
 Isitu=NOM meal eat-PERF-IND
 “Isitu had a meal.”



- | | |
|---|-----------------|
| [1] $\llbracket V \rrbracket = \lambda x. \lambda e. \text{eat}(x)(e)$ | Lex |
| [2] $\llbracket VP \rrbracket = \llbracket V \rrbracket(\llbracket NP \rrbracket)$ | FA |
| $= [\lambda x. \lambda e. \text{eat}(x)(e)](\text{meal})$ | 1,Subst, Lex |
| $= \lambda e. \text{eat}(\text{meal})(e)$ | λ -conv |
| [3] $\llbracket \text{PLAIN1} \rrbracket^c = \lambda P_{vt}. \lambda x. \lambda e. \text{Agt}(x)(e) \ \& \ P(e) : \text{SPK}_c \geq_{\text{age}} x$ | Lex |
| [4] $\llbracket \text{Voice}' \rrbracket^c = \llbracket \text{PLAIN1} \rrbracket^c(\llbracket VP \rrbracket)$ | FA |
| $= [\lambda P_{vt}. \lambda x. \lambda e. \text{Agt}(x)(e) \ \& \ P(e) : \text{SPK}_c \geq_{\text{age}} x](\lambda e. \text{eat}(\text{meal})(e))$ | 3,2,Subst |
| $= \lambda x. \lambda e. \text{Agt}(x)(e) \ \& \ \text{eat}(\text{meal})(e) : \text{SPK}_c \geq_{\text{age}} x$ | λ -conv |
| [5] $\llbracket \text{VoiceP} \rrbracket^c = \llbracket \text{Voice}' \rrbracket^c(\llbracket NP \rrbracket)$ | FA |
| $= [\lambda x. \lambda e. \text{Agt}(x)(e) \ \& \ \text{eat}(\text{meal})(e) : \text{SPK}_c \geq_{\text{age}} x](\text{Isitu})$ | 4,Subst, Lex |
| $= \lambda e. \text{Agt}(\text{Isitu})(e) \ \& \ \text{eat}(\text{meal})(e) : \text{SPK}_c \geq_{\text{age}} \text{Isitu}$ | λ -conv |

If the HON1 Voice head appears in (35)b instead of the PLAIN1 Voice head, the phonological form for the $\langle V, \text{Voice} \rangle$ sequence would be $ujae-$ “eat.HON1” and the not-at-issue meaning does not match to the CONTEXT (35)a and the sentence would be infelicitous, even though the semantic calculation goes without any problem.

6.2 HONORIFIC2 The denotation of HON2 is proposed in (36) in a similar fashion to that of HON1. It is also a type of a Voice head and introduces an agent. The felicity condition as a not-at-issue meaning states that the first individual argument x is older than the agent y . HON2 differs from HON1 in that it takes an open predicate of type $\langle e, vt \rangle$ while HON1 takes an event property of type $\langle v, t \rangle$. HON2 adds a not-at-issue meaning such that the first individual argument of HON2, which is fed into the open predicate, is older than the individual argument that is introduced as the agent.

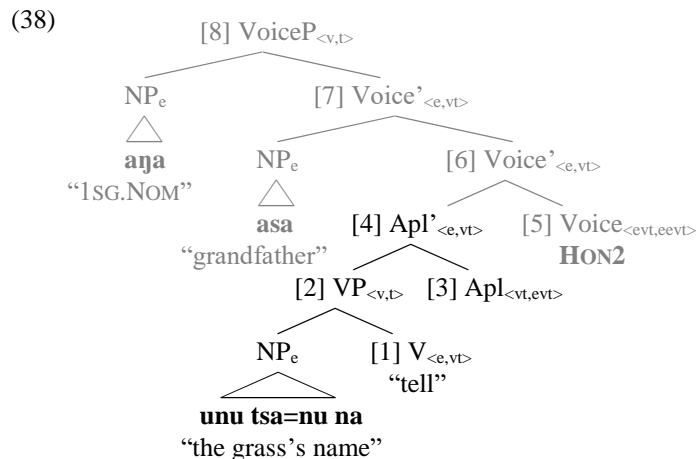
$$(36) \llbracket \text{HON2} \rrbracket = \lambda P_{vt}. \lambda x. \lambda y. \lambda e. \text{Agt}(y)(e) \ \& \ P(x)(e) \quad : x >_{\text{age}} y$$

at-issue meaning : not-at-issue meaning

Let me demonstrate how HON2 works in the semantic calculation of the sentence that takes a dative argument (37)a. I assume that the dative argument in (37)a is introduced as the goal of an event by an Applicative head (Pylkänen 1997), defined in (37)b.

