

## Comparison with Indeterminateness: A Multidimensional Approach\*

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### 1. Introduction

In Japanese the meaning of comparison with indeterminateness is expressed by an ‘indeterminate pronoun’ plus *yorimo* ‘than-MO’ (Kuroda 1979: 96).<sup>1</sup> Interestingly, if the indeterminate pronoun *nani* ‘what’ is used in this environment, the sentence can be ambiguous between two readings, as follows:

- (1) Nani-yori-mo tennis-wa tanoshii.  
What-than-MO tennis-TOP fun  
‘a: Tennis is more fun than anything.’ (Individual reading)  
‘b: More than anything, tennis is fun.’ (Noteworthy reading)
- (2) Tennis-wa nani-yori-mo tanoshii.  
Tennis-TOP what-than-MO fun  
‘a: Tennis is more fun than anything.’ (Individual reading)  
‘b: Tennis is, more than anything, fun.’ (Noteworthy reading)

In the first reading of (1a), ‘tennis’ is compared with (contextually determined) alternatives (e.g. soccer, basketball, baseball, etc.). In the second reading of (1b), the proposition ‘tennis is fun’ is compared with alternative propositions in terms of noteworthiness/importance and is construed as the most noteworthy (important).<sup>2</sup> I will call the former reading the individual reading and the latter reading the noteworthy

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<sup>1</sup> Note that although the meaning of comparison with indeterminateness has a free choice flavor, the free choice item *demo* cannot appear in a comparative environment (i.e. *\*nani-yori-demo*). Similar phenomena can be observed in other languages, like Korean (Haspelmath 1997). For a discussion of the distribution of *demo*, see, e.g., Kuroda (1979), Numata (1986) and Yoshimura (2007).

<sup>2</sup> I borrowed the term *noteworthy* from Ionin (2006).

reading. Sentence (2) is also ambiguous between the two readings, while *nani-yori-mo* in the noteworthy reading behaves as a ‘parenthetical’ (Potts 2005).

Note that the above ambiguity does not arise if there is a mismatch in meaning between *nani* and the target of comparison, as in (3), or if other indeterminate pronouns are used, as in (4):

- (3) Nani-yori-mo Taro-wa yasashii. (Noteworthy reading)  
What-than-MO Taro-TOP kind  
‘The proposition that Taro is kind is more noteworthy than any other proposition related to Taro.’
- (4) Dare-yori-mo Taro-wa yasashii. (Individual reading)  
Who-than-MO Taro-TOP kind  
‘Taro is more kind than anyone.’

The purpose of this paper is to investigate the semantics and pragmatics of the individual and noteworthy readings in (1)-(4) and consider the ‘multidimensionality’ and ‘compositionality’ of the meaning of comparison with indeterminateness from the standpoint of the semantics-pragmatics interface. Specifically, we will consider the following questions: (i) Are the two kinds of readings calculated in the same dimension? (ii) Are the two kinds of readings interpreted fully compositionally? (iii) What kinds of alternatives does each reading invoke?

As to question (i), I argue that the meaning of individual comparison with indeterminateness contributes to the truth conditional aspect of meaning, while the meaning of noteworthy comparison with indeterminateness (= the noteworthy *nani-yori-mo*) is a conventional implicature (CI) (Grice 1975; Potts 2005). As to question (ii), it will be shown that the noteworthy *nani-yori-mo* behaves like an ‘utterance modifier’ (e.g. Jackendoff 1972; Bach 1999; Potts 2005), the meaning of which is interpreted as a single lexicalized phrase. I will also consider the possibility that the meaning of the noteworthy *nani-yori-mo* is interpreted fully compositionally in the domain of CI, but I will argue that the utterance modifier approach is more plausible, at least synchronically. Regarding question (iii), I will consider the possibility that the individual *nani-yori-mo* invokes a set of individual alternatives, whereas the noteworthy *nani-yori-mo* invokes a set of alternative speech acts that are related to a ‘discourse topic’ (e.g. von Stechow 1994; Roberts 1996; McNally 1998; Büring 1999; Glanzberg 2002).

This paper argues that the meaning of comparison with indeterminateness can be calculated in the domain of CI as well as in the domain of ‘at issue’ semantics, and that there is a class of comparisons that can be termed discourse-oriented comparisons.

