

## Exclamations and their discourse effects in Japanese

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**Abstract.** This paper discusses two kinds of sentences with *nante* that can express exclamations in Japanese. I show that these two *nante* exclamations show the contrast observed between sentence exclamations and *wh*-exclamatives in English (Rett 2011). Based on the data, I propose that *nante* in the two types of sentences can be analyzed in a unified way: *nante* is like *what* in English in that it can range over a variety of categories. The semantic composition shows that the two *nante* sentences have different sentence types and hence different discourse effects (Farkas & Roelofsen 2017). One type is a marked assertion, and the other is a bonafide exclamative. I show the contrast using the discourse model in Farkas & Bruce (2010): The exclamative updates the speaker's commitment, not the potential future common ground.

**Keywords.** exclamatives; discourse effects; Japanese

**1. Introduction.** Natural languages provide us with multiple ways to achieve the same goal: To ask whether it is raining, for example, one can use a polar question ('*Is it raining?*'), a tag question ('*It's raining, isn't it?*'), or a high negation polar question ('*Isn't it raining?*'). The goal of these questions is the same, but the speaker can convey accompanying contextual information (e.g., whether they think it is likely to be raining) by using different kinds of questions strategically.

However, this is not a unique feature of the interrogatives. English has various ways of conveying the speaker's surprise, as does Japanese. This paper investigates the discourse effects of two kinds of exclamations in Japanese that share the same expression *nante*. While they both convey the speaker's surprise, they are based on different speaker's expectations and behave differently toward challenge by the addressee using *no*. To explain these differences, this paper argues that one is a bonafide exclamative, while the other is a special assertion. The rest of the paper is structured as follows: In Section 2, exclamations with *nante* are shown and compared with English exclamatives and sentence exclamations. Section 3 provides an analysis of the two *nante* exclamations from the semantic and pragmatic perspectives. Section 4 presents the conclusions and outlines possible future directions.

**2. Data.** This paper focuses on two types of sentences in (1) that can express the speaker's surprise. These sentences share the same expression, *nante*, even though it appears in different places in a sentence.<sup>1</sup> In one type, *nante* appears at the very end of the sentence, as in (1a), while in the other *nante* precedes adjectives, nouns, or adverbs, as in (1b). In each case, the

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<sup>1</sup> This paper proposes the unified analysis of *nante* in the two types of exclamations in (1a). However, the two *nante* have different etymology. The one in (1a) was originally the combination of *nado* 'things like' and *to*, which is a quotation marker. The other comes from a *wh*-word *nantoiu* 'how'. Despite the differences in etymology, they seem to share a basic semantic aspect. How they have been reduced to the function of conveying surprise is another question to be pursued in future research.

speaker's surprise is conveyed by uttering the sentence.<sup>2</sup>

- (1) a. Taro-ga oisii dezaato-o tukuru **nante!**  
T-NOM delicious dessert-ACC make NANTE  
'Wow, Taro makes delicious desserts!'
- b. Taro-wa **nante** oisii dezaato-o tukuru no-daroo!  
T-TOP NANTE delicious dessert-ACC make FOC-MOOD  
'What delicious desserts Taro makes!'

As the English translation of (1) shows, the differences between the two types of exclamations in Japanese are analogous to those between sentence exclamations and *wh*-exclamatives in English. This paper focuses on two similarities, namely, their scalarity and the behavior to the response particle.

2.1. SCALARITY. Rett (2011) pointed out that sentence exclamations and *wh*-exclamatives in English differ in that the former allows non-scalar expectations while the latter does not, showing the contrast between (2) and (3) below:

- (2) **Sentence Exclamation:** Non-scalar  
A: (Wow,) John bakes delicious desserts! (Expectation: John doesn't bake.)  
a. ✓A: I would have guessed John to be a terrible pâtissier!  
b. # A: I guessed he'd make delicious desserts, but these are beyond my expectation!
- (3) **Wh-exclamative:** Scalar  
A: (My,) What delicious desserts John bakes!  
(Expectation: John's dessert has some degree of deliciousness)  
a. ✓A: I would have guessed John to be a terrible pâtissier!  
b. ✓A: I guessed he'd make delicious desserts, but these are beyond my expectation!

Looking at the case with a sentence exclamation: (2), the continuation where the speaker explicitly states that they expected that John would bake delicious desserts is infelicitous, which is not the case when a *wh*-exclamative is used. The difference comes from the fact that the sentence exclamation targets a non-scalar component as the speaker's expectation.

