

## Case patterns with subjective adjectives

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### 0. Abstract

The aim of this paper is to investigate the semantics of two case patterns found with Japanese adjectives: "NP1-ni NP2-ga" and "NP1-ga NP2-ga". The paper begins with an analysis of the two patterns with adjectives expressing temperature and taste, where the choice of case particle on NP1 is accompanied by a difference in the selectional restrictions on NP2. I argue that the "-ni/-ga" pattern is used, with these adjectives, to express an evaluation, while the "-ga/-ga" pattern is associated with unanalysed sensations. The difference between the two constructions is not limited to case marking, but includes the semantic roles of the two noun phrases and even the morpho-syntactic properties of the predicate adjective. In the second half of the paper an attempt is made to extend this analysis to adjectives expressing emotions. The conclusion reached, is that the semantic structure of emotion adjectives implies both an evaluation and a sensation component. This has the effect of neutralizing the semantic distinction between the two case patterns.

### 1. Introduction

Japanese adjectives are usually divided into two classes: adjectives expressing properties, like: *akai*(red), *hiroii*(large), etc, and subjective adjectives, referring to emotions like: *ureshii*(glad), *sabishii*(lonely), etc or sensations, like: *atsui* (hot), *amai*(sweet), *nemui*(sleepy) (see Nishio(1972)). Subjective adjectives share a number of properties, such as the person restriction, which forbids their use in the present tense with non first person subjects, and the possibility of forming derived verbs through affixation of the suffix *-garu*. Most subjective adjectives can take two argument NPs bearing the semantic roles of Experiencer and Theme ( the stimulus of the experience). As regards case marking, there are two case patterns<sup>(1)</sup> associated with subjective adjectives.

#### i. Experiencer-ga Stimulus-ga

#### ii. Experiencer-ni Stimulus-ga

The IPAL electronic dictionary of adjectives lists up only: *itai*( painful), *urusai*(loud), *okashii*(funny), *omoshiroi*(interesting), *kitsui* (hard), *tamaranai* (unbearable) and *mezurashii*(curious) for pattern (ii), while the rest of psychological adjectives, including *ureshii* (glad), *kanashii*(sad), *sabishii*(lonely), etc are marked only for the (NP-ga) NP-ga pattern. This does not seem to be correct. As Teramura(1984) points out, most psychological adjectives, with the exception of '*suki* / *kirai*(like/dislike)' '*hoshii*(want)' can be found with a -ni marked experiencer. Teramura argues that case marking of the experiencer argument is rather unstable and there is a lot of speaker variation. He explains the fact as a consequence of the tendency to leave the Experiencer argument unexpressed.(p143-4)

Most speakers regard the two case patterns as semantically equivalent. Syntactic studies, on the other hand attribute different structures to the two case marking patterns( Saito(1982), Takezawa(1987)). There are no attempts, to my knowledge to associate the difference in syntactic structure with a semantic distinction, or to explain the lack of differentiation on the semantic level, considering the formal distinction between the two case patterns.

As mentioned before, the two case patterns are to be found with most subjective adjectives not only with adjectives referring to emotions. In what follows, it will be shown that with other classes of subjective adjectives, namely adjectives referring to sensations, the two case patterns are clearly associated

with distinct semantic interpretations.

The aim of this paper is to gain a better understanding of the case patterns in (i) and (ii) and to explore the possible significance of these two case patterns for emotion adjectives.

In the syntactic literature dealing with this problem, it is implicitly assumed that predicates which allow -ga/-ni case marking alternation of the Experiencer argument are structurally equivalent. It is common to discuss the nominative -dative alternation with stative verbs. This paper will show that there are important differences among lexical items which display apparently identical argument structure and case marking properties and that talking about the class of 'stative predicates' as a whole can be misleading.

## 2. The double nominative pattern with sensation adjectives

The double nominative pattern with sensation adjectives can be observed in constructions such as (1).

- (1)a. Watashi-wa hiyake shite kao-ga atsui  
*I-TOP get sunburnt face-ga hot*  
My face feels hot from the sunburn
- b. Watashi-wa kuchi-no naka-ga amai-node karai mono-ga tabetai  
*I-TOP in-the-mouth-ga sweet CONJ I want to eat something spicy*  
I want to eat something spicy because I feel a sweet taste in my mouth
- c. Watashi-wa senaka-ga samui  
*I-TOP back-ga cold*  
My back feels cold

It can be easily noticed that there is a part-whole relation between the two NP arguments, namely, the second NP refers to a body part. In such cases it is not possible to mark NP1 with the particle -ni.

- (2)a. \*Watashi-ni-wa hiyake shite kao-ga atsui  
*I-ni-TOP get sunburnt face-ga hot*
- b. \*Watashi-ni-wa kuchi-no naka-ga amai-node.....  
*I-ni-TOP in-the-mouth-ga sweet.....*
- c. \*Watashi-ni-wa senaka-ga samui  
*I-ni-TOP back-ga cold*

Despite the part-whole relation between the two NPs, these constructions are not to be confused with the double nominative pattern found with the great bulk of adjectives in Japanese.