## 2. The Individual *Nani-yori-mo* vs. the Noteworthy *Nani-yori-mo*

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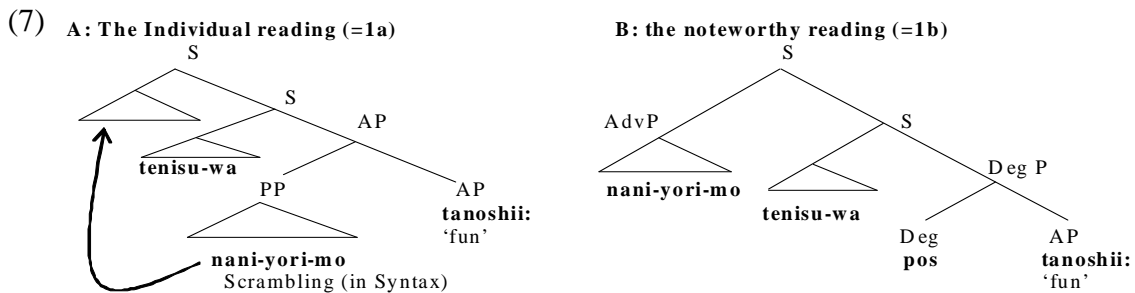
There are several diagnostics that can be used to distinguish between the two types of *nani-yori-mo*. First, the intensifier *totemo* ‘very/really’ can appear in the ‘noteworthy’ reading, but not in the ‘individual’ reading, as shown in (5).

- (5) Nani-yori-mo tennis-wa **totemo** tanoshii.  
 What-than-MO tennis-TOP really fun  
 ‘\* Tennis is really more fun than anything.’ (Individual reading)  
 ‘The proposition that tennis is really fun is more noteworthy than any other proposition.’ (Noteworthy reading)

Second, the ‘individual’ reading cannot arise in negative sentences, but the ‘noteworthy reading’ can, as shown in (6):

- (6) Nani-yori-mo tennis-wa tanoshiku-**nai**.  
 What-than-MO tennis-TOP fun-NEG  
 ‘?? Tennis is not more fun than anything.’ (Individual reading)  
 ‘The proposition that tennis is not fun is more noteworthy than any other proposition.’ (Noteworthy reading)

Generally, the meaning of free choice does not arise in negative sentences (Giannakidou 1998). Question: Does the fact that (6) allows the ‘noteworthy’ reading mean that the way in which a sentence is read has nothing to do with free choice? The answer is no. I argue that the asymmetries in (5) and (6) can be reduced to a difference in their modification structures:



*Nani-yori-mo* in the individual reading attaches to the gradable adjective *tanoshii*, while in the noteworthy reading, *nani-yori-mo* attaches to the entire sentence. Note that in the noteworthy reading, the sentence’s basic structure is construed as adjectival, with a null degree morpheme *pos* (e.g. Cresswell 1976; Kennedy 1999). Thus the degree morpheme *totemo*, which is more or less restricted to the adjectival domain (Tsujimura 2001), can occur in the noteworthy reading but not in the individual reading. As for the negative sentence in (6), the noteworthy reading is possible but the ‘individual’ reading is not, because in the former case *nani-yori-mo* is placed above negation.

### 3. The Semantics of the Individual *Nani-yori-mo*

Now let us consider the meaning of the two kinds of interpretations, starting with the individual reading. First point, I would like to point out that we can express the meaning

of individual comparison with indeterminateness using various kinds of indeterminate pronouns:

(8) Combinations of indeterminate pronouns with *yorimo*

<i>dare</i> ‘who’	( <i>dare-yorimo</i> )	<i>doko</i> ‘where’	( <i>doko-yorimo</i> )
<i>nani</i> ‘what’	( <i>nani-yorimo</i> )	<i>itu</i> ‘when’	(? <i>itu-yorimo</i> <sup>3</sup> )
<i>dore</i> ‘which’	( <i>dore-yorimo</i> )	<i>naze</i> ‘why’	(* <i>naze-yorimo</i> )
<i>dono</i> ‘which (Det)’	( <i>dono N-yorimo</i> )	<i>doo</i> ‘how’	(* <i>doo-yorimo</i> )

In order to highlight the difference between the individual reading and the noteworthy reading, this paper focuses solely on the semantics of individual comparisons that use the indeterminate pronoun *nani*:

(9) Nani-yorimo tennis-wa tanoshii.

What-than-MO tennis-TOP fun

‘a: Tennis is more fun than anything.’

