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## The Comparative Morpheme in Modern Japanese

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### 0. Introduction

Japanese differs from languages like English in that it (usually) has no overt comparative morphology like the English *-er/more*, as shown in (1):

- (1) a. Tokyo-wa Sapporo-**yor**i (-mo) atatakai.  
Tokyo-TOP Sapporo-than-MO warm  
'It is warmer in Tokyo than in Sapporo.'  
b. Taro-wa Hanako-ga kaita (-no)-**yor**i (-mo) nagai ronbun-o kaita.  
Taro-TOP Hanako-NOM wrote-NM-than-MO long paper-ACC wrote  
'Taro wrote a longer paper than Hanako wrote.' (NM=Nominalizer)

*Yori* in (1) is a marker of standard. Structurally, (1a) is 'phrasal' and (1b) is 'clausal.' However, in Modern Japanese *yor*i is used in limited environments as the equivalent of the English comparative morpheme *more*, as shown in (2):

- (2) a. **Yori** ooku-no nihon-jin-ga Denver-**yor**i(-mo) New York  
More many-GEN Japan-people-NOM Denver-than-MO New York  
-ni sun-deiru.  
-LOC live-STATIVE  
'More Japanese people are living in New York than in Denver.'  
b. Taro-wa **yor**i anzenna tokoro-ni hikkoshi-ta.  
Taro-TOP more safe place-to move-PAST  
'Taro moved to a safer place.'

Although many studies have focused on the syntax and semantics of Japanese comparatives like that in (1) (e.g. Kikuchi 1987, Ishii 1991, Ueyama 2004, Beck

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et al. 2004, Hayashishita in press, Kennedy 2007, in press, Bhatt and Takahashi 2008), to the best of my knowledge, little attention has been paid to cases like (2). This may be because the comparative morpheme *yor* only occurs in special environments. The purpose of this paper is to investigate the syntax and semantics of the comparative morpheme *yor* in Modern Japanese from synchronic and diachronic perspectives and try to capture the asymmetrical relationship between (1) and (2) in a unified way. More specifically, we will consider the following questions: (i) In what environment does the comparative morpheme *yor* arise? (ii) Why is the comparative morpheme *yor* necessary in this environment, and what role does it play in the grammar of comparison? (iii) How did the standard marker *yor* ‘than’ develop into the comparative morpheme *yor* ‘more’?

As to question (i), I argue that the comparative morpheme *yor* is used only if a given sentence cannot otherwise express comparison. I will verify this generalization using two corpuses: Google Japanese and the Asahi newspaper database. As to question (ii), I argue that the comparative morpheme **selects** (Kennedy 2007) a comparative phrase/clause (elided or not) and makes it scope over a gradable predicate at the LF so that the sentence can be interpreted as a ‘native’ Japanese comparative. Regarding question (iii), I argue that both language contact and reanalysis are relevant to the development of the comparative morpheme *yor*.

This paper shows that the directionality of the development from the marker of standard *yor* to the comparative morpheme *yor* can support Kennedy’s (2007) idea that the marker of standard, rather than comparative morphology, expresses the meaning of comparison (i.e. ‘greater than’).

### 1. The Comparative Morpheme *Yor* vs. the Marker of Standard *Yor*

*Yor* in (1) is a marker of standard whereas the underlined *yor* in (2) is a comparative morpheme. In terms of syntactic category, *yor* in (1) is a postposition whereas the underlined *yor* in (2) is an adverb. Three pieces of empirical evidence support the idea that they are categorically different. The first piece of evidence is concerned with deletion. We cannot analyze the underlined *yor* in (2) as a postposition whose complement is elided, because although Japanese allows the use of a ‘null pronoun’, the postposition/case marker must be dropped along with the NP. Thus, if the postposition *-ni* is not deleted along with its complement, the sentence becomes ungrammatical:

- (3) Taro-mo [<sub>PP</sub>            (\*-ni)] i-tta.  
 Taro-also            -to    go-PAST  
 ‘Taro also went to a contextually given place.’

