

# Indirectly Determined Comparison and Difference:

## The Case of Japanese

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### Abstract

When making comparisons, Japanese allows somewhat sloppy comparisons. In Japanese, ‘Taro’s grade is better than Hanako’ means Taro’s grade is better than Hanako’s grade. Also, when referring to a difference, ‘Taro’s opinion is different from Hanako’ in Japanese means Taro’s opinion is different from Hanako’s opinion. Such collocations are widely observed in the language. This paper argues that comparison constructions and ‘different’ constructions are calculated in context-dependent manners in Japanese. In doing so, I will apply Hohaus’s (2015) framework of the ‘indirect strategy’ of degree comparison to phrasal comparatives and ‘different’ constructions in Japanese.

### 1 Introduction

This paper is concerned with the phrasal *yorimo*-comparatives and ‘different’ constructions in Japanese such as the following. Intuitively, (1) compares Taro’s grade and Hanako’s grade, and (2) means Taro’s opinion is different from Hanako’s opinion. However, what appears on the surface in both cases is only *Hanako*.<sup>1</sup> ‘Hanako’s

grade’ or ‘Hanako’s opinion’ never directly appears.

*Yorimo-comparative in Japanese*<sup>2</sup>

- (1) Taro-no seiseki-wa Hanako-yorimo  
Taro-Gen grade-Top Hanako-YORIMO  
ii.<sup>3</sup>  
good.Nonpast  
Lit. ‘Taro’s grade is better than Hanako.’  
‘Taro’s grade is better than Hanako’s grade.’

*‘Different’ in Japanese*<sup>4</sup>

- (2) Taro-no iken-wa Hanako-to  
Taro-Gen opinion-Top Hanako-with  
tigau.  
different.Nonpast  
Lit. ‘Taro’s opinion is different from Hanako.’  
‘Taro’s opinion is different from Hanako’s  
opinion.’

These examples are somewhat unexpected, as their English equivalents never mean what the Japanese sentences mean.

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<sup>1</sup> I will use the following abbreviations in this paper.

Gen = genitive case marker; Top = topic marker; Acc = accusative case marker; Nonpast = nonpast tense; RC = relative clause; Lit = literal translation

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<sup>2</sup> *Yorimo* adopted in this paper is interchangeable with *yori*. Both are normally translated as ‘than’. Nevertheless, there are some exceptions where only *yori* is allowed. See Sawada (2013) for details.

<sup>3</sup> *Yorimo* is normally glossed ‘than’. However, I will simply gloss it as ‘YORIMO’ throughout the paper. Later in Section 3 I will argue that it is an equivalent of *compared to* in English.

<sup>4</sup> *Tigau* ‘different’ in Japanese is a verb.

- (3) #John's grade is better than Mary.  
 (4) #John's opinion is different from Mary.

One may assume syntactic deletions of '-s grade' or '-s opinion' in the Japanese examples.

- (5) Taro-no seiseki-wa Hanako-~~no seiseki~~-  
 Taro-Gen grade-Top Hanako-~~Gen grade~~-  
 yorimo ii.  
 YORIMO good.Nonpast  
 'Taro's grade is better than Hanako's ~~grade~~.'
- (6) Taro-no iken-wa Hanako-~~no iken~~-  
 Taro-Gen opinion-Top Hanako-~~Gen opinion~~-  
 to tigau.  
 with different.Nonpast  
 'Taro's opinion is different from Hanako's ~~opinion~~.'

However, these are unlikely options. In (7), *no ronbun* '-s paper' is deleted in the second sentence, and it is ungrammatical for the intended interpretation, in sharp contrast to the commonly observed NP deletions exemplified in (8).

#### Deletion of '-s paper'

- (7) Taro-wa Jiro-no ronbun-o yonda.  
 Taro-Top Jiro-Gen paper-Acc read  
 \*Hanako-wa Maki-~~no ronbun~~-o yonda.  
 Hanako-Top Maki-~~Gen paper~~-Acc read  
 'Taro read Jiro's paper. Hanako read Maki's ~~paper~~.'