(Individual reading)

‘b: The proposition that tennis is fun is more noteworthy than any other proposition.’

(Noteworthy reading)

There can be various approaches to the meaning of the ‘individual’ reading, but here I use Hamblin’s (1973) semantics for Japanese indeterminate pronouns (Kratzer & Shimoyama 2002; Shimoyama 2006). In this system, *nani* ‘what’ in (9a) introduces a set of **individual** alternatives, as in (10), where possible worlds and variable assignments are omitted for the sake of simplicity:

$$(10) \quad \llbracket \text{nani} \rrbracket = \{x \in D_e : \text{thing}(x) \wedge C(x)\}$$

I posit a contextual domain variable  $C$  in (10) to make sure that alternatives are fixed by context. As for the semantics of comparison, I assume that the marker of standard *yorimo* has a comparative meaning (Kennedy 2007) as in (11a). As to the semantics of *tanoshii* ‘fun’, I assume that it denotes a relation between an individual and a degree (e.g. Cresswell 1976; von Stechow 1984), as shown in (11b):

$$(11) \quad \begin{array}{l} \text{a. } \llbracket \text{yorimo} \rrbracket = \lambda y \lambda g_{\langle d, \langle e, t \rangle \rangle} \lambda z. \max(g)(z) > \max(g)(y) \\ \text{b. } \llbracket \text{tanoshii} \rrbracket = \lambda d \lambda x. \text{fun}(x) \geq d \end{array}$$

The denotation of *nani-yorimo* is composed by applying a functional application ‘pointwise’:

(12) *Pointwise* Functional Application (Kratzer & Shimoyama 2002):

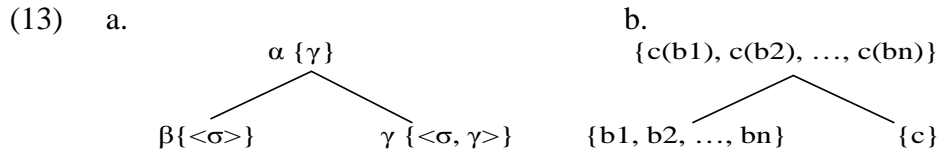
If  $\alpha$  is a branching node with daughters  $\beta$  and  $\gamma$ , and  $\llbracket \beta \rrbracket \subseteq D_\sigma$  and  $\llbracket \gamma \rrbracket \subseteq D_{\langle \sigma, t \rangle}$ ,

then  $\llbracket \alpha \rrbracket = \{a \in D_\tau : \exists b \exists c [b \in \llbracket \beta \rrbracket \ \& \ c \in \llbracket \gamma \rrbracket \ \& \ a = c(b)]\}$

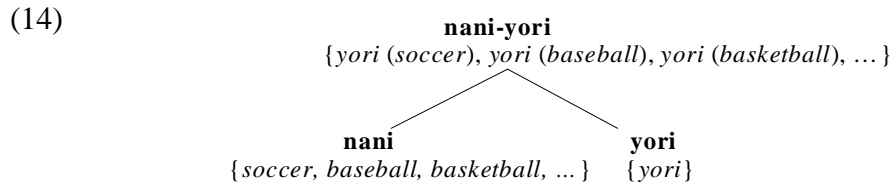
<sup>3</sup> *Itu-yorimo* ‘when-than-mo’ sounds odd for some native speakers. Note that there is also an expression *itu-mo-yorimo*, which means ‘than usual’ and not ‘than anytime.’

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The above function application says that if there is a representation as in (13a), it is interpreted as in (13b):



If we apply this functional application to the individual reading of *nani-yori*, we can derive the following meaning:



Note that the alternatives expand until they meet the universal operator *mo*, which selects them as in (15).<sup>4</sup> At the end of the day, we get the following truth condition for the ‘individual’ reading in (16):

- (15)  $\llbracket mo \rrbracket ( \llbracket nani-yori \rrbracket ) =$   
 $\{ \lambda g_{\langle d, \langle e, t \rangle \rangle} \lambda z. \forall x [x \in \{ D_e: \text{thing}(x) \wedge C(x) \} \rightarrow \max(g)(z) > \max(g)(x)] \}$
- (16)  $\llbracket \text{Tennis-wa nani-yori-mo tanoshii} \rrbracket : \langle t \rangle = 1$  iff  
 $\{ \forall x [x \in \{ D_e: \text{thing}(x) \wedge C(x) \} \rightarrow \max(\lambda d. \text{fun}(\text{tennis}) \geq d) > \max(\lambda d. \text{fun}(x) \geq d)] \}$ <sup>5</sup>

The crucial point here is that the comparison in (16) is made at the ‘at issue’ level.