- (3) a. Kare-wa kao-ga akai  
*he-TOP face-ga red*  
He has a red face
- b. Taro-wa se-ga takai  
*Taro-TOP back-ga tall*  
Taro is tall
- c. Kono byo:ki-wa kono bi:rusu-ga ayashii  
*This disease-TOP this virus-ga doubtful*  
This virus might be the cause of this disease
- d. Kare-wa kenka-ga tsuyoi  
*he-TOP fight-ga strong*  
He is good at fighting
- e. Zo:-wa hana-ga nagai  
*elephant-TOP nose-ga long*  
The elephant has a long nose

In these constructions the adjective assigns a single thematic role, Theme. The second nominative is licensed through a semantic relation with the first argument: Part-Whole or Location- Located object. As observed in Takezawa(1987) the first NP need not have 'a direct thematic relation with the predicate'. Indeed, in constructions such as those in (3), the adjective is not predicated directly of the leftmost NP. This is illustrated by the fact that the sentences in (3') where NP2 has been deleted, are either deviant, or, even when acceptable on their own, have meanings differing from the meaning expressed in the corresponding (3) constructions. (The symbol # is used to indicate different interpretation)

- (3') a. #Kare-wa akai  
*he-TOP red*  
 He is red  
 b. \*Taro-wa takai  
*Taro-TOP tall*  
 c. #Kono byo:ki-wa ayashii  
*this disease-TOP suspicious*  
 This disease is suspicious  
 d.# Kare-wa tsuyoi  
*he-TOP strong*  
 He is strong  
 e. #Zo:-wa nagai  
*elephant-TOP long*

This suggests that the first NP in the examples in (3) is not a direct argument of the adjective. Instead it could be said that the first NP takes the entire phrase including the adjective and NP2 as its predicate. NP1 receives its theta role from this complex predicate. Kuroda (1978) has suggested a syntactic analysis of such double nominative constructions, which reflects their semantic composition. He argues that the double nominative construction in (3) is obtained through the adjunction of NP1, as in (4).

- (4) [[ zo: wa]NP1[[ hana ga]NP2 nagai]S1]S2

Kuroda does not discuss the issue of thematic role assignment in this structure, but it could be argued that only NP2 is assigned a thematic role by the predicate adjective, while NP1 receives its role from the complex predicate [NP2+ Adj]. The thematic role of NP1, though assigned compositionally by the adjective and NP2, is identical to the role of NP2, namely a Theme, the object to which the property expressed by the predicate is attributed. Although the examples in (1) seem superficially similar to those in (3), at least as regards the part-whole relation between the two NPs, there are some major differences between these constructions, summed up below.

i. NP1 and NP2 have distinct semantic roles

In examples such as (1) NP1 and NP2 clearly have distinct thematic roles. The first NP is the entity experiencing the sensation, while the second expresses the locus of the sensation. NP1 cannot be interpreted as the Theme of a complex predicate formed from NP2 and the adjective. This is shown by the fact that a speaker can truthfully utter (1) even though his face proves cool on touch, the inside of his mouth is not actually sweet and his back is not cold. What is important is that he feel hot, cold, etc.

A comparison with sentences such as (5) is revealing.

- (5) Kono mise-wa ra:men-ga takai/yasui/umai  
*this shop-TOP ramen-ga expensive/cheap/good*  
 The ramen in this shop is expensive/cheap/good

It could be argued that in this type of construction too, the two nominals

have distinct thematic roles, namely Location and Located Object(Theme). But the Location interpretation of NP1 in this case is a result of the Part-Whole relation between the two nominals, plus the locative features of NP1. What the construction asserts is that the ramen of that shop is expensive/cheap/good, etc, and not that any ramen are expensive/cheap/good at the respective location. (5) can be paraphrased as (6), without significant change of meaning.

- (6) Kono mise-no ramen-wa takai/yasui/umai  
*this shop-GEN ramen-TOP expensive / cheap / good*  
 The ramen in this shop is expensive/cheap/good

This is not the case with the constructions in (1). The Experiencer role of NP1 is not merely a result of the Part-Whole relation between the two nominals combined with the animacy(sentiency?) features of NP1, as shown by the fact that the desired reading does not obtain automatically in the presence of NPs having the feature +animate. These constructions (though not (1c)) are ambiguous between a property reading and the sensation reading.

- (7) a. Taro:-wa kao-ga atsui  
*Taro-TOP face-ga hot*  
 Taro's face is hot  
 b. Taro:-wa kao-ga atsui so: desu  
*Taro-TOP face-ga hot-modal*  
 Taro feels his face hot

Example (a) can be uttered by someone upon touching Taro's forehead and finding it hot, while example (b) is true if Taro: feels hot and says so, even though the heat is not accessible to an outside observer.

