Interpretations of Embedded Expressives: A View from the Japanese Comparative Expressive *Motto*

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Abstract. Recent studies of expressives have shown that when expressives like *damn* are embedded in the complement of an attitude predicate, they can be either speaker-oriented or non-speaker-oriented (Amaral et al. 2007; Harris & Potts 2009). Amaral et al. (2007) and Harris and Potts (2009) have suggested that this phenomenon is an instance of indexicality. In this paper, I will investigate the interpretations of embedded expressives on the basis of new data in terms of the Japanese comparative expressive *motto*, and argue that the interpretation of the embedded expressive is not merely a matter of indexicality. More specifically, I argue that (i) there can be a semantic shift from a conventional implicature to a secondary at-issue entailment at a clausal level in a non-speaker-oriented reading, and (ii) in some expressives, like the negative *motto*, a speaker-oriented reading can arise only when there is an appropriate speaker-oriented modal in the main clause.

Keywords: embedded expressives, *motto*, secondary at-issue entailment, projection via a modal support, consistency of a judge

1 Introduction

Potts (2005) has claimed that the meaning of expressives, such as *bastard* in (1), is a conventional implicature (CI) and that it is logically independent of "what is said":

(1) That bastard Kresge is famous.   (Expressive/CI: Kresge is bad, in the speaker's opinion.)

However, recent studies have shown that when expressives are embedded in the complement of an attitude predicate, they can have either a non-speaker-orientation or a speaker-orientation (Amaral et al. 2007; Harris and Potts 2009; Tonhauser et al. 2013). For example, it has been observed that while *bastard* in (2) is speaker-oriented, *friggin'* in (3) is construed as subject-oriented:

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(2)　Sue believes that that bastard Kresge should be fired. (#I think he's a good guy.) (Potts 2007)

(3)　(Context: The speaker likes mowing the lawn.) Monty said to me this very morning that he hates to mow the friggin' lawn. (Amaral et al. 2007)

Amaral et al. (2007) and Harris and Potts (2009) have informally suggested that this phenomenon is an instance of indexicality. For example, Harris and Potts (2009) claimed that expressives (and appositives) are inherently underspecified for their orientation, and that there is a free variable for a judge (j) that is determined by context. Harris and Potts (2009) further claimed on the basis of corpus and experimental evidence that appositives and expressives are generally speaker-oriented, but certain discourse conditions can counteract this tendency (cf. Schlenker (2003, 2007) and Sauerland's (2007) semantic binding approach to a non-speaker-orientation).

In this paper, I will investigate the interpretation of embedded expressives on the basis of new data in terms of the Japanese comparative expressive *motto*, and argue that the interpretation of the embedded expressive is not merely a matter of indexicality. More specifically, as for the subject-orientation, I argue that there can be a semantic shift from a CI to a secondary at-issue entailment at clausal level in a non-speaker-oriented reading. It will be shown that the semantic shift from a CI to a secondary at-issue entailment is a general phenomenon and that it can also be observed in typical expressives.

As for the speaker-oriented reading, I will argue that in some expressives, like the negative *motto*, a speaker-oriented reading can arise only when there is a modal in the main clause. I will argue that there is a specific type, a dependent projective content, which requires consistency between at-issue and CI meanings including a judge. The theoretical implication of this paper is that both semantic and pragmatic mechanisms are involved in the interpretation of embedded expressives.

2　The Expressive Property of the Japanese *Motto*

2.1　The Degree and Negative Uses of *Motto*

Before investigating the interpretation of the expressive *motto* in an embedded context, let us first discuss the meaning and use of the expressive *motto* in a non-embedded context. It has been observed in the literature that the Japanese comparative adverb *motto* has two different uses, namely a degree use and a negative/expressive use (Watanabe 1985; Sano 1998, 2004; Kinoshita 2001), as in (4):

(4)　Kono mise-no　keeki-wa motto　oishi-katta.
　　This　store-GEN cake-TOP MOTTO delicious-PAST

a. **Degree reading**: This store's cake was {even/still far} more delicious than a contextual store's cake.
b. **Negative reading**: This store's cake was delicious. (Implied: It is not delicious now.)

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In the degree reading, the sentence is interpreted as an "elliptical" comparison. It conveys that although the given store's cake and a contextual store's cake were both delicious, the former was far more delicious. Thus, the degree *motto* has a positive meaning.