## 4. The Meaning of the Noteworthy *Nani-yori-mo*

### 4.1 Alternatives and a Discourse Topic

The reason why *nani-yori-mo* ‘what-then-MO’ but not *dare-yori-mo* ‘who-than-MO’ has the ‘noteworthy’ reading is that *nani* can introduce a set of alternatives that are **propositions**. Observe the following sentence:

- (17) Taro-wa nan-to i-tta?  
Taro-TOP what-as say-PAST  
‘What did Taro say?’

<sup>4</sup> Another way to derive a universal meaning is to use the meaning of *even* (Nakanishi 2006) or *also*. *Mo* literally means ‘also/even.’ I thank Anastasia Giannakidou for the valuable discussion on this possibility.

<sup>5</sup> Note that if ‘tennis’ is in the domain, (16) will always be false. In order to avoid such situation, we need to either remove ‘tennis’ from the domain or change ‘>’ to ‘≥’. The same thing applies to the case of the noteworthy reading which we will discuss later. Intuitively, there seems to be a general (pragmatic) constraint that a target and a standard must not be identical. Thanks to Chris Potts for pointing out this issue.

It is natural to view *nani* in (17) as introducing a set of propositions. This suggests that there is another lexical item for *nani*:

$$(18) \quad \llbracket \text{nani} \rrbracket = \{p \in D_t : \text{proposition}(p) \wedge C(p)\}$$

The above idea can naturally apply to the case of the noteworthy *nani-yori-mo*:

- (19) (Question: What are the good points of Tokyo?)  
 Nani-yori-mo (Tokyo-wa) benri-ga ii.  
 What-than-MO Tokyo-TOP convenience-NOM good  
 ‘More than anything, Tokyo is convenient.’

For example, we can posit the following set of alternative propositions that are related to the sentence topic (i.e. Tokyo):

$$(20) \quad \text{p-R-Topic}_{\text{Tokyo}} = \{\text{Tokyo is modern, It is warm in Tokyo, There are many universities in Tokyo, ...}\}$$

However, as the following example shows, a ‘discourse topic’ is more important than a sentence topic in creating a set of alternatives. Let us compare (19) with (21):

- (21) (Question: What are the bad points of Tokyo?)  
 Nani-yori-mo (Tokyo-wa) bukka-ga takai.  
 What-than-MO Tokyo-TOP prices-NOM high  
 ‘More than anything, Tokyo is expensive.’

Similarly to (19), (21) talks about Tokyo, but unlike in (19), the speaker here has a negative perspective about Tokyo. Thus, we can posit the following set:

$$(22) \quad \text{p-R-Topic} = \{\text{Tokyo is dangerous, Tokyo is crowded, Tokyo is noisy, ...}\}$$

The difference between (19) and (21) suggests that a ‘discourse topic’ plays an important role in introducing a set of alternatives. A discourse topic is one that taken to be the ‘relevant question’ to be answered, i.e., the question under discussion (QUD) (e.g. von Stechow 1994; Roberts 1996; McNally 1998; Büring 1999; Glanzberg 2001). We can summarize the above discussion as follows:

- (23) The noteworthy *nani-yori-mo* introduces a set of alternative propositions that is related to a ‘discourse topic.’<sup>6</sup>

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<sup>6</sup> This generalization may only apply to the ‘sentence initial’ noteworthy *nani-yori-mo*. It seems that the parenthetical use of the noteworthy *nani-yori-mo* scopes over properties.

### Comparison with Indeterminateness

The individual reading and the noteworthy reading are different in terms of dimensionality. I argue that unlike the individual *nani-yori-mo*, the meaning of comparison with indeterminateness is calculated in the domain of CI (Grice 1989; Potts 2005). For example, we can divide the meaning of (24) (= the noteworthy reading) into two levels, the ‘at issue’ level and the CI level:

- (24) Nani-yori-mo tennis-wa tanoshii. (Noteworthy reading)  
What-than-MO tennis-TOP fun.  
At issue: ‘Tennis is fun.’  
CI: The proposition that tennis is fun is more noteworthy than any other proposition.