The constructions in (1), unlike those in (5), cannot be paraphrased by means of genitival constructions.

- (8)a. Watashi-no kao-ga atsui  
*I-GEN face-ga hot*  
 My face is hot  
 b. Watashi-no kuchi-no naka-ga amai-node karai mono-ga tabetai  
*I-GEN mouth-GEN inside-ga sweet because spicy thing-ga eat-suff*  
 ? I want to eat something spicy because the inside of my mouth is sweet

The sentences in (8) simply express physical properties. The adjective does no longer refer to sensations of temperature or taste. This observation leads us to point (ii).

#### ii. the adjectival predicate undergoes a semantic change

Adjectives expressing physical properties such as temperature and taste undergo a semantic change when their argument structure is expanded through the addition of an appropriate argument. The two argument construction can be paraphrased as (9).

- (9) Experiencer(NP1) feel sensation (x) localized in body part(NP2)

Attributing properties such as temperature or taste to objects, and having sensations causally related to temperature and taste properties are two completely different matters.

#### iii. NP1 has a direct semantic relation to the predicate

Unlike NP1 in the double nominative construction with descriptive adjectives, NP1 in constructions (1) is directly related to the predicate adjective since the adjective acquires the 'sensation' interpretation only in the presence of

an appropriate NP1. Adjectives expressing temperature sensations, though not adjectives expressing sensations of taste, can also be used intransitively, taking only the Experiencer argument. We have shown in (3') that deletion of NP2 in double nominative constructions with descriptive adjectives leads to meaning change when it does not yield semantically deviant constructions. Adjectives expressing sensations of temperature allow deletion of NP2, without significant change of meaning, as a comparison of examples (1a,c) and (10) indicates.

- (10)a. *Watashi-wa* *hiyake* *shite* *atsui*  
*I-TOP* *get* *sunburnt* *hot*  
 I feel hot from the sunburn  
 c. *Watashi-wa* *samui*  
*I-TOP* *cold*  
 I'm cold

The predicate adjective is correctly attributed to the argument NP. Constructions like (1) only indicate that the effect of the sensation expressed by the predicate is restricted to a particular body part.

iv. the items allowed to appear in the position NP2 are severely limited compared to the items which can occur in the simple one argument construction.

The choice of NP2 in double nominative constructions with temperature and taste adjectives is severely restricted. The nominals which can appear in this position must not merely designate body parts, but body parts associated with the particular type of sensation expressed by the predicate or else the expressions are semantically deviant.

- (11)a. \**Watashi-wa* *kami-no* *ke-ga* *samui*  
*I-TOP* *hair-ga* *cold*  
 My hair feels cold  
 c. \**Watashi-wa* *te-ga* *amai*  
*I-TOP* *hand-ga* *sweet*  
 My hand feels sweet

This contrasts with descriptive adjectives. It seems that in constructions like (1) it is NP1 combined with the predicate which provides the basis for selecting NP2, while in double nominative constructions with descriptive adjectives it is NP2 and the predicate which select NP1.

Finally it should be noted that the properties described above are displayed by a semantically limited class of lexical items, namely by adjectives referring to properties such as temperature and taste. The question as to why, among the larger class of adjectives expressing properties connected to the five senses, only these particular two classes of adjectives behave in the way described above is beyond the scope of these paper. It is, however, obvious that the semantic shift from descriptive adjective to subjective adjective is limited to certain lexical classes. This, in turn, suggests that a purely syntactic solution of the phenomenon is not sufficient.

If the arguments offered so far for distinguishing the double nominative construction with descriptive adjectives from the same construction with temperature and taste adjectives are correct, it means that the latter construction should be given a distinct syntactic analysis, different from the adjunction structure proposed by Kuroda (4). Indeed, a structure such as (4) cannot explain the semantic role assignment to NP1. We have seen above, that the role assigned by the complex predicate [NP2+ Adj] is Theme for all descriptive adjectives. Depending on the semantic relation between NP1 and NP2, NP1 has the additional role of Possessor, or Location. In the case of subjective adjectives, the relation NP1-NP2 is Part-Whole, which makes NP1 an Inalienable Possessor. However, there is no principled way of explaining why the

predicate [NP2+ Adj] should assign the role of Experiencer, instead of Theme in this case.

Considering the semantic shift undergone by adjectives expressing temperature and taste, it could be argued that the lexicon of Japanese contains two homophonous entries. One would be the property interpretation, in which the adjective predicates physical properties of objects. The adjective selects a single argument with the feature [+Concrete]. The second entry would contain the subjective reading, on which the adjective selects for two arguments, an Experiencer and a Theme, with the features [+Human], [+Body Part], respectively.

Though descriptively accurate such an approach is not very revealing. For one thing, it does not explain the relation between the two interpretations, namely that the sensation designated by the second entry is produced by the perception of properties expressed by adjectives in the first entry. The two interpretations also display an asymmetry with regard to the possibility of nominalization. While the descriptive reading can form the base for -sa affixation, this is not possible for the sensation reading of the adjectives. The significance of derivational processes for the analysis of the double nominative pattern will be discussed below.