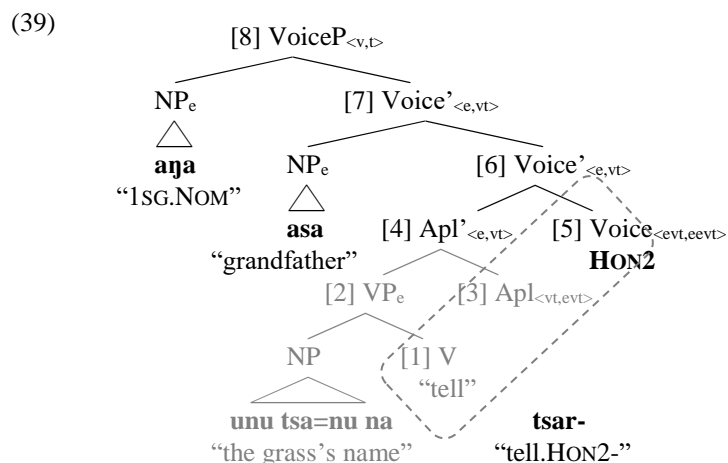
- (37) CONTEXT: N.NOM $>_{age}$ NOM (*asa* “Grandfather” is older than *aja* “1SG.NOM”)
 a. *aja asa=ηki unu tsa=nu na tsari-ta-N.*
 1SG.NOM grandfather=DAT PROX grass=GEN name tell.HON2-PAST-IND
 “I told Grandfather the name of the grass.”
 b. $\llbracket \text{Apl} \rrbracket = \lambda P_{vt}.\lambda z.\lambda e. \text{Goal}(z)(e) \ \& \ P(e)$

The applicative head (37)b takes a VP that denotes an event property of type $\langle v,t \rangle$ just like the Voice head. It differs from the Voice head in that it introduces the goal of an event while the Voice head introduces the agent of an event. As demonstrated in (38), a partial semantic calculation of the sentence (37)b, the Applicative head specifies the event property denoted by the VP, i.e. a set of saying-the-grass’s-name events, to a set of saying-the-grass’s-name event whose goal is an individual z , i.e. a set of saying-the-grass’s-name-to- z event.



- | | |
|--|-----------------|
| [1] $\llbracket V \rrbracket = \lambda x.\lambda e. \text{say}(x)(e)$ | Lex |
| [2] $\llbracket VP \rrbracket = \llbracket V \rrbracket(\llbracket NP \rrbracket)$ | FA |
| $= [\lambda x.\lambda e. \text{say}(x)(e)](\text{grass.name})$ | 1,Subst, Lex |
| $= \lambda e. \text{say}(\text{grass.name})(e)$ | λ -conv |
| [3] $\llbracket \text{Apl} \rrbracket = \lambda P_{vt}.\lambda z.\lambda e. \text{Goal}(z)(e) \ \& \ P(e)$ | Lex |
| [4] $\llbracket \text{Apl}' \rrbracket = \llbracket \text{Apl} \rrbracket(\llbracket VP \rrbracket)$ | FA |
| $= [\lambda P_{vt}.\lambda z.\lambda e. \text{Goal}(z)(e) \ \& \ P(e)](\lambda e. \text{say}(\text{grass.name})(e))$ | 3,2,Subst |
| $= \lambda z.\lambda e. \text{Goal}(z)(e) \ \& \ \text{say}(\text{grass.name})(e)$ | λ -conv |

(38)-[4] $\llbracket \text{Apl}' \rrbracket$, which is the result of functional application of the Applicative head to the VP, is the argument of the HON2 Voice head. It is an unsaturated open predicate of type $\langle e,vt \rangle$ waiting for an individual argument that would be interpreted as the goal of a saying-the-grass’s-name event. As demonstrated in (39), HON2 takes this unsaturated open predicate $\llbracket \text{Apl}' \rrbracket$ and two individual arguments, and feeds the first individual argument to $\llbracket \text{Apl}' \rrbracket$. It also lets the second individual argument interpreted as the agent and adds a felicity condition such that the first individual argument is older than the second individual argument.