Potts (2005) defines CI as follows: (a) CIs are part of the conventional meaning of the words; (b) CIs are commitments, and thus give rise to entailments; (c) these commitments are commitments of the speaker<sup>7</sup>; and (d) CIs are logically and compositionally independent of ‘what is said.’ The meaning of the noteworthy *nani-yori-mo* satisfies these conditions. (a) is satisfied because the meaning of comparison with indeterminateness is associated with the lexical items. Condition (b) is satisfied because the meaning of the noteworthy *nani-yori-mo* gives rise to an entailment—it would be odd to cancel the CI by saying, ‘But that is not noteworthy information at all.’ Condition (c) is met because it is the speaker who thinks that the proposition expressed is the most noteworthy one. Finally, condition (d) is also met. As the following example shows, the meaning of the noteworthy *nani-yori-mo* in (24) cannot be referred to using the pronoun *soo* ‘so’:

- (25) (Utterance after (24))  
Iie. watashi-wa *soo*-wa omoi-masen.  
No I-TOP so-TOP think-NEG.POL  
‘No, I don’t think so.’

What the pronoun *soo* ‘so’ refers to is the content of the proposition ‘tennis is fun.’ That is, (25) negates only the ‘at issue’ meaning in (24) (see also Karttunen and Peters 1979).

There is a question as to where the noteworthy meaning comes from. Note that there is no explicit lexical item such as *noteworthy* (or *important*) in sentences with the noteworthy *nani-yori-mo*, but we nevertheless interpret such sentences as having this meaning. I would argue that the noteworthy *nani-yori-mo* is a lexicalized sentential adverb that contributes information about the speaker’s evaluation of the proposition, which is expressed in terms of noteworthiness:<sup>8</sup>

- (26)  $\llbracket \text{nani-yori(-mo)}_{\text{NW}} \rrbracket : \langle t^a, t^c \rangle =$

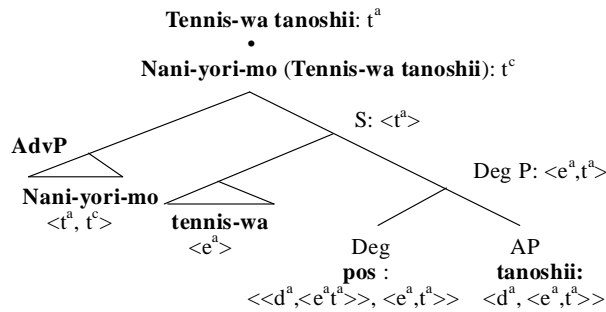
<sup>7</sup> Potts (2007) amends this condition, saying that the perspective encoded in the expressive aspects of an utterance is often but not always that of the speaker. He then adopts Lasnik’s (2005) notion of a ‘contextual judge.’

<sup>8</sup> Bach (1999) argues that utterance modifiers neither contribute to ‘what is said’ nor generate conventional implicatures; instead, they are vehicles for the performance of second-order speech acts.

$$\{\lambda p.\forall q[q\in\{D_t:\text{proposition}(q)\wedge C(p)\}\rightarrow \max(\lambda d.\text{noteworthy}(p)\geq d) > \max(\lambda d.\text{noteworthy}(q)\geq d)\}$$

*Nani-yori-mo* takes a proposition  $\langle t^a \rangle$  and returns a CI of type  $\langle t^c \rangle$  via the CI Application (Potts 2005) (The superscript ‘c’ stands for CI and the superscript ‘a’ stands for ‘at issue’). The following figure is a semantic/pragmatic representation of (24):

(27)



The crucial point here is that the proposition expressed ( $=p$ ) is compared in the domain of CI. There are several pieces of evidence to support the idea that *nani-yori-mo* is a lexicalized utterance modifier:

- (28) a. In the noteworthy type, *mo* is optional.  
 b. There can be a (long) intonation break after *nani-yori-(mo)*.  
 c. There is no explicit adjective like IMPORTANT/NOTEWORTHY.