### 3. The dative Experiencer pattern

The -ni/-ga pattern appears in sentences such as (12) below:

(12)a. Watashi-ni-wa kono su:pu-ga atsui

*I-ni-TOP this soup-ga hot*

This soup feels hot

a'.? Watashi-wa kono su:pu-ga atsui

*I-TOP this soup-ga hot*

b. Watashi-ni-wa kono shiokara-no aji-ga amai

*I-ni-TOP this shiokara-ga sweet*

This shiokara tastes sweet to me

b'.? Watashi-wa kono shiokara-no aji-ga amai

*I-TOP this shiokara-ga sweet*

c. Watashi-ni-wa kono umeboshi-ga suppai

*I-ni-TOP this pickled plum-ga sour*

This pickled plum tastes sour (to me)

c'.? Watashi-wa kono umeboshi-ga suppai

*I-TOP this pickled plum-ga sour*

d. Watashi-ni-wa pu:ru-no mizu-ga tsumetakatta

*I-ni-TOP water in the pool-ga cold-PAST*

The water in the pool felt cold (to me)

d'.? Watashi-wa pu:ru-no mizu-ga tsumetakatta

*I-TOP water in the pool-ga cold-PAST*

It seems that when the theme argument is semantically unrelated to the experiencer these adjectives require -ni case marking for the experiencer. In this case nominative marking for the Experiencer is not appropriate as shown by the prime examples.

The interpretation of the adjective seems to differ from the double nominative pattern. The sentences are not referring to a sensation of the Experiencer, localized in an object, but about a property of the object felt by the Experiencer. It seems as though the interpretation of the adjective in the -ni/-ga pattern is closer to the property reading than to the subjective reading in spite of the presence of two arguments, one of which is an Experiencer.

The semantic distinction between the double nominative and the -ni/-ga pattern is even more dramatic with an adjective expressing physiological reactions, like 'itai'(painful).

As in the case of adjectives referring to temperature and taste sensations the two NPs in the double nominative pattern express the Experiencer and the Locus of the Sensation, respectively.

- (13) *Watashi-wa atama-ga itai*  
*I-TOP head-ga painful*  
 My head aches

In constructions like those in (13) the Experiencer cannot be marked with the particle -ni.

- (14) \* *Watashi-ni-wa atama-ga itai*

Interestingly, the (NP-ni) NP-ga pattern, when possible does not serve to express a physical sensation, but a psychological state. The adjective seems to allow this case pattern only when used metaphorically, in a psychological sense

- (15) *Watashi-ni-wa senshuten-o agerarenakatta-no-ga itai*  
*I-ni-TOP [be unable to mark the first point]-ga painful*  
 It upset me that I could not get the first point (in the game)

As with other adjectives referring to sensations we see a clear difference in the semantic conditions underlying the double nominative pattern and those behind the -ni/-ga pattern.

#### 4. The structure of the double nominative pattern

Although we have used the label Experiencer to designate the argument in both constructions, the role of the Experiencer is not identical in the situations referred to by the two case patterns. In the double nominative pattern the Experiencer is rather passive, simply recording the sensation and, at most, localizing it in some part of his body. On the other hand, the Experiencer in the -ni/-ga pattern is not merely a passive receptor of sensations. The effect of the sensation is evaluated as positive or negative. This difference is illustrated by the following examples and the interpretation they are given in the IPAL dictionary.

- (16) a. *Watashi-ni-wa pu:ru-no mizu-ga tsumetakatta*  
*I-ni-TOP water in the pool-ga cold-PAST*  
 The water in the pool felt cold (to me)

Def: I feel that the temperature of something coming into direct contact with my body is TOO low.

- b. *Watashi-wa te-ga tsumetai*  
*I-TOP hand-ga cold*  
 My hand feels cold

Def: I feel that the temperature of some part of my body is low

The presence of the verb 'feel' in both interpretations should not mislead one. In the first example, where the Experiencer is marked with the case particle -ni, the Experiencer does not just record the temperature, but has a valenced reaction towards it, as shown by the presence of the verb -*sugiru* (too..) in the paraphrase. The sentence does not mean only 'I find the water in the pool cold' but 'I find the water in the pool too cold for me.' The Experiencer evaluates the property of the object from his point of view. The property is still attributed to the object itself, but the standard for the evaluation is provided by the Experiencer's subjective scale. Sentences with -ni marked experiencers contain a concealed comparison. The temperature of water in the pool is compared to the Experiencer's subjective standard and declared lower than the norm.

Considering the semantic distinction pointed out above, I shall tentatively

name the two patterns:

- (i) the sensation pattern (-ga/-ga), and
- (ii) the evaluation pattern (ni/-ga)

In what follows I shall argue that adjectives expressing sensations are not ambiguous, nor do they have multiple lexical entries. These adjectives have only one meaning, that of expressing properties of objects. The 'sensation reading' and the 'evaluation reading' obtain compositionally.