#### NP deletion

- (8) Taro-wa Jiro-no ronbun-o yonda.  
 Taro-Top Jiro-Gen paper-Acc read  
 Hanako-wa Maki-no ~~ronbun~~-o yonda.  
 Hanako-Top Maki-Gen ~~paper~~-Acc read  
 'Taro read Jiro's paper. Hanako read Maki's ~~paper~~.'

Therefore, (1) and (2) should not be analyzed as the deletion of '-s grade' or '-s opinion'.

How then do the Japanese examples mean what they mean? In this paper, I will argue that the somewhat sloppy *yorimo*-comparative and the 'different' construction in Japanese given in (1) and (2) are made possible in a context-dependent manner. I will adopt Hohaus's (2015) framework of the indirect strategy of degree comparison.

Unlike standard compositional comparison, the value of the standard is determined less compositionally and in a more context-dependent manner in the indirect strategy. It roughly means as follows. In the case of (1), for instance, *Hanako yorimo* 'Hanako YORIMO' adds information to the presupposition of the sentence instead of directly being part of the assertion. The interpretation of 'Hanako's grade' is indirectly provided from the utterance context, which is enriched by *Hanako yorimo* 'Hanako YORIMO'.

I will further argue that practically the same mechanism takes place for the 'different' construction given in (2). In other words, (2) employs a non-degree version of the indirect strategy. Thus, *Hanako to* 'with Hanako' in (2) simply adds information to the presupposition of the sentence, and the interpretation of 'Hanako's opinion' is indirectly provided from the utterance context enriched by *Hanako to* 'with Hanako'.

The organization of this paper is as follows. Section 2 reviews basic analyses of comparatives and 'different' constructions as well as Hohaus's (2015) framework of the indirect strategy of degree comparison. Section 3 provides an analysis of *yorimo*-comparatives and 'different' constructions in Japanese under the indirect strategy. Section 4 has concluding remarks and a list of related topics for further research.

## 2 Previous studies

### 2.1 Phrasal comparatives and 'different' constructions

Comparatives have always been at the center of research on degree constructions. Furthermore, Heim (1985) notes that there are more basic types of comparison than degree comparisons, where "the issue is simply they (items in comparisons) are the same or different." (Heim 1985, p. 21) In other words, 'different' constructions are also regarded as a type of comparative construction, and this notion has been widely shared (Carlson 1987, Moltmann 1992, Beck 2000, among others).

In what follows, I will briefly review the semantics of phrasal comparatives as well as the semantics of 'different' constructions in English.

Given in (9) is a prototypical example of phrasal comparative in English. For the purposes of discussion, let us call the mechanism employed in (9) 'standard comparison'. One of the most

commonly assumed comparative operators for phrasal comparatives is presented in (10). The LF structure of (9) is given in (11), where the subject and the comparative operator undergo movement. This creates a degree predicate that is shared by *John* and *Mary*. The semantics of the sentence are as shown in (12). Note that *than* is considered semantically null.

#### Standard comparison

(9) John is taller than Mary.

(10)  $\llbracket -er \rrbracket (x, y)(D_{\langle d, \langle e, t \rangle \rangle}) = 1$  iff  
 $\exists d[D(d)(x) \wedge d > \text{MAX}(\lambda d'. D(d')(y))]$

(11)  $[\text{John}]_{[\text{DegP} -er \text{ than Mary}]}[2[1[ t_1 \text{ is } t_2\text{-tall}]]]$

(12)  $\llbracket (9) \rrbracket = 1$  iff  $\text{MAX}(\lambda d.\text{tall}(d)(\text{John})) >$   
 $\text{MAX}(\lambda d.\text{tall}(d)(\text{Mary}))$

As for the semantics of ‘different’ constructions, let us first examine a very simple example in (13). The semantics of *different* is given in (14), ignoring tense, intensionality, etc. Simply put, *different* is a two-place predicate as shown in (15). The semantics of the sentence is given in (16), which means that ‘our last car’ and ‘this car’ are not the same. Note that *from* is considered semantically null.

