

Optimality and Economy of Expression in Japanese and Korean

Peter Sells

Stanford University

In this paper I will discuss certain cases in Japanese and Korean morpho-syntax where forms compete to express the same semantic and grammatical information, and attempt to show that in each instance the most economical form is chosen. Presenting an account in terms of Optimality Theory (OT; see Prince and Smolensky (1993), Grimshaw (1995)), I will argue that constraints such as ‘Avoid Word’ and ‘Avoid Affix’ (as in (1)) are motivated as the forces behind the economization.

(1) Avoid Word, Avoid Affix.

In OT, constraints are violable and ranked. For a given input—in this paper, abstract grammatical and semantic information—the optimal output is the morpho-syntactic expression which best satisfies the constraints in their ranking, even if some constraints are violated.

If the constraints in (1) were the only forces on grammatical expression, the optimal output would be silence; but such an output would fail to express any of the information in the input. Hence, there are constraints on what is called ‘Faithfulness’ in OT, constraints which require linguistic material to faithfully express the abstract input information.

In the first section of the paper, I discuss cases where a single word competes with a syntactic formation to express the same input information, illustrating a case where ‘Blocking’ extends from morphology into syntax. These facts illustrate the operation of ‘Avoid Word’. In the last two sections, I discuss cases where different morphemes compete with each other, or where expected surface morphemes appear to disappear; these illustrate ‘Avoid Affix’.

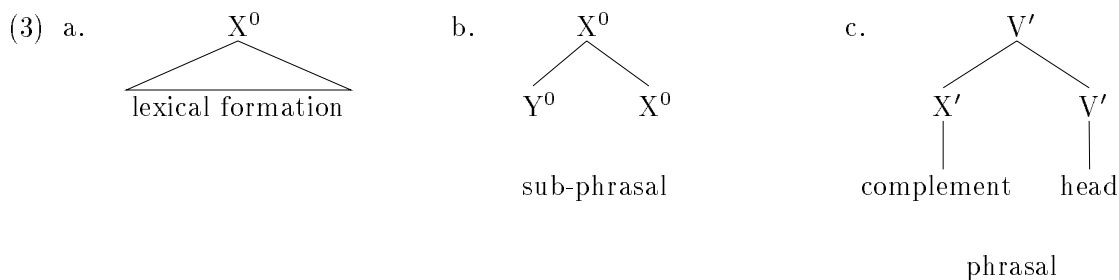
1. Competition between Morphology and Syntax

Let us look at some cases where different structures compete. In general we find that morphological combination is favored over syntactic combination, in other words that the idea that the ‘Minimal Projection’ of Grimshaw (1995) extends into the morphology, effectively as ‘no projection’. The fact that morphology competes with syntax in this way is embodied in the constraint DON’T-PROJECT (Bresnan (1996)), which favors the smallest possible syntactic structures. In the present context, the relevant constraint is ‘Avoid X^0 ’.

⁰This paper will appear, reformatted, in the Proceedings of the 7th Japanese/Korean Linguistics Conference. I am grateful to Joan Bresnan, Takao Gunji, Masayo Iida and Yukiko Morimoto for comments and suggestions regarding the presentation of this material, and to Hye-Won Choi and Yookyung Kim for assistance with certain Korean examples.

- (2) DON'T-PROJECT (Bresnan (1996)); in this context ‘Avoid X^0 ’

For my purposes here, I will argue if there is a lexical formation that projects just one X^0 in the syntax, as in (3)a, this competes with syntactic formations like (3)b, and in principle the former wins over the latter. Following Sells (1994), I refer to the structures in (3)b as ‘sub-phrasal syntactic’ formations.



I will return to the fully phrasal formation in (c) later. The lexical formation in (a) violates ‘Avoid X^0 ’ once, when that word is inserted in the syntax; the sub-phrasal structure in (b) violates the constraint three times, and hence is less preferred if the two structures should compete.

The first facts I will discuss involve a competition between the copula and the dummy verb ‘do’, which participate in the (a) and (b) structures in (3), respectively, as shown in (4). As will become clear, I assume here that the copula is only used in stative predications, while the dummy verb ‘do’ can be used in stative or active predications.