#### 4.1. Nominalization

A survey of nominals derived through -sa affixation from subjective adjectives shows that they fall into two main groups:

- a. nominals referring to object properties: *atsusa*(heat), *samusa* (cold), *amasa*(sweetness), *omoshirosa*(interest), *mezurashisa* (curiosity)
- b. nominals referring to subjective reactions: *ureshisa*(gladness), *kanashisa*(sadness), *itasa*(pain), *kurushisa*(suffering)

Although adjectives referring to temperature and taste have a subjective reading, in which they denote subjective reactions to temperature and taste stimuli (the constructions in (1)), this use does not admit nominalization. There is no nominal 'atsusa', meaning 'the sensation of heat'. But, as the existence of the nominals formed through -sa affixation from subjective adjectives indicates, this gap is not due to some property of the suffix -sa, blocking the 'sensation' interpretation.

If adjectives referring to temperature and taste properties had indeed two entries, a property reading and a subjective reading, we would expect the suffix -sa to attach to both 'atsusa1' and 'atsusa2', yielding two nominalizations, one belonging to group(a) above and the other to group(b). The lack of nominalization based on the subjective reading is difficult to explain under the multiple entry hypothesis. If, on the other hand, these adjectives have a single interpretation, as suggested above, the lack of sensation reading for the derived nominals represents no problem. What is, in this case, the status of the subjective reading?

What I would like to argue for, is that the subjective reading results from the affixation of a zero-morpheme to the property expressing adjective. An analysis in terms of zero-morpheme affixation has been proposed by Pesetsky(1995) for English Object-Experiencer verbs. The notion of a zero morpheme is not new. It has already been used to account for the relationship between phonetically identical items belonging to distinct lexical categories, such as paint(V/N), poor(Adj/N), etc. The novelty is that the zero morpheme has semantic content.

Pesetsky argues that the adjective in (a) below is derived 'from the corresponding adjective in (b) through affixation of a zero morpheme with the interpretation'SUGGEST.

- (17) a. John's manner was proud[SUG]
- b. John is proud of his son.

As they have no phonetic form, the presence of zero morphemes can be ascertained only indirectly, by analysing the semantic and syntactic behavior of the elements to which they attach. The most obvious effect of zero affixation is semantic change. Although they have no phonetic shape, Pesetsky argues that zero-morphemes have a semantic content, like many other derivational morphemes. Besides, these morphemes have the property of blocking further affixation processes.

The two diagnostic properties for zero-affixation pointed out by Pesetsky

are present in the case of the 'sensation' reading with temperature and taste adjectives.

- i. semantic change: the descriptive reading shifts to a subjective reading
- ii. derivational processes are blocked

These facts permit the postulation of a zero morpheme in Japanese, which attaches to one-argument descriptive adjectives referring to temperature and taste properties, and forms derived two-argument adjectives meaning 'feel x', where 'x' is the sensation caused by the property expressed by the base adjective.

If this hypothesis is correct we should expect other derivational processes, besides -sa affixation to be impossible with the 'sensation' reading of this class of adjectives. I shall argue below that such expectations are, indeed, fulfilled.

#### 4.2.-GARU Affixation

A look at -garu affixation seems to indicate that it is based on the evaluative pattern and not on the sensation pattern. The verbalizing suffix -garu attaches to adjectives which take an Experiencer argument and yields verbs referring to the outward expression of the experienced sensation, emotion.

Several adjectives referring to temperature sensations admit -garu affixation: *atsui-atsugaru* (show signs of feeling hot), *samui-samugaru* (show signs of feeling cold), *tsumetai-tsumetagaru* (show signs that an object feels cold). It is interesting to note that the derived verbs obtained present the semantic particularity noticed for the -ni/-ga pattern. The verbs do not mean simply that the experiencer shows signs of feeling hot or cold. The verbs are not used in situations where someone experiences heat or cold but is pleased, or indifferent to it. The use of these verbs implies that the Experiencer finds the temperature TOO hot or TOO cold. That is, the experienced sensation is evaluated against a subjective scale, suggesting that the Experiencer argument in these constructions is not the passive Experiencer in the Sensation pattern.

Stronger evidence that -garu attaches to the 'evaluative' interpretation and not to the 'sensation' reading comes from sentences containing two arguments. It appears that -garu can be attached to the -ni/-ga pattern but not to the -ga/-ga pattern. This fact is demonstrated by the semantic features of the Theme nominal.

In (18a) the Theme argument is a body part and in (18b) it is an external stimulus. While (18b), which represents the verbal counterpart of the -ni/-ga pattern is acceptable, (18a), which corresponds to the double nominative pattern is not well formed.