If the underlined *yor* in (2) is a postposition, the sentences are predicted to be ungrammatical but they are natural. This suggests that the underlined *yor* is not a postposition. The second piece of evidence is the fact that the particle *mo* can attach to the standard marker *yor*, but not to the comparative morpheme (Martin 1975). Therefore, the following sentence is ungrammatical:

*The Comparative Morpheme in Modern Japanese*

- (4) \*Taro-wa **yorimo** anzenna tokoro-ni hikkoshi-ta.  
Taro-TOP more-MO safe place-to move-PAST  
'Intended. Taro moved to a safer place.'

Third, the comparative morpheme *yorimo* and the marker of standard *yorimo* are phonologically different. Although the marker of standard *yorimo* does not have an accent, in the case of the comparative morpheme *yorimo*, *yo* is stressed (Martin 1975).

As Martin (1975), Hida (2002) and many Japanese dictionaries point out, Modern Japanese developed a new comparative morpheme usage of *yorimo*, meaning 'more', under the influence of translations from European languages. However, this does not mean that the comparative morpheme can be freely used in Japanese comparatives. The examples in (1) do not use the comparative morpheme, but the examples in (2) do. Why is the comparative morpheme *yorimo* used in some instances but not in others?

## 2. Generalization on the Use of the Comparative Morpheme *Yorimo*

I would like to propose the following (descriptive) generalization:

- (5) **Generalization on the use of the comparative morpheme *yorimo***: Insert the comparative morpheme *yorimo* only if a given sentence cannot otherwise express comparison.

Let us apply this descriptive generalization to (1) and (2). Contrary to the examples in (1), the following sentences sound odd because we can express comparison without the comparative morpheme *yorimo*:

- (6) a. ?? Tokyo-wa Sapporo-yorimo(-mo) **yorimo** atatakai.  
Tokyo-TOP Sapporo-than-MO more warm  
'It is warmer in Tokyo than in Sapporo.'  
b. ?? Taro-wa [Hanako-ga kaita (-no)]-yorimo(-mo) **yorimo** nagai  
Taro-TOP Hanako-NOM wrote -NM]-than-MO more long  
ronbun-o kaita.  
paper-ACC wrote  
'Taro wrote a longer paper than Hanako wrote.'

On the other hand, the comparative morpheme *yorimo* is obligatory in (2). If we delete it from (2a), the resulting sentence must be interpreted as a sentence with the expression 'rather than', as shown in (7):<sup>1</sup>

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<sup>1</sup> See Giannakidou and Stavrou (in press) for a discussion of 'rather than'.

- (7) Ooku- no nihon-jin-ga Denver-**yor**i New York-ni  
 many-GEN Japan-people-NOM Denver-rather than New York-LOC  
 sun-deiru.  
 Live-STATE  
 ‘Many Japanese people are living in New York **rather than** in Denver.’

In (7) the target and the standard are both expressed inside the domain of the predicate, and in this environment we cannot express comparison without the comparative morpheme *yor*.<sup>2</sup>

Furthermore, if we delete the comparative morpheme in (2b), the resulting sentence must be interpreted as a simple sentence with a bare adjective:

- (8) Taro-wa anzenna tokoro-ni hikkoshi-ta.  
 Taro-TOP safe place-to move-PAST  
 ‘Taro moved to a safe place.’

The fact that the comparative morpheme *yor* cannot appear in a differential comparative sentence also supports the generalization in (5):

- (9) Kono sao-wa (\*yor) 10 senchi nagai.  
 This rod-TOP more 10 cm long  
 ‘This rod is 10cm longer.’ (\*This rod is 10 cm long.)

As Snyder et al. (1995) and Schwarzschild (2005) point out, Japanese does not allow measure phrases to combine directly with an adjective. Therefore, (9) without *yor* can only mean ‘This rod is 10cm longer.’ We do not need the comparative morpheme *yor* since the sentence can express comparison without it.