#### ‘Different’

(13) Our last car was different from this one.  
(Beck 2000)

(14)  $\llbracket \text{different} \rrbracket (a, b) = 1$  iff (i) or (ii):  
(i)  $a \neq b$   
(ii)  $a$  and  $b$  belong to kinds  $a'$  and  $b'$ , and  
 $a' \neq b'$  (Beck 2000)

(15)  $\llbracket \text{different} \rrbracket = \lambda y \lambda x [\text{Different}(x, y)]$

(16)  $\text{Different}(\text{our\_last\_car}', \text{this\_one}')$   
(Beck 2000)

Parallelism between the comparative sentence and the ‘different’ construction is obvious. The comparative operator *-er* defines the relationship of two degrees, whereas *different* determines the relationship of two non-degree individuals. The standard markers *than/from* are semantically null, and they simply introduce a standard of

comparison. Most importantly, individual  $x$  and  $y$ , i.e., *John* and *Mary* in our cases, are directly involved in the compositional calculations.

## 2.2 The indirect strategy of degree comparison

Hohaus (2015) proposes a mechanism of degree comparison that is less compositional and more context-dependent than the mechanism of standard comparison. She calls this mechanism ‘the indirect strategy’. In English, an example of comparison made by the indirect strategy is given in (17).

#### Comparison by the indirect strategy

(17) Compared to Mary, John is taller.<sup>5</sup>

This sentence induces intuitively the same meaning as (9). However, its semantics is quite different from (9) and consists of two parts. The main clause *John is taller* provides an assertion, and the adjunct phrase *Compared to Mary* contributes to the presuppositions.

The LF of (17) is given in (18). In the main clause *John is taller*, the standard degree comes from a free variable of degree  $d_7$ , whose value is determined by an assignment function  $g$ .

(18)  $[[\text{FrameP FRAME} [\text{Compared to Mary}]]] [3 [[\text{DegP} -er d_7] [1 [\text{John is } t_1\text{-tall in } s_3]]]]]$

Such comparison with a free variable of degree is quite common. In English, for instance, *John is taller* means that John’s height is compared with a degree that is salient in the utterance context. The comparative morpheme given in (19) makes a comparison with a free variable of degree. Note that  $d_n$  stands for a free variable of degree with an index  $n$ .

(19)  $\llbracket -er \rrbracket^g (d, d_n)(D_{\langle d, t \rangle}) = 1$  iff  $\exists d'[D(d')(x) \wedge d' > d_n]$

<sup>5</sup> It should be noted that the adjective of the sentences is in the comparative form *taller*. When a positive form is used as in (i), it has a ‘vague’ semantics that is very different from the semantics of (17). (17) is a case of ‘explicit comparison’, whereas (i) is a case of ‘implicit comparison’. See Sawada (2009) for the analysis of (i).  
(i) Compared to Mary, John is tall.

The unique proposal of the indirect strategy by Hohaus concerns the semantics of FrameP in (18). First, *Compared to Mary* introduces a comparison with Mary regarding some kind of measurement  $\mu$ . This is shown in (20). Then *Compared to Mary* is an argument of FRAME, a phonologically null operator defined as in (21). Hohaus assumes that FRAME introduces a presupposition that a proposition  $p$  holds in a minimal situation. As a result, FrameP brings in a presupposition that the relevant comparison introduced by *compared to Mary* takes place in a minimal situation that is small enough for the relevant comparison with Mary but nothing else. In other words, the presupposition introduced by FrameP defines a very narrow situation where the assertion  $q$  holds.