- (18)a.\* Taro:-wa senaka-o samugatteiru  
*Taro-TOP back-o cold-GARU-CONT*  
b. Taro:-wa Yo:roppa-no fuyu-o samugatteiru  
*Taro-TOP the winter in Europe-o cold-GARU-CONT*  
Taro shows signs that the winter in Europe is too cold for him

This, too, can be explained as a consequence of the presence of a zero-morpheme attached to the adjective in the -ga/-ga construction, blocking the possibility of -garu affixation.

The role of the zero-morpheme is two-fold. It contributes the semantic feature 'feel' which is combined with the basic sense of the predicate x yielding the reading 'have the sensation x'. Along with the semantic change suffered by the predicate, there is a modification in the argument structure. The zero morpheme 'FEEL' has the role of expressing that a subject experiences a physical sensation. In this, it is similar to adjectives like 'itai', 'kayui', etc, but unlike these adjectives, the concrete description of the bodily sensation is not specified. In view of the semantic similarity between 'FEEL' and adjectives expressing physical sensations, I assume that 'FEEL' has the same argument structure as these adjectives. This means that 'FEEL' has two arguments, an

Experiencer and a body part representing the Locus of the sensation. By affixation of the zero morpheme 'FEEL' to an adjective expressing temperature or taste, the derived adjective inherits the argument structure of the zero morpheme. The question naturally arising is what happens to the Theme argument of the base adjective. I shall argue that this argument is suppressed for case reasons.

Adjectives are generally analysed as unaccusatives, that is, they take a single internal argument. Since adjectives do not assign case to their arguments, these are assigned -ga by adjectival inflection. After attachment of the morpheme 'FEEL', the Theme argument of the base adjective can no longer be assigned case by inflection, as the derivational zero morpheme now intervenes between the adjectival base and inflection. As it cannot receive case, the Theme element is unable to receive phonetic interpretation. The structure of the derived adjective can be represented as below:

Exp-ga Locus-ga [[ f Adj]+FEEL] INFLECTION

The analysis in terms of a zero morpheme is applicable to adjectives expressing sensations of temperature or taste. It is not meant to be extended to emotion adjectives or to adjectives expressing physiological sensations, such as 'itai' (painful), 'nemui' (sleepy), 'kayui' (itchy), etc. These adjectives contain in their semantic description the element 'feel'. The Experiencer argument is, in this case, base generated.

Indeed, adjectives referring to emotions and physiological sensations do not display the properties which have suggested a zero-morpheme analysis for temperature and taste adjectives. The nominalizations of these adjectives refer to sensations of the Experiencer (the b type nominalization), and not to properties of objects: *ureshisa* (gladness), *sabishisa* (loneliness), *kurushisa* (suffering), *itasa* (pain), etc. -garu affixation is always possible and the interpretation of the derived verb does not carry the additional implication of 'TOO x'.

#### 5. The structure of the NP1-ni NP2-ga pattern

Returning now to pattern (ii), it was noted before that the human argument in this construction is better regarded as an Evaluator rather than a passive Experiencer. This construction closely parallels constructions such as (19) with scalar adjectives.

- (19)a. Watashi-ni-wa kono fuku-ga ookii  
*I-ni-TOP this coat-ga large*  
 This coat is large for me
- b. Watashi-ni-wa kono kuruma-ga takai  
*I-ni-TOP this car-ga expensive*  
 This car is expensive for me

The -ni NP in this constructions is an adjunct phrase, which can be replaced by a -nitotte phrase without change of meaning. -nitotte is a compound particle typically accompanying adjuncts. It is never used to mark an argument. It could be rendered in English as 'as far as x is concerned', 'as regards x'. The semantic role of the NP is to provide the standard against which the scalar property expressed by the predicate adjective is evaluated.

This analysis can be carried over as such to adjectives expressing temperature and taste. These constructions also admit replacement of the particle -ni by -nitotte.

- (20)a. Watashi-ni-wa kono su:pu-ga atsui  
*I-ni-TOP this soup-ga hot*  
 a'. Watashi-nitotte kono su:pu-ga atsui

- I-nitotte this soup-ga hot*  
This soup is (too) hot for me
- b. *Watashi-ni-wa kono shiokara-no aji-ga amai*  
*I-ni-TOP this shiokara-ga sweet*
- b'. *Watashi-nitotte kono shiokara-no aji-ga amai*  
*I-nitotte-TOP this shiokara-ga sweet*  
This shiokara tastes sweet to me
- c. *Watashi-ni-wa kono umeboshi-ga suppai*  
*I-ni-TOP this pickled plum-ga sour*
- c'. *Watashi-nitotte kono umeboshi-ga suppai*  
*I-nitotte-TOP this pickled plum-ga sour*  
This pickled plum tastes (too) sour to me
- d. *Watashi-ni-wa pu:ru-no mizu-ga tsumetakatta*  
*I-ni-TOP water in the pool-a cold-PAST*
- d'. *Watashi-nitotte pu:ru-no mizu-ga tsumetakatta*  
*I-nitotte-TOP water in the pool-a cold-PAST*  
The water in the pool felt (too) cold to me

Depending on the semantic content of the predicate adjective the constructions can have different interpretations. In the case of dimension adjectives the adjunct NP is interpreted as a kind of Goal(3), while in sentences with sensation adjectives it is interpreted as an Experiencer.