- (4) a. Copula in Jp. and Kr.: an affixal element; used only in stative predications.
 b. General ‘dummy’ verb: ‘do’ with a preceding X^0 complement; used in stative or active predications.

The facts of competition and blocking can be used to predict certain aspects of morpho-syntactic expression, for example with Adjectival Nouns (ANs, such as *kkaykkus* in Korean or *genki* in Japanese). In Japanese, the copula is available for ANs, and so it combines with them; the borrowed word ‘is handsome’ is *hansamu-da* (see (5)); **hansamu su-ru* is impossible.

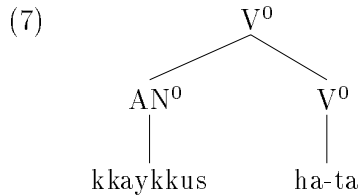
- (5) Combination with ‘adjectival nouns’:
 a. *hansamu-da* / **hansamu su-ru* (J)
 handsome COP / **handsome do*
 b. **haynsem-i-ta* / *haynsem ha-ta* (K)
 handsome COP / **handsome do*

In Korean, on the other hand, the ANs combine with *ha-ta*, and not with the copula; so in Korean we have (5)b. Why should there be this difference between the two languages?

The Korean examples are indeed small syntactic combinations, evidenced by the fact that the left-hand members can support intervening particles, as seen in (6). These delimiting particles cannot

appear word-internally, see Cho and Sells (1995) and Sells (1995). The structures are involved X⁰ formations (see Sells (1994) and Sells (1996)), as shown in (7).

- (6) a. pwuncwu-to ha-ta b. kkaykkus-un ha-ta
 busy-also do-DECL clean-FOC do-DECL
 ‘is also busy’ ‘is CLEAN’



The key difference between the two languages lies in the copula: the Japanese copula can attach to almost any element, so long as that element is not inflected; on the other hand, in Korean, the copula can only be hosted by pure nouns. Interestingly, the genitive shows morphological behavior that is quite similar. This is summarized in (8).

- (8) Jp. copula (and genitive) can combine with any non-inflected category; Kr. copula (and genitive) can only combine with pure nouns.

I take ANs to be of category Adjective, but they cannot inflect, and therefore require independent support for inflection.¹ In Japanese, the copula can attach to AN, and by the competition between (3)a/b, this is the most economical form. On the other hand, the Korean copula cannot be hosted by an AN, so (5)b *haynsem-i-ta* cannot even be a candidate in the competition. Consequently, the ANs must do the next best thing, which is to combine with *ha-ta*.

Now, it is not the case that the Korean copula can never be used to derive stative predicates, as seen in the examples in (9), with the pure noun predicate *akhan*. Crucially, as (9)a is available, (9)b is blocked by Avoid X⁰.

- (9) a. thayenal-ttay-pwuthe [akhan_N-i-n salam-un] eps-ta
 be.born-time-from [villain-COP-NPAST person-FOC] not.be-DECL
 ‘There is no one who is a villain from birth.’
- b. *thayenal-ttay-pwuthe akhan ha-n salam-un eps-ta
 be.born-time-from villain do-NPAST person-FOC not.be-DECL
 ‘There is no one who is a villain from birth.’

Hence, we see that if lexical formation with the copula is available, as it is with pure nouns, it is used in preference to syntactic formations with the ‘do’ verb. The economy can extend into

¹This claim about the category of ANs has been challenged by Han (1996), who suggests that ANs are types of noun. For my purposes here, it is not crucial to know what the nature of the restriction on AN+copula is in Korean; as long as there is such a restriction, alternative expressions will be chosen as preferable outputs. I should also note that it has been argued by Urushibara (1993) that *su-ru* in Japanese always has to be active, and that this, along with an economy-type preference for the copula, accounts for the basic range of data that I discuss here.

Adopting Poser’s approach allows us to account for some facts from Korean brought up in the context of blocking in Kim (1995). The facts of Korean negation are shown in (14).