$$(20) \llbracket \text{Compared to Mary} \rrbracket = \lambda s_{\langle s \rangle}. \exists x_{\langle e \rangle}. \\ \exists \mu_{\langle s, \langle e, d \rangle \rangle} [\mu(s)(x) \geq \mu(s)(\text{Mary})]$$

$$(21) \llbracket \text{FRAME} \rrbracket = \lambda p_{\langle s, t \rangle}. \lambda q_{\langle s, t \rangle}. \lambda s: \text{MIN}(p)(s). q(s)$$

$$(22) \llbracket \text{FrameP} \rrbracket = \lambda q_{\langle s, t \rangle}. \lambda s: s \in \text{MIN}(\lambda s^*. \\ \exists x_{\langle e \rangle}. \exists \mu_{\langle s, \langle e, d \rangle \rangle} [\mu(s^*)(x) \geq \mu(s^*)(\text{Mary})]). q(s)$$

The truth conditions of (17) are given in (23). They are defined if a relevant comparison involves Mary in a minimal situation  $s$ . When defined, the sentence is true iff John's height is greater than a contextually provided degree in  $s$ . This assertion needs to satisfy the presupposition. Thus, the value of the free variable of degree  $g(7)$  is naturally understood as the height of Mary.

$$(23) \lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}. \exists \mu_{\langle s, \langle e, d \rangle \rangle} [\mu(s^*)(x) \geq \\ \mu(s^*)(\text{Mary})]). \text{MAX}(\lambda d. \text{John is } d\text{-tall in } s) > g(7)$$

The secret of flexible semantics of (23) lies in the assignment function  $g$ .  $g(7)$  denotes a degree of height, and it takes Mary as its argument, as is required by the presupposition. The formation of  $g$  is not subject to syntactic constraint.

$$(24) g(7) = [\lambda x. \max(\lambda d. \text{tall}(d)(x)) \text{ in } s](\text{Mary}) \\ = \max(\lambda d. \text{tall}(d)(\text{Mary})) \text{ in } s$$

In summary, the semantics of (17) is achieved by a combination of complicated presuppositions and

an assertion that involves a free variable of degree. Importantly, the semantics of *John is taller* and *Compared to Mary* are not directly combined via compositional calculation. They are rather indirectly combined via the utterance context.

What is the motivation for Hohaus (2015) to propose the indirect strategy? One of the motivations comes from the fact that some comparative constructions such as *compared to*-constructions induce meanings that are not syntactically possible under standard comparison.

Let us see an example. Intuitively, (25) is a comparison between a paper written by John and another paper written by Bill, and the former is longer than the latter. This interpretation is not available in the phrasal *more-than* comparative given in (26). In order to derive the intended reading, *Bill* would need to be an argument of a predicate of 'wrote\_a\_paper\_that\_was\_d-long'. This requires the comparative morpheme *-er* to move out of the relative clause, which is syntactically ruled out. When *-er* moves within the relative clause island without violating island constraints, it only derives an odd comparison between the length of a paper and Bill himself. In fact, that is the only reading available for (26).

(25) Compared to Bill, John wrote a paper [<sub>RC</sub> that was longer  $d_5$ ].

(26) #John wrote a paper [<sub>RC</sub> that was longer than Bill].

(Beck et al. 2012)

On the other hand, comparison by the indirect strategy in (25) does not involve such syntactic constraints. The comparative morpheme *-er* moves within the relative clause, and it takes a free degree variable, say  $d_5$ , as its argument. The free degree variable  $d_5$  is understood as the length of the paper that Bill wrote thanks to the presupposition enriched by *compared to Bill*. In other words, the assignment function has the meaning described in (27), and it takes Bill as required by the presupposition. The meaning of  $g$  is contextually determined, and it is free from syntactic constraints.