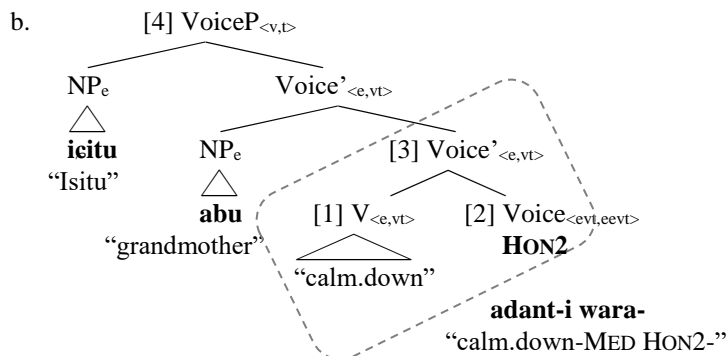
[4]	$\llbracket \text{Apl}' \rrbracket = \lambda z.\lambda e. \text{Goal}(z)(e) \ \& \ \text{say}(\text{grass.name})(e)$	
[5]	$\llbracket \text{HON2} \rrbracket = \lambda P_{\text{vt}}.\lambda x.\lambda y.\lambda e. \text{Agt}(y)(e) \ \& \ P(x)(e) : x >_{\text{age}} y$	Lex
[6]	$\llbracket \text{Voice}' \rrbracket = \llbracket \text{HON2} \rrbracket(\llbracket \text{Apl}' \rrbracket)$ $= [\lambda P_{\text{vt}}.\lambda x.\lambda y.\lambda e. \text{Agt}(y)(e) \ \& \ P(x)(e) : x >_{\text{age}} y]$ $(\lambda z.\lambda e. \text{Goal}(z)(e) \ \& \ \text{say}(\text{grass.name})(e))$	FA 5,4,Subst
[7]	$\llbracket \text{Voice}' \rrbracket = \llbracket \text{Voice}' \rrbracket(\llbracket \text{NP} \rrbracket)$ $= [\lambda x.\lambda y.\lambda e. \text{Agt}(y)(e) \ \& \ \text{Goal}(x)(e) \ \& \ \text{say}(\text{grass.name})(e) : x >_{\text{age}} y](\text{Grandfather})$ $= \lambda y.\lambda e. \text{Agt}(y)(e) \ \& \ \text{Goal}(\text{Grandfather})(e) \ \& \ \text{say}(\text{grass.name})(e)$ $: \text{Grandfather} >_{\text{age}} y$	λ -conv FA 6,Subst, Lex
[8]	$\llbracket \text{VoiceP} \rrbracket = \llbracket \text{Voice}' \rrbracket(\llbracket \text{NP} \rrbracket)$ $= [\lambda y.\lambda e. \text{Agt}(y)(e) \ \& \ \text{Goal}(\text{Grandfather})(e) \ \& \ \text{say}(\text{grass.name})(e)$ $: \text{Grandfather} >_{\text{age}} y](1\text{SG})$ $= \lambda e. \text{Agt}(1\text{SG})(e) \ \& \ \text{Goal}(\text{Grandfather})(e) \ \& \ \text{say}(\text{grass.name})(e)$ $: \text{Grandfather} >_{\text{age}} 1\text{SG}$	FA 7,Subst, Lex λ -conv

(39)[8] denotes what we wanted, namely a set of saying-the-grass's-name events whose goal is the grandfather and the agent is 1SG, and a felicity condition that states that the grandfather is older than 1SG.

When the N.NOM is not a dative argument, for example an accusative argument as in (19)a (repeated here as (40)a), the HON2 Voice head directly combines with V which denotes an unsaturated open predicate, as shown in (40)b.

(40) Context: N.NOM $>_{\text{age}}$ NOM (*abu* “Grandmother” is older than *icitu* “Isitu”)

- a. *icitu*= η a *abu* *adant-i* *wara-ta-N*.
 Isitu=NOM Grandmother.ACC calm.down-MED HON2-PAST-IND
 “Isitu calmed down Grandmother.”



[1]	$\llbracket V \rrbracket = \lambda z.\lambda e. \text{calm.down}(z)(e)$	Lex
[2]	$\llbracket \text{HON2} \rrbracket = \lambda P_{\text{vt}}.\lambda x.\lambda y.\lambda e. \text{Agt}(y)(e) \ \& \ P(x)(e) : x >_{\text{age}} y$	Lex
[3]	$\llbracket \text{Voice}' \rrbracket = \llbracket \text{HON2} \rrbracket(\llbracket V \rrbracket)$ $= [\lambda P_{\text{vt}}.\lambda x.\lambda y.\lambda e. \text{Agt}(y)(e) \ \& \ P(x)(e) : x >_{\text{age}} y]$ $(\lambda z.\lambda e. \text{calm.down}(z)(e))$	FA 2,1,Subst
[4]	$\llbracket \text{VoiceP} \rrbracket = [\llbracket \text{Voice}' \rrbracket(\llbracket \text{NP} \rrbracket)](\llbracket \text{NP} \rrbracket)$ $= [\lambda x.\lambda y.\lambda e. \text{Agt}(y)(e) \ \& \ \text{calm.down}(x)(e) : x >_{\text{age}} y](\text{Grandmother})(\text{Isitu})$ $= \lambda y.\lambda e. \text{Agt}(\text{Isitu})(e) \ \& \ \text{calm.down}(\text{Grandmother})(e)$ $: \text{Grandmother} >_{\text{age}} \text{Isitu}$	λ -conv FA 3,Subst, Lex λ -conv