On the other hand, in the negative reading, *motto* conveys the speaker's complaint about the utterance context, i.e., the store's cake is not delicious now. The phenomenon we are going to focus on is this expressive (or negative) use. Let us consider the difference between the degree *motto* and the negative *motto* more closely.

2.2   The Meaning of the Degree *Motto*

The degree use of *motto* expresses an intensified comparison at the at-issue level and, in addition to this, there is a positive presupposition that the standard of comparison satisfies the standard of an adjective (i.e., y is A). Consider the example in (5) with the explicit standard *yori* PP: [1]

(5)   Hanako-no   keeki-wa Taro-no   keeki-yori(-mo) motto   oishi.
      Hanako-GEN cake-TOP Taro-GEN cake-than-MO   MOTTO delicious

      'Hanako's cake is {still far/even} more delicious than Taro's cake'

We can analyze the meaning of sentence (5) as having two components, namely an at-issue component and a presupposition component, as in (6):

(6)   The meaning of (5)
      a. **At-issue**: Hanako's cake is much more delicious than Taro's cake.
      b. **Presupposition**: Taro's cake is delicious.

We can then formalize the meaning of the degree *motto* as in (7), in which the underlined part represents the presupposition component:

(7) $[[motto_{DEGREE}]] = \lambda g_{\langle d,\langle e,\langle i\langle s,t\rangle\rangle\rangle\rangle}\lambda y\lambda x\lambda t\lambda w : \underline{\exists d[d \geq Stand \wedge g(d)(y)(t)(w)]}.$
      $max\{d|g(d)(x)(t)(w)\} >!!max\{d|g(d)(y)(t)(w)\}$

In the case of an elliptical degree reading, like that in (4b), a standard of comparison (the second argument) is implicit, so we need to posit a slightly different lexical item for the degree *motto*. However, essentially the same semantic mechanism is involved in the case of the elliptical comparative (see Sawada (2014) for a detailed discussion).

2.3   The Negative Use of *Motto* is a CI/Expressive

Let us now consider the meaning of the negative *motto*, which is the main focus of this paper. Sawada (2014) claims that the expressive/negative use of *motto* is an expressive and that it conventionally implies that "the expected degree is much greater than a current degree," as in (8):

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[1] Note that there is no negative reading in (5). If there is an explicit standard of comparison, we cannot get a negative reading (Sawada 2014).

(8) Taro-wa (mukashi-wa) motto majime-da-tta.
Taro-TOP old days-TOP MOTTO serious-PRED-PAST

At-issue: Taro was serious.
Expressive (CI): The degree of seriousness of Taro in the past is much greater than the current degree. (Expected degree = the past degree.) (=> Taro is not serious now (conversational implicature)

Sawada (2014) then claims that the speaker's negative attitude arises from the gap between the expected degree and the current degree (as a conversational implicature).

The comparative meaning triggered by the negative *motto* is a CI because it is independent of "what is said" (Grice 1975; Potts 2005). In (8), the expressive meaning is not within the semantic scope of the past tense. Furthermore, the expressive *motto* can also appear in an imperative, a conditional clause, or a modal sentence, but its expressive meaning cannot be within the semantic scope of these operators. For example, in (9), the negative *motto* is clearly outside the scope of the imperative:

(9) Motto hayaku hashi-re! (imperative)
MOTTO fast run-IMPERATIVE

a. Run even faster! (Degree reading)
b. Run fast! The expected speed of running is much higher than the current speed. (Implied: You are running slowly now.) (Negative reading)

Regarding the compositionality of the negative *motto*, Sawada (2014) claims that the negative *motto* is mixed content (McCready 2010; Gutzmann 2011) in that it has both an at-issue meaning and a CI meaning, as shown in (10)(The left side of ♦ is the at-issue component and the right side of ♦ is the CI component):[2]

(10) $[[motto_{EXPRESSIVE}]] : \langle G^a, \langle e^a, \langle i^a, \langle s^a, t^a \rangle \rangle \rangle \rangle \times \langle G^a, \langle e^a, \langle i^a, \langle s^a, t^s \rangle \rangle \rangle \rangle = \lambda g \lambda x \lambda t \lambda w. \exists d[d \geq STAND \wedge g(d)(x)(t)(w)] \blacklozenge \lambda g \lambda x \lambda t \lambda w. max\{d|g(d)(x)(t)(w)\} > !!max\{d|g(d)(x)(t_0)(w_0)\}$ (where t_0 = current time, w_0 = the actual world)

Roughly speaking, in the at-issue component, *motto* denotes that the degree associated with the gradable predicate is above a certain standard. In the CI component, it conventionally implies that the expected degree is far greater than the current degree.