Two *nante* exclamations in Japanese show a similar contrast. The following two sentences state a non-scalar expectation and a scalar expectation, respectively.

- (4) a. Taro-wa dezaato-o tukuru-no-wa heta-da to omotteita.  
Taro-TOP dessert-ACC make-NL-TOP poor-COP COMP thought  
'I thought Taro was poor at making desserts.'
- b. Taro-wa oisii dezaato-o tukuru-to omotteita kedo kore-wa kitai  
Taro-TOP delicious dessert-ACC make-COMP thought but this-TOP expectation  
izyoo da  
more than COP  
'I thought Taro would make delicious desserts but this is beyond my expectation.'

After the utterance with the sentence-final *nante* (1a), only (4a) is a possible continuation, while the exclamation with the intra-sentential *nante* (1b) is compatible with both continua-

<sup>2</sup> The following abbreviations are used in the glosses: ACC = accusative, COMP = complementizer, COP = copula, FOC = focus marker, MOOD = mood marker, NL = nominalizer, NOM = nominative, TOP = topic marker

tions in (4). In other words, exclamation with the sentence-final *nante* is non-scalar, whereas that with the intra-sentential *nante* is scalar.

2.2. BEHAVIOR TOWARD RESPONSE PARTICLES. In English, *wh*-exclamatives cannot be challenged by using *no*, as shown in (5b).<sup>3</sup> In contrast, the sentence exclamation can be challenged by *no*, as in (5a).

- (5) a. **Sentence Exclamation:** *No* can be used to challenge the speaker  
 A: (Wow,) John bakes delicious desserts!  
 ✓B: No, these are store-bought.
- b. **Wh-exclamative:** *No* can be used to challenge the speaker  
 A: (Wow,) What delicious desserts John bakes!  
 ??B: No, these are store-bought.

It is possible to observe a similar contrast in Japanese. (6) is a challenge by the addressee accompanying *iya* ‘no’.

- (6) *Iya, sore-wa mise-de katta yatu*  
*no it-COP store-at bought things*  
 ‘No, they are store-bought.’

(6) can follow (1a), which accompanies the sentence-final *nante*. The acceptability declines when (6) follows (1b). As in English, the challenge to a *wh*-exclamative by the addressee is possible without *iya* ‘no’. To the author, to the *wh*-exclamative, (6) without *iya* sounds natural with a little pause or a filler such as *etto* ‘well’, which presumably shows some hesitation and lowers the aggressiveness of the challenging tone.

Summarizing the contrasts we have observed, we can obtain the following results shown in Table 1: Overall, exclamation with the sentence-final *nante* behaves like a sentence excla-

|                                     | Scalarity | Challengeable by <i>no</i> |
|-------------------------------------|-----------|----------------------------|
| (1a): Sentence-final <i>nante</i>   | ✗         | ✓                          |
| (1b): Intra-sentential <i>nante</i> | ✓         | ✗                          |

Table 1. Properties of exclamations in Japanese

mation in English. In contrast, intra-sentential *nante* is similar to *wh*-exclamatives. The next step is to provide an analysis that accounts for the difference summarized in Table 1, keeping in mind that both share the same expression, *nante*.

**3. Analysis.** This section aims to account for the differences between the two kinds of exclamations in Japanese by arguing that they end up with different semantics and pragmatic effects (discourse effects), even though the base of the semantic denotation of *nante* is shared.

3.1. SEMANTICS. The two kinds of exclamations share the expression *nante*. It is possible to provide a unified account of the semantics of *nante* by setting its range underspecified, as in (7). This approach is also adopted by Rett (2011).

<sup>3</sup> As discussed in Chernilovskaya et al. (2012), this does not mean that *wh*-exclamatives cannot be challenged by the addressee at all. The infelicity of *no* can be explained by the assumption that *no* shows the response to what is put on the Table in the discourse model. See the discussion in Section 3.2.

- (7) *The base semantics of nante*  
 $\llbracket \text{nante} \rrbracket \rightsquigarrow \lambda P_{\langle \tau, t \rangle} \lambda x_{\tau}. P(x)$ , where  $\tau$  is any semantic type

The differences between the two *nantes* arise from the different ranges of the function in (7). When it appears intra-sententially, the range is set as degrees. In contrast, the range over which sentence-final *nante* goes is the domain of truth values. The difference is illustrated in (8) below.