$$(27) g(5) = [\lambda x. \max(\exists y. \text{paper}(y) \wedge \text{wrote}(y)(x) \wedge \\ \text{long}(d)(y))](\text{Bill}) \\ = \max(\lambda d. \exists y. \text{paper}(y) \wedge \text{wrote}(y)(\text{Bill}) \\ \wedge \text{long}(d)(y))$$

In summary, the comparison by the indirect strategy given in (17) achieves an interpretation that is intuitively very similar in meaning to that of the standard comparison in (9). However, its mechanism is quite different from standard comparison. Comparisons using the indirect strategy have more context-dependent semantics, and they sometime achieve interpretations that are not possible under standard comparison.

### 3 Japanese data

In this section I will apply Hohaus's (2015) indirect strategy of degree comparison to the phrasal *yorimo* comparative that we saw in (1). Its unexpected reading is accounted for under the indirect strategy. I will further argue that practically the same analysis applies to the 'different' construction in (2).

#### 3.1 Context-dependent comparison

Let us first consider the case of the phrasal *yorimo*-comparative sentence in (1), repeated as (28) below. Note that following Bhatt and Takahashi (2011), Kubota (2011), Matsui and Kubota (2012), and others, I assume that phrasal *yorimo*-comparatives are underlyingly phrasal. In other words, they are not derived from underlying clausal comparatives.

*Yorimo*-comparative in Japanese

- (28) Taro-no seiseki-wa Hanako-yorimo  
 Taro-Gen grade-Top Hanako-YORIMO  
 ii.  
 good.Nonpast  
 Lit. 'Taro's grade is better than Hanako.'  
 'Taro's grade is better than Hanako's grade.'

In (28), what precedes *yorimo* is just *Hanako*. Nevertheless, the sentence produces an interpretation of a comparison between Taro's grade and Hanako's grade.

The following contrast observed in English supports our assumption of (28) as a comparison by the indirect strategy. (29) is an instance of standard comparison, and it is ungrammatical for the intended comparison. However, a comparison with the indirect strategy given in (30) intuitively means a comparison between Taro's grade and Hanako's grade. Therefore, the Japanese sentence

(28) should be an equivalent of (30) rather than that of (29).

(29) \*Taro's grade is better than Hanako.  
 (Intended: Taro's grade is better than Hanako's grade.)

(30) Compared to Hanako, Taro's grade is better.

Let us see how Hohaus's framework captures the Japanese data. Given in (31) is the LF of (28). *Hanako yorimo* is part of FrameP. *Hanako yorimo* is an equivalent of *compared to Hanako*, and its semantics is given in (32). It means that Hanako is involved in a degree comparison relation with another individual  $x$ . The FRAME operator is repeated in (33) from (21). As a result, FrameP introduces a presupposition that a relevant degree comparison in the context is made with Hanako in a minimal situation.

(31)  $[[[_{\text{FrameP}} \text{FRAME} [\text{Hanako-yorimo}]]] [3 [[_{\text{DegP}} \emptyset_{\text{-er}} d_0] [1 [\text{Taro-no seiseki-wa } t_1\text{-ii } s_3]]]]]$

(32)  $[[\text{Hanako-yorimo}]] = \lambda s_{\langle s \rangle}. \exists x_{\langle e \rangle}. \exists \mu_{\langle s, \langle e, d \rangle \rangle} [\mu(s)(x) \geq \mu(s)(\text{Hanako})]$

(33)  $[[\text{FRAME}]] = \lambda p_{\langle s, t \rangle}. \lambda q_{\langle s, t \rangle}. \lambda s: \text{MIN}(p)(s). q(s)$

(34)  $[[\text{FrameP}]] = \lambda q_{\langle s, t \rangle}. \lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}. \exists \mu_{\langle s, \langle e, d \rangle \rangle} [\mu(s^*)(x) \geq \mu(s^*)(\text{Hanako})]). q(s)$

As for the main clause, I assume that Japanese has a phonologically null comparative operator  $\emptyset_{\text{-er}}$  as defined in (35), whose semantics is the same as that of the comparative operator for phrasal comparatives in English that we adopted in (19).