### 3. Corpus study

In this section, we will test whether the proposed generalization on the comparative morpheme *yor* is valid by using two online corpuses: Google Japanese and the *Asahi* newspaper database *Kikuzoo*. I made the following minimal pairs:

- (10) a. x-wa y-[yor-mo ADJ]  
           x-TOP y- than-MO ADJ  
       b. x-wa y-[yor-mo **yor** ADJ]  
           x-TOP y- than-MO more ADJ

<sup>2</sup> Note that in (7), ‘*Denver yori New York-ni*’ forms a ‘fixed constituent.’ If we change the word order, the sentence sounds odd:

(i) ?? [Denver-yori] ooku- no nihon-jin-ga [New York-ni] sun-deiru.  
 Denver-rather than many-Gen Japan-people-NOM New York-LOC live-STATE

The standard marker *yor* (=1) does not have this syntactic property. For example, in (1a) ‘*Sapporo-yori*’ can move to the sentence-initial position. Therefore, it is safe to assume that the standard marker *yor* and the ‘rather than’ *yor* (=7) are lexically different.

*The Comparative Morpheme in Modern Japanese*

According to my generalization, (10b) should be bad because it can express comparison without using the comparative morpheme, although this is not true of (10a). I searched for the strings [*yorimo* ADJ] and [*yorimo yori* ADJ] in the corpora. The particle *mo* is attached so that the first *yorimo* must be interpreted as a marker of standard.<sup>3</sup> Table (11) shows the frequency of the minimal pair:

(11) Frequency of *yorimo* (Surveyed online, May 11, 2008)

	Asahi Newspaper	Google Japanese
1a. __ yorimo tanoshii than-MO fun	131 hits (100 %)	55,600 hits (99.4 %)
1b. __ yorimo yori tanoshii than-MO more fun	0 hit (0 %)	343 hits (0.6 %)
2a. __ yorimo atatakai than-MO warm	21 hits (100 %)	27,100 hits (99.97 %)
2b. __ yorimo yori atatakai than-MO more warm	0 hits (0 %)	7 hits (0.03 %)
3a. __ yorimo samui than-MO cold	20 hits (100 %)	33,900 hits (99.991 %)
3b. __ yorimo yori samui than-MO more cold	0 hits (0 %)	3 hits (0.009 %)
4a. __ yorimo chiisai than-MO small	164 hits (100 %)	591,000 hits (99.53 %)
4b. __ yorimo yori chiisai than-MO more small	0 hits (0 %)	2,800 hits (0.47 %)
5a. __ yorimo kawai-teiru than-MO dry-STATE	0 hits	647 hits (100 %)
5b. __ yorimo yori kawa-iteiru than-MO more dry-STATE	0 hits	0 hits (0 %)
6a. __ yorimo hirai-teiru than-MO open-STATE	0 hits	6,060 hits (99.97 %)
6b. __ yorimo yori hirai-teiru than-MO more open-STATE	0 hits	2 hits (0.03 %)

We can observe the following points. First, examples of type (b) are far less common than those of type (a). Second, the proportion of examples of type (b) is close to zero. The judgment between (a) and (b) is (almost) categorical.<sup>4</sup> We can observe this tendency more clearly in the Asahi newspaper than in Google Japanese. The above results show that the generalization in (5) is empirically correct.

#### 4. The Job of the Comparative Morpheme in Modern Japanese

<sup>3</sup> I used brackets for the Google Japanese so as to get examples in which the string forms a phrase. If the brackets are omitted, we find many cases in which each lexical element appears separately in non-adjacent positions. I also chose the option ‘search Japanese websites.’

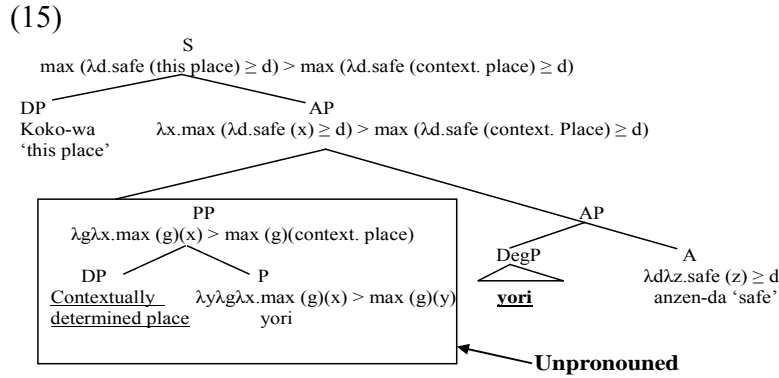
<sup>4</sup> It may be possible to argue that some people treat the comparative morpheme *yorimo* as an ‘intensifier’ like *motto*:

(i) Taro-wa Hanako-yorimo motto kasikoi.  
    Taro-TOP Hanako-than-MO MOTTO intelligent  
    ‘Taro is even more intelligent than Hanako.’