- (8) a. *Intrasentential nante*  
 $\llbracket \text{nante} \rrbracket \rightsquigarrow \lambda P_{\langle d, t \rangle} \lambda x_d. P(x)$   
 b. *Sentence final nante*  
 $\llbracket \text{nante} \rrbracket \rightsquigarrow \lambda P_{\langle t, t \rangle} \lambda x_t. P(x)$

These denotations of *nante* are used in computing the semantic denotation of these two exclamations along with other operators.

3.1.1. EXCLAMATIONS WITH THE INTRA-SENTENTIAL *nante*. The syntactic aspects of this exclamation are analyzed in Ono (2006). Following the analysis given there, the semantic analysis given in this section assumes that *nante* covertly moves to Spec CP, leaving a trace of type *d* (degree). Consequently, the semantic computation of (1b) is performed as in (9):

- (9) a. *After covert movement of nante*  
 (1b)  $\rightsquigarrow \llbracket \text{nante} \rrbracket (\lambda d. \exists x. \text{make}'(t, x) \wedge \text{dessert}'(x) \wedge \text{delicious}'(x, d))$   
 b. *After  $\beta$ -reduction*  
 $\rightsquigarrow \lambda d. \exists x. \text{make}'(t, x) \wedge \text{dessert}'(x) \wedge \text{delicious}'(x, d)$

What can be obtained in the last step of (9) is the degree property, not a proposition. Following Rett (2011), I assume that the unsaturated argument in (9b) is filled by the context, which makes the result a proposition that can be an argument of E-FORCE: (10)

- (10) E-FORCE(*p*), uttered by  $s_C$ , is appropriate in a context *C* if *p* is salient and true in  $w_C$ .  
 When appropriate, E-FORCE(*p*) counts as an expression that  $s_C$  had not expected that *p*.  
 [Rett (2011; 429)]

In the end, (1b) is felicitously uttered in a context where there is a degree *d* such that the speaker had not expected that the desserts that Taro made would be *d*-delicious. This is the interpretation to be obtained as the semantics of exclamatives.

Note that the range of *nante* used here is degrees, and accordingly, the final result involves existential quantification over degrees. This reflects the scalarity of this exclamation type, similar to the analysis of *wh*-exclamatives in English.

3.1.2. EXCLAMATIONS WITH THE SENTENCE-FINAL *nante*. In the previous section, the semantic denotation of exclamations with the intra-sentential *nante* is calculated in the same way as that of *wh*-exclamatives in English, with the semantics of *nante* going over the range of degrees and with the help of E-FORCE. The semantics of sentence-final *nante*, however, arises differently from that of sentence exclamations in English. The crucial difference is that no E-FORCE operator is used, and there is a grammaticalized aspect involved.

An examination of *nante* sentences reveals that *nante* that appears at the very end of the utterance is grammaticalized so that it conveys that the truth of the sentence radical is surprising to the speaker. The sentence-final *nante* can be used in the embedded context, as in (11).

In this case, *nante* is of type  $\langle tt, tt \rangle$ , and the first argument it takes is a function of the matrix clause, namely  $\lambda p$ .the speaker cannot believe  $p$ .

- (11) Taro-ga oisii dezaato-o tukurū **nante** sinzirarenai!  
 T-NOM delicious dessert-ACC make NANTE can't believe  
 'I can't believe Taro makes delicious desserts.'

When *nante* is used in this way, the matrix clause does not have to convey the speaker's surprise. In fact, *nante* can be used to convey that the truth of the proposition is made light of or is considered rather trivial, as shown in example (12).

- (12) Taro-ga oisii dezaato-o tukurū **nante** minna sitteiru  
 T-NOM delicious dessert-ACC make NANTE everyone knows  
 'Everyone knows Taro makes delicious desserts.'

It is possible to use other complementizers, such as *to*<sup>4</sup> in place of *nante*. What *nante* contributes in (11) or (12) is to convey the speaker's attitude toward the truth of the proposition to which it is attached, and that does not have to be surprise. Given that, *nante* used to bridge the matrix clause and the complement clause should be treated differently from intra-sentential *nante*.