(35)  $[[\emptyset_{\text{-er}}]]^{\text{e}}(d, d_n)(D_{\langle d, t \rangle}) = 1 \text{ iff } \exists d [D(x)(d) \wedge d > d_n]$

The truth conditions of (28) are given in (36). They are defined if a relevant degree comparison involves Hanako in a minimal situation. When defined, the sentence is true iff the degree of Taro's grade is better than a contextually provided degree in a minimal situation.

(36)  $\lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}. \exists \mu_{\langle s, \langle e, d \rangle \rangle} [\mu(s^*)(x) \geq$

$\mu(s^*)(\text{Hanako})$ ).  $\text{MAX}(\lambda d. \text{Taro's grade is } d\text{-good in } s) > g(9)$

The secret of (36) in deriving a comparison with Hanako's grade lies in the flexibility of the assignment function  $g$ . It takes Hanako as required by the presupposition and derives the degree of the grade that Hanako possesses.

(37)  $g(9) = [\lambda x. \text{max}(\lambda d. \exists y_{\langle e \rangle}. \text{grade}(y) \wedge \text{good}(d)(y) \wedge \text{possess}(y)(x))](\text{Hanako})$   
 $= \text{max}(\lambda d. \exists y_{\langle e \rangle}. \text{grade}(y) \wedge \text{good}(d)(y) \wedge \text{posses}(y)(\text{Hanako}))$

In this subsection, we have seen that somewhat puzzling data of Japanese comparatives can be captured by the indirect strategy of degree comparison.<sup>6</sup> As the indirect strategy is more context-dependent than the standard strategy of comparison, it sometimes derives interpretations that are not possible for standard comparison.

### 3.2 Context-dependent 'different'

In this subsection, I will apply the indirect strategy of degree comparatives to 'different' constructions in Japanese. Applying Hohaus's (2015) indirect strategy to 'different' construction is a novel approach. Nevertheless, it should be a natural consequence if 'different' constructions are a type of comparative constructions, as previous studies have argued.

Let us first recall the relevant example in (2), repeated as (38) below.

(38) Taro-no iken-wa Hanako-to  
 Taro-Gen opinion-Top Hanako-with  
 tigau.  
 different.Nonpast  
 Lit. 'Taro's opinion is different from Hanako.'  
 'Taro's opinion is different from Hanako's opinion.'

When (38) is analyzed in a standard manner, it produces an incorrect result. Assuming that the

<sup>6</sup> In this paper I only discuss phrasal *yorimo*-comparatives by the indirect strategy. However, I discussed in Oda (2020a) that phrasal *yorimo*-comparatives are ambiguous. Some *yorimo*-comparatives are made by the indirect strategy and others are standard comparison. Whether or not similar ambiguity exists in 'different' construction in Japanese is left for further research.

semantics of *tigau* 'different' is the same as that of *different* as given in (39) and (40), the resulting semantics will be (41). This is incorrect, as it directly compares Taro's opinion and Hanako herself.

(39)  $\llbracket \text{tigau} \rrbracket (a, b) = 1$  iff (i) or (ii):

- (i)  $a \neq b$
- (ii)  $a$  and  $b$  belong to kinds  $a'$  and  $b'$ , and  $a' \neq b'$

(40)  $\llbracket \text{tigau} \rrbracket = \lambda y \lambda x [\text{Different}(x, y)]$

(41)  $\text{Different}(\text{Taro's\_opinion}, \text{Hanako})$

Put differently, the semantics given in (41) is for a sentence such as (42) in English. This is not what (38) means. Instead, the interpretation of (38) can be paraphrased in English with *compared to* as shown in (43). Note that (43) may not be the most natural sentence in English, but it somehow carries an interpretation that Taro's opinion and Hanako's opinion are different.