I would argue that the noteworthy *nani-yori-mo* is an utterance modifier (pragmatic adverb) like *frankly speaking*. One might argue that the noteworthy *nani-yori-mo* is an evaluative adverb (like *importantly*) because it has an ‘evaluative’ meaning (i.e. noteworthy, important). However, the morphological evidence suggests that it is an utterance modifier rather than an evaluative adverb. Although a sentence with an evaluative adverb (e.g. *luckily*) can be roughly paraphrased by a sentence with the corresponding adjective (e.g. *lucky*), no paraphrase relationship is possible in the case of the noteworthy *nani-yori(-mo)*, as shown by the following examples:<sup>9</sup>

- (29) a. *Saiwai ame-ga yan-da.*  
 Luckily rain-NOM stop-PAST  
 ‘Luckily, the rain stopped.’  
 b. *Ame-ga yan-da-no-wa saiwai-da.* (NM= Nominalizer)  
 rain-NOM stop-PAST-NM-TOP lucky-PRED  
 ‘It is lucky that the rain stopped.’
- (30) a. *Nani-yori(-mo) tennis-wa tanoshii.*  
 What-than-MO tennis-TOP fun  
 ‘The proposition that tennis is fun is more noteworthy than any other proposition.’

<sup>9</sup> See Jackendoff (1972) for a discussion of the paraphrasability of sentential adverbs in English.



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- b. *Tennisu-ga tanoshii-no-wa nani-yori-da.* (\**nani-yori-mo-da*)  
 Tennis-NOM fun-NM-TOP what-than-PRED  
 ‘I am very glad that you think that tennis is interesting.’

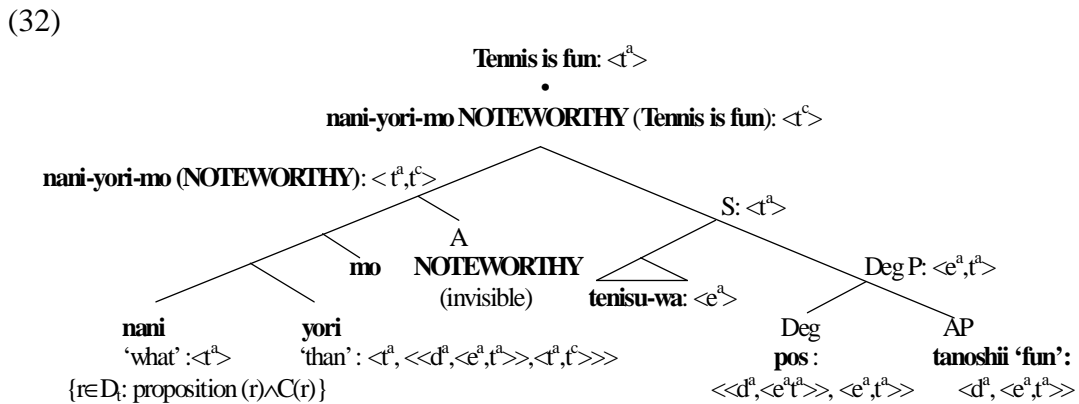
(29a) and (29b) are semantically similar (at least, near-synonymous).<sup>10</sup> However, (30a) and (30b) are not in a paraphrase relationship. Although *nani-yori* in (30b) behaves like an adjectival predicate, it means ‘very happy/glad’ and does not correspond to the meaning of the noteworthy *nani-yori-mo*. Furthermore, there is a difference between (30a) and (30b) in terms of *perspective*. In (30a) the person who thinks that ‘tennis is fun’ is the speaker, while in (30b) the person who thinks that tennis is fun is the addressee, which makes the speaker feel happy.

### 4.3 Alternative View: Multidimensional and Compositional

In the previous section, we argued that the noteworthy *nani-yori-mo* is a lexicalized utterance modifier. However, the noteworthy *nani-yori-mo* seems not to be an idiom like *kick the bucket*. Intuitively, we can consider the meanings of *nani* and *yori* separately. Thus it may be too early to give up on the possibility of that the noteworthy *nani-yori-mo* has the property of compositionality. Let us consider an alternative approach wherein the noteworthy *nani-yori-mo* induces a conventional implicature, but the meaning of the whole expression is calculated in a compositional way.<sup>11</sup> In this approach there is another lexical item for *yori* that induces a CI meaning of comparison:

$$(31) \quad \llbracket \text{yori}_{CI} : \langle t^a, \langle \langle d^a, \langle e^a, t^a \rangle \rangle, \langle t^a, t^c \rangle \rangle \rangle \rrbracket = \lambda q \lambda g \langle \langle d^a, \langle e^a, t^a \rangle \rangle \lambda p. \max(g)(p) > \max(g)(q)$$

This approach also assumes that there is an ‘invisible’ gradable predicate like NOTEWORTHY/IMPORTANT. According to this approach, (24) has the following LF:



At the end of the day, this gives us the same result as the ‘utterance modifier’ approach. The advantage of the alternative approach is that it can capture the meaning of the

<sup>10</sup> Bonami and Godard (2008) discuss the semantic difference between a sentence with an evaluative adverb and a sentence with an adjective.