(i) implies that both Taro and Hanako are intelligent (e.g. Okumura 1995, Beck et al. 2004).



*The Comparative Morpheme in Modern Japanese*



The square box shows the elided part. The comparative morpheme *yori* signals that there is a hidden comparative phrase that scopes over the gradable predicate.

**4.2.2. Case 2: Use of Two Yoris**

(16a) can be paraphrased by (16b), which is a native Japanese comparison:

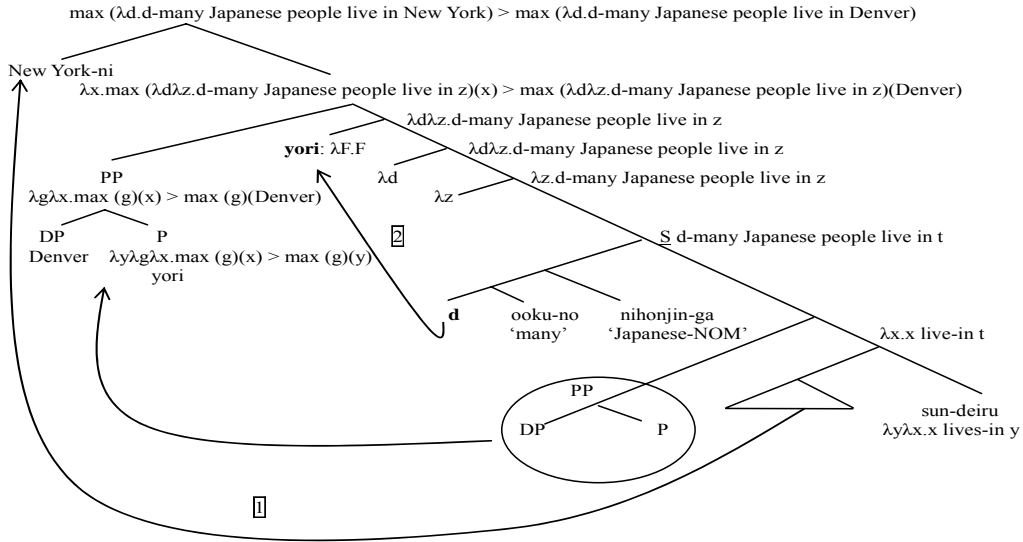
- (16) a. **Yori** ooku-no nihon-jin-ga Denver-**yori**-(mo) New York  
 More many-GEN Japan-people-NOM Denver -than-MO New York  
 -ni sun-deiru.  
 -LOC live-STATIVE  
 'More Japanese people are living in New York than in Denver.'
- b. New York-ni -wa Denve-**yori**-(mo) ooku-no nihon-jin  
 New York-LOC -TOP Denver-than-MO many-GEN Japan-people  
 -ga sun-deiru.  
 -NOM live-STATIVE  
 'More Japanese people are living in New York than in Denver.'

In (16a) there is a comparative morpheme, but in (16b), there is no comparative morpheme. In (16a) the target of comparison and the standard of comparison are both inside the predicate.<sup>6</sup> I assume here that the second *yori* in (16a) is a marker of standard.<sup>7</sup> Kennedy (2007) argues that English sentences like '*more people live in New York than Chicago*' have a complicated LF, which involves a 'parasitic scope' (Heim 1985, Barker in press, Bhatt and Takahashi 2007). As we can see from the following figure, we must assume that such a complicated LF exists in example (16a):

<sup>6</sup> Note that the standard of comparison can also be clausal (Sawada 2008):  
 (i) Taro-wa [Ofisu-ni iru toki]-yori [ie-ni iru toki] **yori** takusan ocha-o nomu.  
 Taro-TOP Office-LOC be when-when home-LOC be when more many tea-ACC drink  
 'As for Taro, he drinks more tea when he is at home than when he is at the office.'

<sup>7</sup> There is also a possibility that the second *yori* in (16a) is the 'rather than' *yori* (Sawada 2008). Recall that if we delete the first *yori* in (16a), the second *yori* is interpreted as 'rather than.'