I assume another non-honorific Voice head PLAIN2 that has a not-at-issue meaning such that the referent of the first individual argument (i.e. N.NOM) is older or as old as the introduced agent as in (41). (42)b demonstrates how the PLAIN1 Voice head works for the sentence in (42)a. Note that if this PLAIN2 Voice head appears in (38)-(39) or (40) instead of the HON2 Voice head, the phonological forms for the <V, Apl, Voice> and <V, Voice> sequences would be *t'am-* “tell” and *adant-* “calm.down” respectively and the not-at-issue meanings do not match to the CONTEXTS, and the sentences would be infelicitous even though the semantic calculations go without any problem.

having HON1 alone. I admit this shortcoming of the proposed analysis on this matter and have to leave this to future research.¹⁰

7 Concluding Remarks

7.1 The nature of the data The data presented in this paper was formulated in three phases. In the first phase, I collected the honorific-related data along with various other data in many elicitation sessions with four native speaker consultants, Nae Ikema, Takashi Mikura, Toshiko Mikura, and Yoshimi Shinjo. Next, based on the collected data, I made up sentences and tried using them in Dunan conversations with many different Dunan people at random occasions. When such a sentence is corrected, I reformulated my hypothesis and kept doing over many field trips. In the last phase, I prepared a neat set of data (pairs of CONTEXT and constructed SENTENCES) and checked the felicity responses in focused elicitation sessions. In this way I slowly narrowed down what the relevant variable for CONTEXT are and reached to the data set presented in this paper.

All of the data presented in this paper were systematically collected in the elicitation sessions with Takashi Mikura and Toshiko Mikura in March 2014 and three of us are sure about the generalization presented as the felicity conditions. However, the HON2, especially the auxiliary verb *waran* for many other relatively younger people seems to be fading in daily conversations, though the suppletive HON2 verbs are constantly used.

7.2 For the language community I pointed out in Section 1 that the honorifics is a major obstacle for language revitalization for Dunan and other Ryukyuan languages. Thus I tried to find out how the Dunan honorifics work and gave a formal description presented in this paper and also attempted to return some parts of it to the language community.

I collaborated with the Yonaguni town's board of education and a design office, GK Kyoto, to create a kind of playing cards (Yonaguni Town 2017) that consists of vocabulary cards and phrase cards. We put two different ways of saying the same thing in the phrase cards, i.e. PLAIN and HON1 sentences (Figure 3).



Figure 2. Left: “What was your mother doing?” “My mother was _____.”
Right: “surprised,” “chilling out,” “cooking,” and “weaving”

combination because of the lack of the agent arguments that separately feed into HON2 and HON1, for these Voice heads introduce an agent each. HON1-HON2 combination is also correctly ruled out because the NOM and N.NOM have to be interpreted as an agent.

¹⁰ Another issue that has to wait for future research is that the benefactive construction with the benefactive auxiliary verbs seems to behave differently. (i) is a felicitous utterance in the Context of NOM >_{age} N.NOM which is the case where PLAIN verb form (PLAIN2 Voice head) is expected. However the benefactive constructions with the auxiliary verbs like (1) normally add HON1 after the verb+benefactive auxiliary verb.

(i) asa, anu=ŋki dunam+munui narae-i turae-i wa-i, φugarasa.
grandfather 1SG=DAT Yonaguni+language teach-MED BEN-MED HON1-MED thank.you
“Grandfather, thank you for teaching me Dunan.”

We enclosed a short leaflet explaining how to use each phrase depending on the CONTEXT. Figure 4 is a part of the leaflet in which is the explanation for the phrase card in Figure 3. The instruction says if “Mother” is older than you, use the phrase in (3), while (4) should be used if she is younger or as old as you.

質問カード「お母さんは何してた？」にも、ふたつの言い方が書いてあります。

3	“あぶた”が 年上の場合	与	あぶたや ぬー きー わたんが？
		日	お母さんは 何 し いらっしやったか？
4	“あぶた”が 同じ年・年下 の場合	与	あぶたや ぬー きー ぶたんが？
		日	お母さんは 何 し いたか？

「あぶた」(聞き手のお母さん)が、話し手より年上なら、「わたん」(いらっしやった)の(3)を言います。「あぶた」(お母さん)が、話し手と同じ年か年下なら、「ぶたん」(いた)の(4)を言います。じぶんのお母さんは必ずじぶんより年上なので、答える人は「あぶたや () わたん。」と言います。

Figure 3. A part of the enclosed leaflet that explains the phrases in Figure 2

The conversation card package was just a first attempt to return academic findings to the language community. Further followups are on the way such as a dictionary (Yonaguni town 2019) and more, till the day Dunan is revitalized.

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