<sup>11</sup> There is also an alternative view: a uni-dimensional approach (Sawada in press).

noteworthy *nani-yori-mo* in a fully compositional way, but it has the disadvantage that it cannot explain why *mo* is optional in the noteworthy *nani-yori-mo* but not in the individual *nani-yori-mo*. I would argue that the structure shown in (32) has been lexicalized into that shown in (27) through reanalysis (e.g. Brinton and Traugott 2005).

#### 4.4 Does the Noteworthy *Nani-yori-mo* Operate on Speech Acts?

So far we have only focused on cases in which the noteworthy *nani-yori-mo* is used in declarative sentences. However, the noteworthy *nani-yori-mo* can occur along with other sentence types (Sadock and Zwicky 1985):<sup>12</sup>

- (33) a. *Nani-yori-mo Tokyo-wa anzen-da.* (Declarative)  
 What-than-MO Tokyo-TOP safe-PRED  
 At issue: Tokyo is safe.  
 CI: The assertion that ‘Tokyo is safe’ is more noteworthy than any other assertion.
- b. *Nani-yori-mo naze anata-wa Chicago-ni ki-ta-no?* (Interrogative)  
 What-than-MO why you-TOP Chicago-TO come-PAST-Q  
 At issue: Why did you come to Chicago?  
 CI: The question ‘why did you come to Chicago?’ is more noteworthy than any other question.
- c. *Nani-yori-mo jugyoo-ni ki-nasai!* (Imperatives)  
 What-than-MO class-to come-IMPERATIVE  
 At issue: Come to the class!  
 CI: The command ‘come to the class!’ is more noteworthy (significant) than any other command.

(33b) compares the question ‘why did you come to Chicago’ with other contextually determined questions. (33c) compares the command ‘come to the class!’ with other contextually determined commands (e.g. study hard!).

Thus it may be possible to consider that the noteworthy *nani-yori-mo* operates on speech acts, introducing a set of alternative speech acts. If that is so, how can we explain the characteristic of ‘speech act comparison’? Although there are various approaches for the representation of clause type systems, here I follow Stenius (1967) and Krifka (2001), according to whom an illocutionary operator combines with a sentence radical meaning (typically, a proposition) to form a speech act.<sup>13</sup> This approach assumes a general type-formation as follows (See also Tomioka in press):

- (34) a. Basic types: *e* entities, *t* truth values, *p* (=st) propositions, *a* speech acts.

<sup>12</sup> These facts also support the idea that the noteworthy *nani-yori-mo* is an utterance modifier/pragmatic adverb. Unlike other types of adverbs, pragmatic adverbs can occur in performative sentences (Bellert 1977:349).

<sup>13</sup> There are various approaches to the representation of clause type systems (Portner 2005). For example, Portner (2005) argues that sentential force *per se* is not formally represented in the syntax. See also Potts’ (2005) analysis of utterance modifiers (e.g. *frankly speaking*).

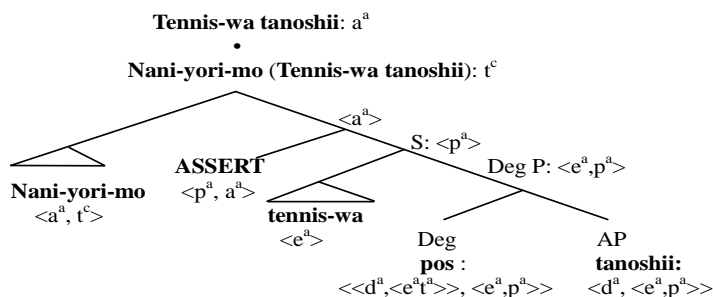
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- b. A Speech Act operator is a function of the type of sentence radical it selects to type  $a$ .
- c. The variables for the type  $a = \{U, U', U'', \dots\}$