The *nante* that appears between a complement clause and a matrix clause requires a different treatment, as discussed above. However, sentence-final *nante* deserves a unified treatment with intra-sentential *nante* because the interpretations available with it are limited. For example, when someone utters a sentence with final *nante*, such as (1a), which is repeated here as (13), the only available interpretation is that the speaker is surprised or impressed by the fact that Taro made delicious desserts. In other words, the interpretation of (11) is available, but it is not possible to obtain the interpretation of (12). As shown in (13b), the interpretation may not be directly connected to the speaker's surprise. In this case, the fact that Taro made delicious desserts is contrary to the speaker's expectation, which is why they cannot tolerate the fact. This is more clearly shown by the unavailability of the interpretation in (13d), where the meaning of *natural* contradicts the fact that the speaker is trying to convey that their expectation was disappointed.

- (13) Taro-ga oisii dezaato-o tukurū **nante**!  
 T-NOM delicious dessert-ACC make NANTE  
 a. ✓ 'Wow, Taro makes delicious desserts!'  
 b. ✓ 'I cannot tolerate Taro making such good desserts!'  
 c. ✗ 'Everyone knows Taro makes delicious desserts.'  
 d. ✗ 'It's natural that Taro makes delicious desserts.'

One may analyze (13) as a sentence with elided material. That is, (13) is generated from (11) by deleting the matrix clause, namely *sinzirarenai* 'I cannot believe.' However, if this were the case, the interpretation of (12) would be one of the possible interpretations of (13), which is not the case. From this observation, it is possible to say that *nante* that appears at the very end of the sentence is grammaticalized to convey that the fact upsets the speaker's expect-

<sup>4</sup>In the case of (11), *wa* should be added in addition to *to*. I have no clear idea why this is the case, but it is worth noting that a sentence with *to wa* is understood as an exclamation as well. How a *to wa* exclamation differs from *nante* exclamations and how its semantics/discourse effects can be derived are problems for future research.

tation. This leads to the speaker’s surprise.

This grammaticalized aspect of *nante* can be captured if the underspecified range of *nante* is set as  $t$ . In other words, the sentence-final *nante* has the semantics in (14).

(14) Sentence final *nante*  
 $\llbracket \text{nante} \rrbracket \rightsquigarrow \lambda P_{\langle t,t \rangle} \lambda x_t. P(x)$

The grammaticalized part is the first argument  $\lambda P_{\langle t,t \rangle}$ . It is saturated with a function such as  $\lambda p.\text{surprising}(p)$ . After the first argument is saturated, *nante* takes the sentence radical. The final result is a simple proposition that conveys that  $p$  is different from what the speaker expected. Here, there is no need to use E-FORCE to encode the speaker’s surprise because it is encoded in the grammaticalized meaning of *nante*. Furthermore, unlike the intra-sentential *nante*, no degree property appears in the derivation, which accords with the fact that sentence-final *nante* is not scalar.

3.2. PRAGMATICS. The semantic account in the previous section can at least explain why the exclamation with intra-sentential *nante* is necessarily scalar, while that with sentence-final *nante* is not. The difference is due to their different semantic calculations. However, it is not clear why one is challengable by *no*, and the other is not. This section aims to explain the different behaviors toward polarity particles (e.g., *yes*, *no*) between the two types of *nante* exclamations, claiming that their discourse effects are different: The exclamation with sentence-final *nante* aims to update the common ground, while that with intra-sentential *nante* does not.

3.2.1. BACKGROUND. I use the discourse model of Farkas & Bruce (2010) to show the differences between the two *nante* exclamations. An example output discourse model after an assertion “*Taro made delicious desserts*” by A is given as Table 2.

| A                           | Table  | B |
|-----------------------------|--|---|
| $\text{DC}_A: p$            | $\langle \text{TMDD}; \{p\} \rangle$                 |   |
| <b>Common Ground:</b> $s_1$ | <b>Projected Set:</b> $p_{s_1} = \{s_1 \cup \{p\}\}$ |   |

Table 2. The output after an assertion, *Taro made delicious desserts*

There are four important components in the table.  $\text{DC}_X$  is the discourse commitment of speaker X. In Table 2, it is shown that A commits to the truth of proposition  $p$ , which is *Taro made delicious desserts*. Table is where a speaker puts an issue or the immediate Question under Discussion (QuD) (Roberts 1996, 2012). The pair of the syntactic form (here TMDD) and the semantic denotation is put here. The common ground is to be understood in the sense of Stalnaker (1978), which is the knowledge shared by discourse participants. Finally, the Projected Set shows possible future common ground. For example, in the case illustrated above, upon B’s agreement, the proposition ‘*Taro made delicious desserts*’ is added to the common ground. In other words, the common ground is updated by making the union of the common ground at the utterance ( $s_1$ ) and a set of possible worlds in which  $p$  is true.