Adjectives such as 'itai' (painful) or 'kayui' (itchy) are inherently sensation adjectives and the basic case pattern is the double nominative. Such adjectives can take a -ni marked adjunct, yielding thus the Evaluation pattern, only at the cost of losing the initial sensation interpretation, a fact illustrated by example(12).

#### 6. The structure of the two case patterns with emotion adjectives

We have seen that case patterns (i) and (ii) are not only syntactically distinct, but that, with the majority of subjective adjectives they are associated with distinct semantic values. The question arises as to why a similar semantic distinction is not present with adjectives expressing emotions. A possible reason could be the semantic structure of psychological adjectives.

A survey of the literature on emotions coming from psychology shows that it has become very common in recent years to analyse the structure of emotions in terms of an emotion script. That is, emotions are no longer defined in terms of the subjective states of the Experiencer, but are rather regarded as making reference to a fixed scenario. A stimulus event is perceived by the Experiencer and is evaluated in terms of his subjective goals. The evaluation gives rise to psycho-somatic reaction and leads to a certain action tendency. Thus, an emotion can be defined as the sequel:

#### EVENT PERCEPTION-EVALUATION- PSYCHO-SOMATIC REACTION- ACTION TENDENCY.

The object of emotion adjectives designates the event which initiates the emotional script. The event is evaluated by the Experiencer as positive or negative. All emotion adjectives imply an evaluation, there are no neutral emotion adjectives. As a result of the evaluation the Experiencer has some internal reaction. This component of the emotion script does not need much argument. As a matter of fact, most definitions of emotion words regard them as labels for the inner feelings, unaccessible to outside observation, known only to the Experiencer himself. The last component, the Action Tendency, the outward expression of emotion, is not part of the informational content of emotional adjectives in Japanese, though it is in other languages. In Japanese derivational affixes (-garu) and evidentials (-so; -yo; -rashii, etc) must be added in order to express this component in the emotion script.

It will be noticed that the script contains the components EVALUATION and PSYCHO-SOMATIC REACTION. It has been argued in this paper that the two case patterns associated with subjective adjectives can be defined semantically as the EVALUATIVE and the SENSATION reading. While other subjective adjectives are basically referring to sensations, adjectives referring to emotions contain in their semantic description both elements. The choice of case pattern focusses on the EVALUATION or on the PSYCHO-SOMATIC REACTION component but since the meaning of the adjectives implies both components, the choice of case pattern does not lead to distinguishable semantic effects. The semantic distinctions are neutralized.

It is interesting to note that most psychological adjectives can appear embedded in constructions such as (21) below, having as higher predicate either 'omou'(think) or 'kanjiru'(feel). Although these verbs cannot be taken as lexicalizations of the SENSATION and EVALUATION patterns, the fact that many psychological adjectives admit both verbs, while many other adjectives can combine only with 'kanjiru' is significant, and can be taken as an indirect argument in favor of an analysis attributing a more complex semantic structure to psychological adjectives.

- (21)a. Sore-ga atashi-ni sukoshi sabishiku kanjirareta  
*that-ga I-ni a little melancholy felt*  
 That left me with a slightly melancholy impression
- b. Konya hitoban-no koto-ga kyu:-ni sanbishiku omowarete-kita  
*this night-GEN thing-ga suddenly melancholy think-ASP*  
 I suddenly felt melancholy about tonight's happenings
- c. Kare-wa tsuma-no kokoro-o ureshiku omoi-nagara....  
*he-TOP wife-GEN heart-ACC glad think-ASP*  
 Feeling glad about his wife's disposition he.....
- d. Yo-wa sono toki-ni kokoro-kara ureshiku kanjita  
*I-TOP that time-ni heart-from glad felt*  
 I felt then glad with all my heart

I have talked so far about adjectives referring to emotions as if they constituted a uniform class. This is not the case. Besides adjectives typically referring to emotions, there are adjectives like 'omoshiroi' (interesting), 'okashii' (amusing), 'urusai' (loud), etc which express subjective evaluations rather than genuine emotional states. It is interesting to note that with these adjectives the distinction between patterns (i) and (ii) is again obvious. In constructions where the Experiencer is marked with the nominative, the adjective can be used to express the internal state of the Experiencer caused by the properties of a relevant object. When the Experiencer is marked with the case particle -ni, the construction expresses a subjective evaluation of the properties of the Theme object.