(42) #Taro's opinion is different from Hanako.

(43) Compared to Hanako, Taro's opinion is different.

What we need is a non-degree version of the indirect strategy. I assume the LF structure in (44) for (38). *Hanako to* 'with Hanako' is part of FrameP. This is a crucial assumption in capturing (38). Another crucial assumption is that the assertion part has the free variable of individual  $e_4$ .

(44)  $\llbracket [\text{FrameP FRAME [Hanako-to]}] \rrbracket 3$   
 $\llbracket [\text{Taro-no iken-wa } e_4 \text{ tigau } s_3] \rrbracket$

It is quite normal for 'different' constructions to have such free variables. (45) is minimally different from (38) in that it does not have *Hanako to* 'with Hanako'. A compared item is given in the context, and *tigau* 'different' takes a free variable  $e_4$ , indicated in (45) for convenience. The same phenomenon is observed in an equivalent example in English in (46). In both cases, there is already a salient opinion in the utterance context that is different from Taro's. The exact value of  $e_4$  is determined by an assignment function  $g$  for the utterance context.

(45) Taro-no iken-wa tigau  $e_4$ .  
 Taro-Gen opinion-Top different.  
 ‘Taro’s opinion is different.’

(46) Taro’s opinion is different  $e_4$ .

Now let us see how the semantics of (38) is calculated. The semantics of FrameP is composed as follows. *Hanako to* ‘with Hanako’ means that Hanako is in a relation of  $r$  along with another individual  $x$ . FRAME operator is the same as adopted from Hohaus in (21). As a result, FrameP brings a presupposition that Hanako and another individual  $x$  are in a certain relationship  $r$  in a minimal situation.  $r$  could be any two-place relation such as same-relation, different-relation, or something else. In any case, the assertion  $q$  needs to satisfy the presupposition.

(47)  $\llbracket \text{Hanako to} \rrbracket = \lambda s_{\langle s \rangle}. \exists x_{\langle e \rangle}. \exists r_{\langle s, \langle e, \langle e, t \rangle \rangle}$   
 $\llbracket r(s)(x)(\text{Hanako}) \rrbracket$

(48)  $\llbracket \text{FRAME} \rrbracket = \lambda p_{\langle s, t \rangle}. \lambda q_{\langle s, t \rangle}. \lambda s: \text{MIN}(p)(s). q(s)$

(49)  $\llbracket \text{FrameP} \rrbracket = \lambda q_{\langle s, t \rangle}. \lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}. \exists r_{\langle s, \langle e, \langle e, t \rangle \rangle}$   
 $\llbracket r(s)(x)(\text{Hanako}) \rrbracket). q(s)$

The assertion part is composed in the normal manner. One of the arguments of *tigau* ‘different’ is a free variable  $e_4$ .

(50) Different(Taro’s\_opinion,  $g(4)$ )

The truth conditions of (38) are given in (51). They are defined if an individual  $x$  and Hanako are in a certain relation in a minimal situation. When defined, the sentence is true iff Taro’s opinion and a contextually given item are not the same. The item in comparison is understood as Hanako’s opinion due to the presupposition enriched by *Hanako to* ‘with Hanako’.

(51)  $\lambda s: s \in \text{MIN}(\lambda s^*. \exists x_{\langle e \rangle}. \exists r_{\langle s, \langle e, \langle e, t \rangle \rangle}$   
 $\llbracket r(s)(x)(\text{Hanako}) \rrbracket). \text{Different}(\text{Taro’s\_opinion},$   
 $g(4)) \text{ in } s$

The secret of (51) in deriving an intuitive comparison with Hanako’s opinion lies in the assignment function  $g$ , which takes *Hanako* as its argument because of the requirement by the

presupposition. This can be described as in (52) below. The maximality operator brings the effect of a definite determiner. Intuitively speaking, the value of  $g(4)$  is ‘the opinion of Hanako.’