(17)



There are several steps involved in the above LF. First, *New York-ni* is raised to scope over the entire sentence. Second, the comparative morpheme *yori* is raised for interpretability to a position above ‘ $\lambda z$ ’ and binds a degree variable in its base position. Note that the comparative morpheme *yori* is semantically vacuous. Since the operation of the second movement depends on the first movement, we can say that the scope relation is ‘parasitic.’ Finally, the comparative morpheme *yori* selects the comparative phrase *Denver-yori* ‘than Denver’ and makes it scope over the gradable predicate (*yori ooku-no Nihon jin ga sundeiru*). At the end of the day, the logical structure of (16a) is like that of ‘native Japanese’ comparatives (i.e. (16b)), where no comparative morpheme *yori* is used. We can summarize Section 4 as follows:

- (18) The comparative morpheme *selects* (Kennedy 2007) a comparative phrase/clause (elided or not) and makes it scope over a gradable predicate at the LF so that the sentence can be interpreted as a native Japanese comparative.<sup>8</sup>

## 5. Historical Syntax of *Yori*

<sup>8</sup> As Kennedy (in press, 2007) argues, example (i) involves ‘parasitic scope’ configuration:

- (i) Taro-wa Hanako-yori nagai kasa-o katta.  
 Taro-TOP Hanako-than long umbrella-ACC bought  
 ‘Taro bought a longer umbrella than Hanako (bought).’

The reason why (i) does not need the comparative morpheme *yori* is because its surface structure is that of a native Japanese comparative. This suggests that a parasitic scope configuration can be posited even if there is no comparative morpheme *yori*. (i) must posit a parasitic scope configuration in order to avoid an unnatural interpretation in which *Hanako yori nagai kasa* forms a constituent (Kennedy in press).



### 5.1. Language Contact

Hida (2002) points out that *yor*i was used to translate the comparative form of Dutch adjectives in the grammar book *Oranda gohoo kai* (1805), the first Dutch grammar in Japanese. It must be the case that before the emergence of the comparative morpheme *yor*i, Japanese grammar could not generate a comparative sentence where both the target and the standard are inside the domain of the predicate, nor could it produce a comparative sentence whose comparative clause is elided.

According to Heath (1978:115), “only those morphemes have actually been diffused which contribute something to the borrowing language which was previously lacking... morphemic borrowing is viewed in its therapeutic aspects. Borrowings are interpreted as devices to fill functional gaps.” Although the notion of filling structural gaps is controversial and not all scholars support it (e.g. Brody 1987), this approach fits the emergence of the Japanese comparative morpheme. However, even if we accept the gap-filling view, we still cannot explain why Japanese decided to recycle the existing word *yor*i for a comparative morpheme.

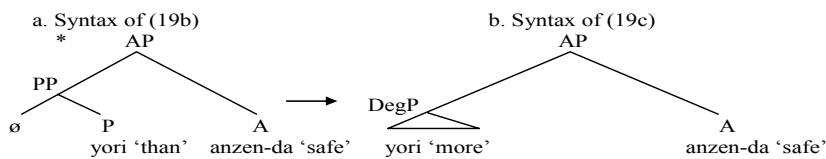
### 5.2. Change of bracketing through ‘reanalysis’

The following stages explain the development of the comparative morpheme *yor*i:

- (19) (a) NP-wa [NP-yor*i*]<sub>PP</sub> ADJ (b)\* NP-wa [ \_-yor*i* ]<sub>PP</sub> ADJ → (c) NP-wa [yor*i* ADJ]<sub>AP/DegP</sub>  
 NP-TOP NP-than ADJ NP-TOP \_-than ADJ NP-TOP more ADJ

In (19a) the standard marker *yor*i combines with its complement. However, if the complement of *yor*i is unpronounced, the sentence becomes ungrammatical, as in (19b). Therefore, we can say that the facts that (19b) is ungrammatical, and that unlike in English, the comparative clause/phrase in Japanese precedes a gradable predicate, both contributed to the development of the comparative morpheme *yor*i. The following figure shows the reanalysis from (19b) to (19c):