3 Interpretations of Embedded *Motto*: Some Puzzling Facts

Let us now consider the interpretation of the embedded *motto*. Although previous studies have focused only on non-embedded cases of the negative *motto*, it has several puzzling properties in terms of its interpretation in an embedded environment.

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[2] Superscript *c* is a CI type and superscript *a* is an at-issue type (Potts 2005). Superscript *s* is a type for a CI expression interpreted by a resource sensitive application (McCready 2010).

3.1 Puzzle 1

First, the expressive meaning triggered by *motto* is interpreted as at-issue if it is embedded under an attitude predicate and has a subject orientation as in (11): [3]

(11)   (Negative/expressive reading)
Taro-wa   motto   isshoukenmei benkyoo-si-nakerebanaranai-to omo-tta.
Taro-TOP MOTTO seriously   study-do-must-that   think-PAST
At-issue: Taro thought that he must study hard.
Expressive (subject-oriented): Taro considered that the expected degree of seriousness of his study was much greater than the "current degree in the past."

The expressive meaning in (11) is at-issue because it is within the semantic scope of the past tense; it relates to Taro's past feeling. Notice, however, that the expressive meaning triggered by *motto* is not within the semantic scope of the embedded deontic modal *nakerebanaranai* 'must.' What does this mean?

3.2 Puzzle 2

A second puzzling characteristic of the embedded *motto* is that it can actually have speaker-orientation if a deontic modal occurs in the main clause:

(12)   Taro-wa   motto   isshoukenmei benkyoo-si-nakerebanaranai-to
Taro-TOP MOTTO seriously   study-do-must-that
omou-bekida.
think-should

At-issue: Taro should think that he must study hard.
Expressive 1 (subject-oriented): For all worlds w'' compatible with the rule in w_0 and for all worlds w' compatible with Taro's beliefs in w'', the expected degree of seriousness of Taro's study is much greater than the current degree for Taro in w'.
Expressive 2 (speaker-oriented/CI): The expected degree of seriousness of Taro's study is much greater than the current degree for me.

The above asymmetry between (11) and (12) clearly shows that in the case of the expressive *motto*, the determination of a perspective is not merely a matter of context.

4   The Empirical Difference between Speaker-Oriented and Non-Speaker-Oriented Readings

How can we explain the above facts regarding the subject-oriented and speaker-oriented readings? One might think that the speaker-oriented reading in the embedded *motto*

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[3] Note that there is also a degree reading in (11), i.e. 'Taro thought that he must study even harder (than now).' In the degree reading, there is a 'positive' presupposition that Taro has already studied hard. This clearly contrasts with the negative reading. Because the main focus is on the interpretation of the embedded expressive, we will not discuss the degree reading.

arises purely pragmatically because of the presence of the deontic modal *bekida*, i.e., speaker-orientedness pragmatically arises in addition to subject-orientedness. However, the two tests set out below clearly show that both speaker-oriented and subject-oriented readings exist in the logical structure.

First, if we add the discourse particle *koo* 'like' between the expressive *motto* and an adjective, the sentence only has a speaker-oriented reading, as in (13):

(13)　(The example with the discourse particle *koo* 'like')
　　　Taro-wa　motto　　koo sikkarisita ronbun-o　　kaka-nakerebanaranai-to
　　　Taro-TOP MOTTO like solid　　　paper-ACC　write-must-that
　　　omou-bekida.
　　　think-should
　　　At-issue: Taro should think that he must write a solid paper.
　　　Expressive (speaker-oriented, CI): The expected degree of solidness is much higher than the current degree for me.

In (13), the particle *koo* is used parenthetically to signal that the "speaker" is in the middle of thinking about what an appropriate adjective would be. The function is similar to that of the English *like*.