- (14) a. Korean short-form negation: a sub-phrasal formation with Adv⁰ *an* and following V⁰ (as in (3)b).
 nay-ka pap-ul [an mek-ess-ta]
 I-NOM rice-ACC [not eat-PAST-DECL]
 ‘I didn’t eat the rice.’
- b. Korean long-form negation: a regular syntactic formation with phrasal V’ complement to *anh-ta* (as in (3)c; see Sells (1994)).
 nay-ka [pap-ul mek-ci] anh-ass-ta
 I-NOM [rice-ACC eat-COMP] NEG-PAST-DECL
 ‘I didn’t eat the rice.’

Kim points out that the ‘short-form negation’ with the prefixal *an* is apparently blocked for verbs that have a lexically inherent negative form. For example, for *iss-ta*, the negative form is *eps-ta* (see (15)b). The facts of blocking are that the short-form negation (c) is blocked, while the ‘long-form negation’ in (d) is perfectly acceptable.

- | | |
|---------------------------|------------------------------|
| (15) a. iss-ta ‘exist’ | b. eps-ta ‘not exist’ |
| c. *an iss-ta ‘not exist’ | d. iss-ci anh-ta ‘not exist’ |

As is well-known, certain kinds of delimiters and other particles including case can appear following *-ci* in (15)d, showing that it is a true phrasal formation (as in (3)c). On the other hand, the short-form negation in (15)c is an X⁰ sub-phrasal formation. It follows, then, that such forms will be blocked by lexical negative verbs, even if short-form negation is not lexical itself. As Kim notes, the fact that lexical negative verbs block short-form negation but not long-form negation is yet one more piece of evidence that the two forms of negation in Korean are distinct. For morpho-phonological evidence, see Sells (1995, 305).

Similarly, iterated short-form negation will be blocked by the non-negated form. That is to say, (16)c is bad, as it is a V⁰, blocked by (16)a; the (c) example violates Avoid X⁰ 5 times. On the other hand, (16)d is acceptable, as it is a phrasal construction, at least in part (*an mek-ci* is a phrasal complement to *anh-ta*).

- | | |
|---|-----------------------------------|
| (16) a. mek-ta ‘eat’ (1 *) | b. an mek-ta ‘not eat’ |
| c. *an an mek-ta ‘(not not) eat’ (5 *s) | d. an mek-ci anh-ta ‘not not eat’ |

In summary, the various blocking effects here stem from the constraint ‘Avoid X⁰’. In the next section, I will discuss the morphological economy constraint ‘Avoid Affix’.²

²Strictly speaking, phrasal projections will also involve more occurrences of X⁰ than do single lexical items (at least two X⁰s). The crucial constraint on the evaluation of ‘Avoid X⁰’ is that it involves comparing X⁰s which are alternative candidates for the same input, as in the lexical vs. sub-phrasal examples considered here. In phrasal

2. Competition among Morphemes

The canonical complementation pattern in Korean is to take a well-formed declarative sentence and embed it using the complementizer *-ko*, as shown in (17).

- (17) *olh-ta-ko* *malhay-ss-ta*
 be.right-DECL-COMP say-PAST-DECL
 ‘(someone) said that (someone) was right’

There is one exception to this pattern, involving the present tense form of the copula; the regular present and past tense expressions are shown in (18).

- (18) a. *sensayng-i-ta*
 teacher-COP-DECL
 ‘(someone) is a teacher’
 b. *sensayng-i-ess-ta*
 teacher-COP-PAST-DECL
 ‘(someone) was a teacher’

In embedded clauses, the present tense form of the declarative marker is not *-ta* but *-la*; this is the only place where the form changes.³ As shown in (19)a, the past tense form is as expected.