3.2.2. DISCOURSE EFFECTS OF EXCLAMATION WITH THE FINAL *nante*. Recall that the semantic denotation of the exclamation with the sentence-final *nante* is a proposition. Given that, I argue that this type of exclamation should be considered an assertion, albeit it is marked. Since it is a marked assertion, the discourse effect of the sentence-final *nante* can be built up

by combining the basic discourse effects of declaratives and the extra effects tied to this specific assertion. In other words, the output table of the sentence-final *nante* exclamation is built upon what we have in Table 2 by adding an extra component. The results are shown in Table 3.

| A                                | Table   | B |
|----------------------------------|---|---|
| DC <sub>A</sub> : surprising'(p) | ⟨TMDD; {p}⟩                                       |   |
| <b>Common Ground:</b> $s_1$      | <b>Projected Set:</b> $ps_1 = \{s_1 \cup \{p\}\}$ |   |

Table 3. The output after the utterance of sentence-final *nante*

In the output discourse in Table 3, the addition is made to the discourse commitment of the speaker. As the special discourse effect of an assertion with *nante*, it is conveyed that the speaker is surprised at *p*. Meanwhile, the sentence radical part is added to the Table because this is an assertion. Consequently, the addressee (B, for example) can agree to it, and A and B can add *p* to the common ground. Alternatively, B can challenge it by saying *no* and deny the fact that the desserts were made by Taro, stating rather that they were store-bought.

This analysis argues that exclamations with sentence-final *nante* are marked assertions and hence have special discourse effects. However, being a “marked” assertion itself is not special in Japanese. Japanese has many discourse particles such as *yo*, *ne*, *no(da)* that are used sentence-finally and provide extra information on context (cf. Northrup (2014) or Hirayama (2019), among others). For instance, *no(da)* signals that there is contextual evidence that suggests that the sentence radical is true. The analysis presented in this paper adds sentence-final and grammaticalized *nante* to the list of elements that can make assertions marked.

3.2.3. DISCOURSE EFFECTS OF EXCLAMATION WITH THE INTRA-SENTENTIAL *nante*. When an exclamation is made with intra-sentential *nante*, I claim that this exclamation is to be considered a bonafide exclamative, not an assertion. In other words, it is a different sentence type.

Sentence types are often distinguished by different syntactic forms in English, while Japanese uses particles or intonation. For instance, the most frequently used strategy to mark interrogatives is rising intonation. Alternatively, the question particle *ka* can be used. However, in the case of exclamatives, it is possible to detect a special syntax reserved for exclamatives (Ono 2006). One notable aspect is the use of the focus marker *no* and the mood marker *daroo*, as shown in (15). Without it, the sentence is ungrammatical.

- (15) Taro-wa **nante** oisii dezaato-o tukuru \*(no-daroo)!  
 T-TOP NANTE delicious dessert-ACC make FOC-MOOD  
 ‘What delicious desserts Taro makes!’

The syntactic property of this exclamation suggests that it has a different syntax from other sentence types, such as declaratives or interrogatives. Given that, it is safe to call this exclamation with a different sentence type a bonafide exclamative that hence has its own discourse effects.

The discourse effects of a bonafide exclamative in Japanese are as follows: It updates the discourse commitment of the speaker. They commit that they are surprised by the fact denoted by the sentence radical. Unlike declaratives, exclamatives do not put anything on the Table.

As a result, the projected set remains the same because nothing is raised as an issue.<sup>5</sup> The discourse effects are shown schematically in Table 4.

| A                               | Table                                | B |
|---------------------------------|--------------------------------------|---|
| DC <sub>A</sub> :surprising'(p) |                                      |   |
| <b>Common Ground:</b> $s_1$     | <b>Projected Set:</b> $ps_1=\{s_1\}$ |   |

Table 4. The output after the utterance of intrasentential *nante*

Polarity particles in languages are different in terms of the features they can represent when answering assertions or questions. While English *no* responses can realize [REVERSE] or [-] features (Roelofsen & Farkas 2015), as shown in (16), Japanese polarity particles are known to be sensitive only to [AGREE/REVERSE] features (Pope 1972; Yabushita 1992), as shown in (17):

(16) *Polarity particles in English*

A: John did not come.

B: No, he DID.

B: No, he did not.

[No realizes REVERSE ]

[No realizes - ]

(17) *Polarity particles in Japanese*

Taro did not come.

a. ✓ Iya, John-wa kimasita.