The second test regarding the distinction between a speaker-oriented and a subject-oriented reading is the insertion of the reflexive *zibun* 'self.' H. Sawada (1993) claims that if a reflexive *zibun* occurs in the embedded clause, the perspective of the embedded clause has to be the antecedent of *zibun* (i.e., the subject of the entire sentence). If we insert the reflexive *zibun* in the embedded clause, only a subject-oriented reading is possible, as in (14):

(14)　(The example with *zibun* 'self')
　　　Taro-wa　motto　　jibun-wa sikkarisita ronbun-o　　kaka-nakerebanaranai-to
　　　Taro-TOP MOTTO self-TOP solid　　　paper-ACC　write-must-that
　　　omou-bekida.
　　　think-should
　　　At-issue: Taro should think that he must write a solid paper. **Expressive (subject-oriented)**: For all worlds w'' compatible with the rule in w_0 and for all words w' compatible with Taro's beliefs in w'', the expected degree of seriousness of Taro's study is much greater than the current degree for Taro in w'.

5　Analyses

5.1　Subject-Oriented Reading of the Negative *Motto*: From a CI to a Secondary Entailment

Let us now try to explain the first puzzle above. In the previous section, we observed that when the negative *motto* is embedded under an attitude predicate, its meaning becomes at-issue, as in (15):

(15)　(The negative *motto* = always subject-oriented)

Taro-wa   motto   isshoukenmei benkyoo-si-nakerebanaranai-to omo-ta.
Taro-TOP MOTTO seriously   study-do-must-that   think-PAST
At-issue: Taro thought that he must study hard.
Expressive (subject-oriented): Taro considered that the expected degree of seriousness of his study was much greater than the "current degree in the past."

The expressive meaning in (15) is at-issue because it is within the semantic scope of the past tense; it relates to Taro's past feeling. Notice, however, that the expressive meaning triggered by *motto* is not within the semantic scope of the embedded deontic modal *nakerebanaranai* 'must.' I propose that a semantic shift exists from a CI to a secondary entailment, as set out in (16):

(16) **Shifting from a CI to a secondary entailment**: A sentence S, which consists of an at-issue meaning of type t^a and a CI meaning of type t^c (or type t^s), can shift into an at-issue product type $\langle t^a \times t^a \rangle$ if and only if, S is embedded under an attitude predicate and the judge of S is the attitude holder of the predicate (where the first t^a is a primary entailment and the second t^a is a secondary entailment.)

The secondary entailment is at-issue but is not a primary at-issue meaning (Potts 2005). The embedded negative *motto* is an expressive and it conveys a subject's attitude, similar to the non-embedded negative *motto*.

The crucial point of this shift is that it applies at the root level of an embedded clause. Before the semantic shift applies at the root of the embedded clause, the expressive behaves as a CI triggering expression and it cannot be scoped over by any logical operators. This idea is supported by the fact that in (6), *motto* is not within the semantic scope of the embedded *nakerebanaranai* 'must.'

Let us now analyze the meaning of the subject-oriented reading of (17), which is ambiguous between the subject-oriented reading and the speaker-oriented reading.

(17) Hanako-wa   kono mise-no   keeki-wa motto   oishi-katta-to
     Hanako-TOP this   store-GEN cake-TOP MOTTO delicious-PAST-that
     omo-bekida.
     think-should

At-issue: Hanako should think that this store's cake was delicious.
Expressive 1 (subject-oriented, secondary at-issue): For all worlds w'' compatible with the rule in w_0 and for all worlds w' compatible with Hanako's beliefs in w'', the expected degree of deliciousness of this store's cake is much higher than the current degree for Hanako in w'.
Expressive 2 (speaker-oriented, CI): The expected degree of deliciousness of this store's cake is much higher than the current degree for me.

Inside the embedded clause, the negative *motto* behaves as a CI. The following figure shows the logical structure of the embedded clause: [4]

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[4] Technically, the meaning of the negative *motto* and at-issue elements are combined via mixed application (McCready 2010; Gutzmann 2011):

(18) The logical structure of the embedded clause

Embedded S:
$\exists d[d \geq STAND \wedge delicious(this\ store's\ cake)(past)(w_0) = d]$
•
$max\{d|delicious(this\ store's\ cake)(past)(w_0) = d\} >!!$
$max\{d|delicious(this\ store's\ cake)(t_0)(w_0) = d\} for\ j$

$\lambda w.\exists d[d \geq STAND \wedge delicious(this\ store's\ cake)(past)(w) = d]$ $\mathbf{w_0}$
$\blacklozenge\lambda w.max\{d|delicious(this\ store's\ cake)(past)(w) = d\} >!!$
$max\{d|delicious(this\ store's\ cake)(t_0)(w_0) = d\} for\ j$