- (20) Reanalysis from the marker of standard to the degree modifier



However, there is a question as to whether the analysis in (19) can be regarded as a ‘real’ reanalysis. Many researchers argue that reanalysis depends upon surface ambiguity or the possibility of more than one analysis (Langacker 1977, Harris and Campbell 1995). Although it is clear that (20) involves a change of (i) constituency, (ii) hierarchical structure and (iii) category labels, this is not an ‘independent’ process, because the fundamental motivation for the reanalysis is the necessity of translation, not a structural ambiguity. According to Harris and Campbell (1995), there are three mechanisms of syntactic change *reanalysis*, *extension*, and *borrowing*. I would like to suggest that both reanalysis and borrowing were

involved in the development of the comparative morpheme *yor*i and neither was sufficient on its own.

### 5.3. Comparison with Pipil

Campbell (1987) argues that the Pipil comparative construction was borrowed directly from the Spanish ‘*más... que*’:<sup>9</sup>

- (21) ne siwa:-t **mas** galána **ke** taha. (Pipil)  
the woman more pretty than you  
‘That woman is prettier than you are.’ (cf. esa mujer es **más** linda **que** tú)

Pipil had several different comparative expressions before its contact with Spanish, but these have been eliminated and replaced by this borrowed comparative construction (Cambell 1987, Harris and Campbell 1995).

Modern Japanese comparatives differ from Pipil comparatives in the following ways. First, while Japanese recycled an existing lexical item *yor*i for the new grammatical morpheme, Pipil directly borrowed the comparative morpheme *más* as well as the marker of standard *que* from Spanish. This means that in Japanese both language-internal factors and language-external factors are involved, whereas in Pipil, only language-external factors are involved. Second, while the comparative morpheme *yor*i appears only in limited environments, the use of the borrowed construction is obligatory for Pipil comparatives. These differences suggest that the Japanese language is conservative in that it tries to maintain a ‘native’ grammar as much as possible.

## 6. Conclusion

This paper investigated the syntax and semantics of the comparative morpheme *yor*i in Modern Japanese from synchronic and diachronic perspectives. I proposed that the comparative morpheme *yor*i is used only when a given sentence cannot otherwise express comparison. I argued that the comparative morpheme *selects* (Kennedy 2007) a comparative phrase/clause (elided or not) and makes it scope over a gradable predicate at the LF so that the sentence can be interpreted as a native Japanese comparative. As for the development of the comparative morpheme *yor*i, I argued that both borrowing and reanalysis played an important role.

What will this paper contribute to the semantic theory of comparatives in general? Researchers have argued that the ‘greater than’ meaning is expressed by comparative morphology (e.g. von Stechow 1984) or that the comparative morpheme *-er* forms a semantic constituent with the *than* clause at the level of semantic structure (e.g. Cresswell 1976, Heim 1985). These views lead us to consider that there is a null comparative morpheme in (1) (e.g. Beck et al. 2004).

Kennedy (2007), on the other hand, argues that markers of standard, not comparative morphemes have the meaning of comparison (i.e. ‘greater than’). This

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<sup>9</sup> Pipil is an indigenous language spoken in El Salvador.

### *The Comparative Morpheme in Modern Japanese*

paper suggests that Kennedy's approach is more plausible for the following reasons. First, Kennedy's idea fits naturally with the 'directionality' of the syntactic change, from the marker of standard *yorī* to the comparative morpheme *yorī*. Semantically, we can say that this is a process of semantic bleaching. The marker of standard *yorī*, which has a semantic content of 'greater than', developed the comparative morpheme whose meaning is null. Second, Kennedy's idea allows us to avoid a situation in which Modern Japanese has two comparative morphemes: the null comparative morpheme MORE and the comparative morpheme *yorī*. If, on the other hand, we take the view that the null comparative morpheme MORE can contribute to the semantics of comparison in Japanese, we must stipulate a division of labor between the comparative morpheme *yorī* and the null morpheme MORE, which is not natural typologically. Typologically, it seems that lexical diversity is observed in the position of the marker of standard, rather than the comparative morpheme (e.g. Greek *apo* and *apoti*; Merchant 2006)). I hope this paper will shed new light on the interface between formal semantic theory and historical linguistics.

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Osamu Sawada

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