If we accept the above approach, we can posit the following lexical entry for the noteworthy *nani-yori-mo* ((36) represents the semantics/pragmatics of sentence (24)):

$$(35) \quad \llbracket \text{nani-yori(-mo)}_{\text{NW}} \rrbracket : \langle a^a, t^c \rangle = \{ \lambda U. \forall U' [U' \in \{D_a: \text{Speech act}(U') \wedge C(U')\}] \rightarrow \max(\lambda d. \text{noteworthy}(U) \geq d) > \max(\lambda d. \text{noteworthy}(U') \geq d) \}$$

(36)



Note that in (35) the illocutionary force is unspecified. One might think that the denotation in (35) wrongly predicts that it is possible to compare different kinds of speech acts in terms of noteworthiness (e.g. question vs. assertion). However, such a situation would seem to be rare, because the illocutionary force of the main clause and the set of alternatives must be relevant to a ‘discourse topic.’<sup>14</sup>

## 5. Metalinguistic Comparison with Indeterminateness

Before closing the paper, I would like to briefly point out that the noteworthy *nani-yori-mo* is different from metalinguistic comparison with indeterminateness:<sup>15</sup>

- (37) It is quite big itself, though, more tall than anything.  
([www.avforums.com/forums/archive/index.php/t-32348.html](http://www.avforums.com/forums/archive/index.php/t-32348.html))  
(cf. It is taller than anything.)
- (38) He is more of a politician than anything.  
(<http://www.city-data.com/forum/milwaukee/334047-milwaukee-fire-department-2.html>)

These sentences are interpreted as metalinguistic comparatives. (37) says that the adjective *tall* is the most appropriate/precise property for describing the size of the subject and (38) says that *a politician* is the most appropriate/precise property for

<sup>14</sup> However, this analysis may need to be reconsidered. Intuitively, the speaker in (33) is comparing the ‘content’ of the speech act expressed with alternative contents of a given speech act, rather than comparing the act itself (e.g. assertion) with alternative speech acts. I thank Chris Kennedy and Chris Potts for their valuable comments and discussions.

<sup>15</sup> Thanks to Tommy Grano for pointing out this fact to me.

describing the character of the person denoted by the subject.<sup>16</sup> *Anything* in (37) and (38) seems to be introducing a set of alternative properties.

## 6. Conclusions

This paper has investigated the semantics/pragmatics of the types of comparison with indeterminateness and has considered their dimensionality and compositionality in meaning. In terms of dimensionality, I argued that the meaning of the individual *nani-yori-mo* (or individual comparison using other kinds of indeterminate pronouns) contributes to the truth conditional aspect of meaning, while the meaning of the noteworthy *nani-yori-mo* is a conventional implicature (Grice 1975; Potts 2005). In terms of compositionality, I argued that the individual *nani-yori-mo* is interpreted fully compositionally, while the noteworthy *nani-yori-mo* seems not to be interpreted fully compositionally. I proposed that the noteworthy *nani-yori-mo* has been lexicalized/reanalyzed into an ‘utterance modifier.’ This naturally explains why it can occur along with various clause types.

This paper showed that the meaning of comparison can be calculated in the domain of conventional implicature (CI) as well as in the domain of ‘at issue’ semantics, and that there is another class of comparison: discourse-oriented comparisons. It is significant that degree morphology, which is used for truth conditional scalar meaning, is often used for non-truth conditional scalar meaning as well. We can find many degree expressions other than the noteworthy *nani-yori-mo* that seem to have non-truth conditional scalar meaning.<sup>17</sup> It may be possible to analyze this fact by positing that there is a natural extension from a ‘semantic scale’ (truth conditional scale) to a ‘pragmatic scale’ (non-truth conditional scale) but not vice versa.

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<sup>16</sup> For a discussion of the semantics of metalinguistic comparison, see, e.g., Giannakidou and Stavrou (2009), Morzycki (in press), and Giannakidou and Yoon (2008).

<sup>17</sup> For example, Geurts and Nouwen (2007) analyze the meaning of the sentence with *at least* (=ia) as (ib):

(i) a. Fred had at least three beers.

b.  $\exists x[3(x) \wedge \text{beer}(x) \wedge \text{have}(f,x)] \wedge \diamond \exists x[\#x > 3 \wedge \text{beer}(x) \wedge \text{have}(f,x)]$  (# = cardinality)

Geurts and Nouwen (2007:554) treat the secondary component in (ib) as a conventionalized conversational implicature: a pragmatic inference that has become part of the lexical content of *at least*. I thank Chris Kennedy for bringing their work to my attention.

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