$\lambda t\lambda w.\exists d[d \geq STAND \wedge delicious(this\ store's\ cake)(t)(w) = d]$ $\mathbf{katta}$ 'past'
$\blacklozenge\lambda t\lambda w.w.max\{d|delicious(this\ store's\ cake)(t)(w) = d\} >!!$
$max\{d|delicious(this\ store's\ cake)(t_0)(w_0) = d\} for\ j$

$\mathbf{kono\ mise\text{-}no\ keeki}$ $\lambda x\lambda t\lambda w.\exists d[d \geq STAND \wedge delicious(x)(t)(w) = d]$
'this store's cake' $\blacklozenge\lambda x\lambda t\lambda w.max\{d|delicious(x)(t)(w) = d\} >!!$
$max\{d|delicious(x)(t_0)(w_0) = d\}\ for\ j$

$\mathbf{motto}$ $\mathbf{oishi}$'delicious'
$\lambda g\lambda x\lambda t\lambda w.\exists d[d \geq STAND \wedge g(d)(x)(t)(w)]\blacklozenge$ $\lambda d\lambda x\lambda t\lambda w.delicious(x)(t)(w) = d$
$\lambda g\lambda x\lambda t\lambda w.max\{d|g(d)(x)(t)(w)\} >!!max\{d|g(d)(x)(t_0)(w_0)\}$

After the computation is complete, both the at-issue and CI meanings are gathered via parse tree interpretation, as in (19):

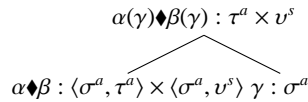(19) Parsetree interpretation (McCready 2010)(cf. Potts 2005)
Let $\mathcal{T}$ be a semantic parsetree with the at-issue term $\alpha : \sigma^a$ on its root node, and distinct terms $\beta_1 : t^{\{c,s\}}, ..., \beta_n : t^{\{c,s\}}$ on nodes in it. Then, the interpretation of $\mathcal{T}$ is the $\langle[[\alpha : sigma^a]], [[\beta_1 : t^{\{c,s\}}]], ..., [[\beta_n : t^{\{c,s\}}]]\rangle$ (Based on McCready 2010: 32)

At this point, the speaker-oriented reading and the subject-oriented reading are the same in terms of meaning, as shown in (20):

(20) The final interpretation of the embedeed clause via parsetree interpretation
$\langle\exists d[d \geq STAND \wedge delicious(this\ store's\ cake)(past)(w_0) = d] : t^a,$
$max\{d|delicious(this\ store's\ cake)(past)(w_0) = d\} >!!max\{d|delicious$
$(this\ store's\ cake)(t_0)(w_0) = d\} for\ j_i : t^s\rangle$

(i) $\alpha(\gamma)\blacklozenge\beta(\gamma) : \tau^a \times \upsilon^s$

$\alpha\blacklozenge\beta : \langle\sigma^a, \tau^a\rangle \times \langle\sigma^a, \upsilon^s\rangle\ \gamma : \sigma^a$

However, after the parse tree interpretation, in the subject-oriented reading, the semantic shift from a CI to a secondary entailment applies, as shown in (21):

(21) After the semantic shift from CI to a secondary entailment
$\langle \exists d[d \geq STAND \wedge delicious(this\ store's\ cake)(past)(w_0) = d],$
$max\{d|delicious(this\ store's\ cake)(past)(w_0) = d\} >!!max\{d|delicious$
$(this\ store's\ cake)(t_0)(w_0) = d\} for\ j_i \rangle : \langle t^a \times t^a \rangle$

This meaning then interacts with the elements in the main clause. The figure in (22) shows the entire logical structure of sentence (17)(=subject-oriented reading):

(22) Interpretation of the entire sentence (subject-oriented reading)
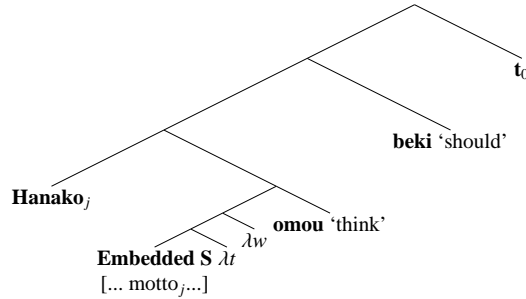
The denotations of *omou* 'think' and *beki* 'should' are shown in (23) and (24):