(52)  $g(4) = [\lambda x. \text{MAX}(\lambda y_{\langle e \rangle}. \text{opinion}(y) \wedge$   
 $\text{possess}(y)(x))](\text{Hanako})$   
 $= \text{MAX}(\lambda y_{\langle e \rangle}. \text{opinion}(y) \wedge$   
 $\text{possess}(y)(\text{Hanako}))$

The summary of this section is as follows. Somewhat unexpected interpretations of phrasal *yorimo*-comparatives and ‘different’ constructions in Japanese are captured by Hohaus’s (2015) framework of the indirect strategy of degree comparison. ‘Different’ constructions are treated as a non-degree version of comparison. To my knowledge, this is the first attempt to apply Hohaus’s indirect strategy to non-degree constructions.

## 4 Conclusion

In this paper I pointed out that phrasal *yorimo*-comparatives and ‘different’-constructions present data that are normally not possible for the corresponding phrasal comparatives or ‘different’ constructions in English. Standard analyses of comparatives and ‘different’ constructions fail to capture these data. I argue that the Japanese examples are made possible by a mechanism that is different from what is normally assumed. I adopted Hohaus’s (2015) framework of indirect strategy, where comparisons are made in a more context-dependent manner via value assignment of free variables.

This paper makes the following theoretical contributions. First, it provides cross-linguistic support for the parallelism between degree comparatives and ‘different’ constructions. Second, it provides cross-linguistic as well as cross-structural support for Hohaus’s (2015) indirect strategy. In particular, this paper marks the first attempt to apply such a context-dependent mechanism to ‘different’ constructions in any language.

This paper provides many interesting topics for further research. I would like to point out four of them. First, the analysis made in this paper is very likely to apply to ‘same’ constructions.

‘Same’ constructions in Japanese allow somewhat ‘sloppy’ sentences that are quite similar to (2).

‘Same’ in Japanese

- (53) Taro-no iken-wa Hanako-to  
Taro-Gen opinion-Top Hanako-with  
onaji-da.  
same-Copula.Nonpast  
Lit. ‘Taro’s opinion is the same as Hanako.’  
‘Taro’s opinion is the same as Hanako’s  
opinion.’

Second, the analysis of phrasal comparatives presented in this paper can be applied to phrasal comparatives in other languages. Oda (2020b) points out that some *bi*-comparatives in Mandarin Chinese are better captured by the indirect strategy than the standard manner of comparison. Phrasal *pota*-comparatives Korean are another candidate, as Park (2016) and An (2020) present data very similar to (1) in Japanese.

Third, the conclusion of this paper raises an interesting issue regarding the semantics of comparatives in Japanese. Clausal *yorimo*-comparatives exhibit certain unique behaviors that are not observed in clausal comparatives in English and other languages. Beck et al. (2004) proposed a very context-dependent semantics to capture them. However, many researchers have argued against such a context-dependent analysis (Shimoyama 2012, Sudo 2015, among others). It should be kept in mind that clausal comparatives and phrasal comparatives can be quite different within a language. Nevertheless, a context-dependent mechanism may be worth considering again for clausal *yorimo*-comparatives if the analysis of this paper of phrasal *yorimo*-comparatives turns out to be on the right track.

Finally, the semantics-based analysis provided in this paper may need to be compared with a syntax-based analysis. I denied a syntactic analysis by providing the ungrammatical example with the deletion of ‘-’s paper’ in (7). If we pursued such deletion in *yorimo*-comparatives, we would need to assume that *yorimo*-comparatives exceptionally allow deletions that are normally banned in Japanese. Such assumption may not be promising, but it could still be defensible. In fact, this is the direction that Park (2018) and An (2019) pursue regarding phrasal *pota*-comparatives in Korean. A comparison between semantics vs. syntactic

analysis could be an interesting topic for further research.

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