- (22)a. Watashi-ni-wa kono koto-ga totemo okashikatta  
*I-ni-TOP that story-ga very funny-PAST*  
 I considered that story very amusing
- b. Watashi-wa okashikutte okashikutte warai-ga tomaranai  
*I-TOP funny-NON FINAL funny-NON FINAL couldn't stop laughing*  
 I was so amused that I couldn't stop laughing
- c. Watashi-ni-wa kono jo:dan-ga omoshirokatta  
*I-ni-TOP that joke-ga interesting-PAST*  
 I found that joke interesting
- d. Watashi-wa jibun-dake okorareru-no-ga omoshirokunai  
*I-TOP [only self be scolded]-ga interesting-NEG*  
 It upset me to be the only one scolded

Example (22a) simply says that the speaker considered the story amusing.

Sentence (22b), on the other hand describes the somatic reaction of the speaker, his irresistible impulse to laugh. The same change of meaning is present in the pair (22c,d). In the example (22c) the speaker evaluates the joke as interesting, while (22d) expresses the speaker's displeasure at being the only one scolded. It could be argued that constructions such as (22b,d) are idiosyncratic. However, the case marking of the Experiencer argument suggests that they do not constitute merely a case of chance variation. The different interpretations of the adjectives are predicted by the semantic reading associated with the respective case patterns. That is, a nominative Experiencer is linked to the 'sensation pattern'. Consequently, the adjectives are expected to lose their initial evaluative meaning and to refer to sensations. It is only the concrete description of the respective sensation which remains unpredictable.

## 7. Conclusion

The aim of this paper was to offer some insight in the semantics of the two case patterns associated with subjective adjective. It has been argued that the two case patterns can be associated with two distinct semantic interpretations.

(i) SENSATION READING: NP1-ga NP2-ga

(ii) EVALUATION READING: NP1-ni NP2-ga

With some classes of adjective the two patterns are very easy to distinguish, since the selectional restrictions imposed on the two NPs differ between pattern (i) and pattern (ii). With other classes of adjectives, the distinction becomes blurred.

In previous studies several analyses have been proposed, that treat the two patterns discussed here in terms of case alternation on the Experiencer NP. It was argued in this paper that the difference in case marking entails a difference in semantic role of the Experiencer NP. Moreover, as the role of the Experiencer changes, so does the semantic role of the second argument, although no modification in case marking is triggered. This suggests that what changes is not merely the case marking of one nominal in the sentence, but the interpretation of the construction as a whole. This fact is most obvious in the case of adjectives expressing properties related to temperature and taste.

Another interesting observation regarding the two case patterns discussed pertains to the syntactic status of the argument NPs. Patterns (i) and (ii) are surface patterns. The analysis proposed for temperature adjectives, as opposed to bodily sensation adjectives or emotion adjectives shows that the deep syntactic structure may differ from one class to the other. Thus, the nominative Experiencer with temperature and taste adjectives is not a direct argument of the adjective, but is added to the argument structure through a morphological process. With adjectives such as *'itai'*, on the other hand the nominative Experiencer is an argument of the adjective itself. As the impossibility of replacing the particle *-ni* with *-nitotte* seems to indicate, with adjectives referring to emotions, the *-ni* argument is base generated, while with adjectives expressing sensations it is an adjunct. What is interesting is the fact that such 'deep' syntactic distinctions regarding the status of the two arguments do not influence the overall interpretation of the two case patterns.

The paper has also shown that subjective adjectives cannot be treated as a uniform class, in spite of the similarities with respect to affixation processes and person restriction. There are important syntactic distinctions among the different subclasses, distinctions which are a direct consequence of the semantic content of each subclass.

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## Notes

(1) Some adjectives like *'hoshii'* and *'suki'* also display the case pattern (iii), but this is rather the exception than the rule with adjectives.

iii. Experiencer-ga Stimulus-o

It is generally considered a generalization of the verbal case marking pattern (Dubinsky(1992)).

(2) This is a simplified account. The presence of a zero-morpheme does not necessarily block all derivational processes. Derivational morphemes display selectional restrictions. Some morphemes can attach only to roots, while others admit attachment to derived forms. Even if they admit affixation to already derived forms, there are co-occurrence restrictions among derivational morphemes. That is, not all morphemes can attach to an element which has already undergone zero-morpheme derivation. The nominalizing suffix -sa in Japanese attaches to the majority of adjectives and nominal adjectives, but there are exceptions especially among the latest class. Most importantly, -sa does not seem to attach to nominal adjectives derived through zero-affixation from nouns, ex: anshin, baka, etc. It could be argued that incompatibility with a zero-morpheme is a property of -sa.

(3) The -ni marked adjunct is not appropriate if there is no connection between the referent of the -ni NP and that of the Theme NP. The referent of the -ni marked NP must be a potential user of the object referred to by the nominative NP. A sentence such as (i), where there is no implication of any relation between the referent of the 1st person pronoun and the building, is not well formed.

(i) Kono bi:ru-wa watashi-ni-wa takai  
this building-TOP I-ni-TOP tall  
This building is (too) tall for me

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