(23) The denotation of *omou* 'think'
$\lambda p_{<s<i<t\times t>>>}\lambda x\lambda t\lambda w \forall w'\ compatible\ with\ x's\ beliefs\ in\ w : p(w')(t) = 1$

(24) The denotation of *beki* 'should'
$\lambda p_{<s<i<t\times t>>>}\lambda t.\forall w''\ compatible\ with\ the\ rules\ in\ w_0 : p(t)(w'') = 1 for\ j$

If we put everything together, we get the following meaning in (25) as a final meaning:

(25) Final part of derivation (subject-oriented reading)
For all worlds *w''* compatible with the rule in w_0 and for all worlds *w'* compatible with Hanako's beliefs in *w''*:
$\langle \exists d[d \geq STAND \wedge delicious(this\ store's\ cake)(past)(w_0) = d],$
$max\{d|delicious(this\ store's\ cake)(past)(w_0) = d\} >!!max\{d|delicious$
$(this\ store's\ cake)(t_0)(w_0) = d\}\ for\ j_{Taro}\rangle\ at\ t_0\ in\ w' = 1\ for\ j (= speaker)$

One might propose that the shifting from a CI to a secondary at-issue entailment occurs at the lexical level. However, such an approach is problematic. As the above examples show, the embedded *motto* behaves as a CI inside the embedded clause. This seems to be natural, considering that it is the "expressive" feeling of a subject.

5.2 The Case of Subject-Oriented Reading in the English Expressives

The shift from a CI to a secondary entailment is pervasive in natural language and can also be observed in typical embedded expressives. (26) clearly shows that the embedded *friggin'* is within the semantic scope of the past tense:

(26) (Subject-oriented reading, friggin' = Monty's perspective)
      Monty said to me two years ago that he hated to mow the friggin' lawn, but now, he doesn't mind. (Subject-oriented reading)[5]

On the subject-oriented reading, *friggin'* has to be within the scope of the matrix tense. On the sequence-of-tense reading, which is the most salient, the time of Monty's speech corresponds with the time of Monty's hating, i.e., the time at which Monty had a negative attitude toward the lawn, as in (27).

(27) Monty said to me two years ago that he hated to mow the friggin' lawn, but now, he doesn't mind. (embedded clause = past tense)

The important point, however, is that *friggin'* is an expressive; it relates to Monty's attitude in the past. Thus, it is reasonable to consider that it is not a primary at-issue.

The question arises as to how we might analyze the meaning of the embedded *friggin'*, as in (28), which is similar to (3). It seems that the interpretation of embedded *friggin'* becomes complicated if the embedded clause has present tense.

(28) (Subject-oriented reading, *friggin'* = Monty's perspective)
      Monty said to me two years ago that he hates to mow the friggin' lawn.

This is because this sentence has a "double access reading" (Ogihara 1996; Abush 1997, etc.), in which both a past situation and a present situation are relevant. Comrie (1985:115) has stated that (29b) is used "when the speaker is reporting a (real or imaginary) illness which he believes still has relevance."

(29) a. John said that he was ill.
      b. John said that he is ill

This predicts that the expressive in (28) can be anchored to both the past and the present if the embedded clause has present tense. This prediction is borne out. The expressive *friggin'* in (28) is obligatorily anchored both to the present and the past (i.e., obligatory double access). This is supported by the fact the sentence in (30) sounds somewhat odd.

(30) ?? Monty said to me two years ago that he hates to mow the friggin' lawn, but now, he doesn't mind. (embedded clause = present tense)

This fact is consistent with the hypothesis that subject-oriented embedded expressives obligatorily give rise to the double access effect when the embedded tense is present.

5.3 Speaker-Orientation of the Negative *Motto*: The Existence of Dependent Projective Content

Let us now investigate the speaker-oriented reading of the embedded *motto*. The puzzle was that the embedded negative/expressive *motto* can only be speaker-oriented if there is a deontic modality in the main clause, as in (31):

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[5] Note that there is also a speaker-oriented reading in which the speaker has a negative attitude toward the lawn.

(31) Hanako-wa kono mise-no   keeki-wa mukashi-wa motto
      Hanako-TOP this   store-GEN cake-TOP old days-TOP MOTTO
      oishi-katta-to   omo-tta.   (subject-oriented)
      delicious-PAST-that think-PAST

      At-issue: Hanako thought that this store's cake was delicious.
      Secondary at-issue: Hanako thought that the expected degree of deliciousness
      (i.e. the deliciousness in the past) was much higher than the current degree.)