No, John-TOP came

'No, John did come.'

b. \*Iya, John-wa kimasendesita.

No, John-TOP did not come

'No, John did not come.'

Specifically, what is under discussion in this paper is *no* used to challenge the speaker, which is tied to the [REVERSE] feature, which is the only feature that Japanese *no* realizes. This feature crucially depends on what is on the Table because the feature shows that the answer agrees to or reverses the immediate QuD. When an exclamative is used, there is nothing on the Table, and this is why challenging the exclamation with the intra-sentential *nante* by saying *no* is infelicitous.

In sum, the most crucial difference between the two *nante* sentences is whether to put a proposition on the Table. A bonafide exclamative, in Japanese at least, does not update the future common ground but manifests the speaker's surprise toward the proposition denoted by the sentence radical. On the other hand, when *nante* is used in sentence-final position, it marks a special type of assertion and shares the basic discourse effects that other assertions have. This proposition is treated as an immediate QuD and is accessible by polarity particles. As a result, the addressee can challenge it, if necessary.

**4. Conclusion and future directions.** This paper has shown how two exclamations with *nante* in Japanese can be analyzed in terms of their different discourse effects. Their difference in

<sup>5</sup> It is possible to add the fact that the speaker was surprised to the common ground. However, it is doubtful whether an exclamative does this as its own discourse effects.



scalarity is explained by the different semantic types attached to the two *nantes*, and I argue that one of them is grammaticalized so that it conveys the speaker's surprise. In contrast, the different behavior toward *no* is explained by different discourse effects, as their sentence types are different: One is a marked assertion, and the other is a bonafide exclamation. Unlike an assertion, an exclamation does not put an issue on the Table, which makes responding by saying *no* infelicitous.

This study explored two exclamative expressions involving *nante*, but they are not the only way to express surprise. One interesting example is shown in (18).

- (18) Taro-ga oisii dezaato-o tukureru **to wa!**  
 T-NOM delicious dessert-ACC can make COMP TOP  
 'Taro can make delicious desserts!'

This example is similar to the exclamation with the sentence-final *nante* in terms of the form, scalarity, and behavior toward the polarity particle. One notable feature is that this involves the topic particle *wa* at the end. Should this be treated as an instance of contrastive *wa*? If so, can we derive the discourse effect of (18) compositionally? These are fascinating open problems that need to be addressed.

In the example above, *wa* is used sentence-finally. When it is used somewhere inside the sentence as contrastive *wa*, it also displays interesting behavior with exclamations. It has been pointed out that contrastive *wa* is incompatible with bonafide exclamatives, as shown in (19).

- (19) ??Taro-wa **nante** oisii dezaato-wa tukureru no-daroo!  
 T-TOP NANTE delicious dessert-WA can make FOC-MOOD  
 'What delicious desserts<sub>CT</sub> Taro can make!'

This is mysterious because contrastive *wa* is compatible with various types of speech acts and exclamatives are exceptions for some unknown reasons (Tomioka 2009). However, contrastive *wa* can appear in a sentence-final *nante* exclamation, as shown in (20).

- (20) Taro-ga oisii dezaato-wa tukureru **nante!**  
 T-NOM delicious dessert-WA can make NANTE  
 'Taro can make delicious desserts<sub>CT</sub>!'

This is a welcome result for the analysis proposed in this paper because (20) is treated as an assertion, with which contrastive *wa* is compatible. By adding *wa* to the assertion with *nante*, the speaker can convey implications such that they expected Taro to be a terrible cook of appetizers or main dishes, but he made surprisingly good desserts; in addition, they were surprised at the fact that Taro made delicious desserts. It seems possible to obtain this implication compositionally by combining the discourse effects of *nante* discussed in this paper and those of contrastive *wa* argued in Hirayama (2019), but another study is needed to fully discuss the issues.

Finally, some discourse particles can appear with exclamations. For instance, the particle *ne* can be used with a bonafide exclamation, as in (21).

- (21) Taro-wa **nante** oisii dezaato-o tukureru no-daroo **ne!**  
 T-TOP NANTE delicious dessert-ACC can make FOC-MOOD NE  
 'What delicious desserts Taro can make!'

To the best of my knowledge, the literature on discourse particles has focused on the interaction between these particles and declaratives or interrogatives. Exploring interactions between discourse particles and exclaimatives is also an interesting realm to investigate.

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