(32) Hanako-wa kono mise-no   keeki-wa motto   oishi-katta-to
      Hanako-TOP this   store-GEN cake-TOP MOTTO delicious-PAST-that
      omo-bekida.
      think-should (speaker-oriented/subject-oriented)

      At-issue: Hanako should think that this store's cake was delicious.
      Expressive 1 (subject-oriented, secondary at-issue): For all worlds w'' compatible with the rule in w_0 and for all worlds w' compatible with Hanako's beliefs in w'', the expected degree of deliciousness of this store's cake is much higher than the current degree for Hanako in w'.
      Expressive 2 (speaker-oriented, CI): The expected degree of deliciousness of this store's cake is much higher than the current degree for me.

This point is radically different from a typical expressive like *bastard*. As we observed in the Introduction, *bastard* can be speaker-oriented even if there is no external speaker-oriented element in the main clause, as in (33):

(33) Sue believes that that bastard Kresge should be fired. (#I think he's a good guy.)
      (Potts 2007)

How might we explain the "conditional" projective property of the embedded *motto* shown in the previous section? I argue that the embedded *motto* is a dependent projective content. Namely, it can be speaker-oriented only when a deontic modal exists in the main clause because it requires that the judge of the *motto* is consistent with the judge in the at-issue level. I posit such a constraint inside the lexical entry of *motto*, as in (34):

(34) $[[motto_{EXPRESSIVE}]] : \langle G^a, \langle e^a, \langle i^a, \langle s^a, t^a \rangle \rangle \rangle \rangle \times \langle G^a, \langle e^a, \langle i^a, \langle s^a, t^s \rangle \rangle \rangle \rangle =$
      $\lambda g \lambda x \lambda t \lambda w. \exists d[d \geq STAND \wedge g(d)(x)(t)(w)] \blacklozenge \lambda g \lambda x \lambda t \lambda w. max\{d|g(d)(x)(t)(w)\} >$
      $!!max\{d|g(d)(x)(t_0)(w_0)\}$ for j (where j is consistent with a judge in the at-issue level) (where t_0 = current time, w_0 = the actual world)

If there is no modal in the main clause, j of *motto* corresponds to the subject of the sentence (the attitude holder). This is because the sentence merely describes the subject's thoughts. However, if there is a deontic modal in the main clause, *motto* can be speaker-oriented because the modal *bekida* 'must' is a judge-sensitive expression (see also Stephenson (2007)), as shown in (37), and the judge variable of the embedded *motto* can correspond to the judge of *bekida*:

(35) $[[bekida]] = \lambda p_{\langle i^a, \langle s^a, t^a \rangle \rangle} \lambda t \forall w'$ compatible with the rules in $w_0 : p(w')(t) = 1$ for j

Thus, *motto* can be anchored to either a speaker or a subject in the sentence with *bekida*. The following figure shows the logical structure of the entire sentence:

(36)　Interpretation of the entire sentence (speaker-oriented reading)
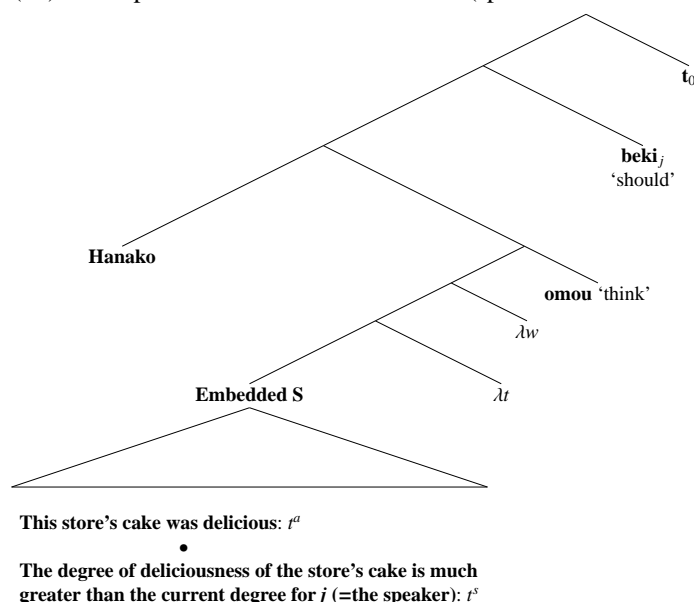
The following shows the final part of the derivation:

(37)　**Final part of derivation (speaker-oriented reading)**
For all worlds w"compatible with the rule in w_0 and for all worlds w' compatible with Hanako's beliefs in w": $\exists d[d \geq STAND \land delicious(this\,store's\,cake)$
$(past)(w_0) = d]\,at\,t_0\,in\,w' = 1) = 1\,for\,j_{speaker} : t^a$

$\bullet$

$max\{d|delicious(this\,store's\,cake)(past)(w_0) = d\} >!!max\{d|delicious$
$(this\,store's\,cake)(t_0)(w_0) = d\}\,for\,j_{speaker} : t^s$

Note that the addition of the epistemic modality, such as *kamoshirenai* 'may' does not help the embedded *motto* become speaker-oriented, despite the fact that it is also a judge-sensitive expression (speaker-oriented), as is clear from (39):

(38)　$[[kamoshirenai]] = \lambda p_{\langle s^a, t^a \rangle}.\exists$ *w'* compatible with *j*'s knowledge in w_0: $p(w') = 1$ for *j*

(39)　Taro-wa　motto　　isshoukenmei benkyoo-si-nakerebanaranai-to
　　　　Taro-TOP MOTTO seriously　　study-do-must-that
　　　　omou-kamoshirenai.
　　　　think-should

　　　　At-issue: Taro may think that he must study hard.
　　　　Expressive (subject-oriented): For some worlds *w'* compatible with Taro's knowledge in w_0, the expected degree of seriousness of Taro's study is much

greater than the current degree for Taro in *w'*.

Why is it that the expressive *motto* cannot be speaker-oriented in (39). I would like to propose that this is because the meaning of the epistemic modality is not pragmatically consistent with the expressive meaning of the negative *motto*. In the case of (32) the deontic modality conveys a speaker's complaint, and the negative *motto* also conveys a judge's complaint. Thus, proposing that the judge of *motto* and the judge of the deontic modality are the same is natural. However, in the case of (33) no semantic consistency exists between *motto* and the epistemic modality.

6   Conclusion and Theoretical Implications

In this paper, I investigated the interpretations of embedded expressives on the basis of new data, namely the Japanese comparative expressive *motto*, and argued that the interpretation of the embedded expressive is not merely a matter of indexicality. More specifically, I argued that (i) there can be a semantic shift from a CI to a secondary at-issue entailment at a clausal level in a non-speaker-oriented reading, and (ii) in some expressives, like the negative *motto*, a speaker-oriented reading can arise only when there is an appropriate speaker-oriented modal in the main clause.

What do these claims imply theoretically? I think that these claims theoretically suggest the interpretation of embedded expressives involves both semantic and pragmatic mechanisms. Harris and Potts (2009) contrast a configurational approach and a contextual approach and support the contextual approach:

(40)   a. **Configurational**: The source of non-speaker-oriented readings of appositives and expressives is semantic binding: their content can be bound by higher operators like attitude predicates, thereby shifting it away from the speaker (Schlenker 2003, 2007; Sauerland 2007).

   b. **Contextual**: The source of non-speaker-oriented readings of appositives and expressives is the interaction of a variety of pragmatic factors. In general, these interactions favor speaker-orientation, but other orientations are always in principle available, regardless of syntactic configuration (Potts 2007).

However, the phenomenon of the embedded negative *motto* suggests that both semantic and pragmatic factors are involved. In this paper, I proposed that there is a semantic shift from a CI to a secondary entailment in the interpretation of a subject-oriented reading. This is clearly non-contextual, but at the same time, it is not purely semantic in that it maintains the meaning of subject-oriented expressives as secondary.

Furthermore, as for the speaker-oriented reading, I have proposed that there is a new class of projective content, i.e. a dependent projective content. The new class of projective content is semantic in the sense that whether or not it can project depends on the existence of a judge-sensitive element (i.e., a deontic modal in the case of *motto*). However, this dependency is also pragmatic in that the kind of external element it can support as a projection of an embedded expressive is pragmatically determined by the extent to

which the external element semantically matches with the CI meaning of *motto*. In the case of the negative *motto*, an epistemic modal cannot support the projection of *motto* because its meaning does not match with the CI meaning of the negative *motto*.

In this paper, I focused only on the Japanese *motto* and certain English expressives. In future research, I would like to further investigate the interpretation of other embedded expressives and consider the variation from a broader perspective.

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