- (19) a. *sensayng-i-ess-ta-ko* *malhay-ss-ta*
 teacher-COP-PAST-DECL-COMP say-PAST-DECL
 ‘(someone) said that (someone) was a teacher’
 b. **sensayng-i-ta-ko* *malhay-ss-ta*
 teacher-COP-DECL-COMP say-PAST-DECL
 ‘(someone) said that (someone) is a teacher’
 c. *sensayng-i-la-ko* *malhay-ss-ta*
 teacher-COP-DECL-COMP say-PAST-DECL
 ‘(someone) said that (someone) is a teacher’

I think that the only plausible non-transformational account of these facts treats *-ila* as a form meaning ‘copula, declarative, embedded’. In this way, it carries at least as much information as the analytic form *-i-ta*, but uses one morpheme less.

structures, however, the relevant input elements are split over at least two X^0 s. For example, in (16)c, the whole structure is X^0 expressing two (cancelling) negations, and ‘eat’; but in (16)d there is no comparable X^0 , for one of the syntactic words in that example expresses just one negation and ‘eat’, and the second word just expresses another negation. Consequently, the structures are incomparable, and therefore cannot compete and show any blocking effects.

³There is a separate suffix *-la* which is an imperative mood marker; this can be attached to any suitable verb and embedded under *-ko*, representing a direct quote of the imperative.

- (20) a. *-ila*: ‘copula, declarative, (embedded)’
 b. *-i-ta*: ‘copula, declarative’

That is to say, in an embedded context, *-ila* violates Avoid Affix once, but *-i-ta* violates it twice, and hence is blocked.

We can also see the effects of Avoid Affix in Japanese. For example, why is ‘red hat’ *aka-i boosi*, rather than *aka-ku-no boosi*?

- (21) a. **aka-ku-no boosi*
 red-ADV-GEN hat
 ‘red hat’
 b. *aka-i boosi*
 red-NPAST hat
 ‘red hat’

This is again because of Avoid Affix; the grammatical expression is also the shortest. Additionally, there are contrasts like those shown in (22) and (23), involving the supporting verb *ar-u* (‘exist’); here the verb *su-ru* gives a causative interpretation. Why is *ar-u* used to support an adjectival form, rather than the copula *-da*?

- (22) a. *aka-i red-NPAST* ‘is red’
 b. **aka-ku-da red-ADV-COP.NPAST*
 c. **aka-ku ar-u red-ADV exist-NPAST*

Hajime Hoji (p.c.) pointed out to me that (22)b is well-formed if the adjectival part is the focus of a cleft, but for the simple meaning shown in (22), the simplest form is used. With respect to that form, (22)b is dispreferred in this case as it violates Avoid Affix more, and (22)c violates Avoid X⁰ more. However, the inflected form of the adjective cannot host a delimiting particle such as *-mo*, and I think it is the case that *-mo* cannot host the copula. Hence, the basic morphology cannot even generate (23)a–b as candidates. In such a case, the dummy verb *ar-u* is used, as in (23)c.

- (23) a. **aka-i-mo red-NPAST-even*
 (morphologically impossible candidate)
 b. **aka-ku-mo-da red-ADV-even-COP.NPAST*
 (morphologically impossible candidate)
 c. *aka-ku-mo ar-u red-ADV-even exist-NPAST* ‘is even red’

However, the fact that (23)c is the only expression for this given meaning suggests that the combinatoric morphology of Japanese must also generate (22)c; among the various candidates, it is then up to the economy principles to predict the actual acceptable surface expressions.⁴

⁴Some researchers assume that the form *Adj-ku atta* (like (22)c) underlies the past tense adjectival form *Adj-katta*. However, I take *-katta* to be a mono-morphemic tense affix. Support for this position comes from negation in the Kansai dialect: the form meaning ‘did not eat’ is *tabe-hen-katta*, but in this dialect there is no conceivable source form **tabe-hen-ku atta*.

The general pattern here will also predict blocking of the expected negative form of *ar-u*, which ought to be **ar-ana-i* ('not exist'); but this is blocked by the irregular form *na-i*, which uses one affix fewer. Adjectival forms in Japanese have no inflectional negative, so the negative form is sub-phrasal, e.g. *aka-ku na-i* ('is not red').

3. Competition in Japanese Prenominal Forms

3.1. The Linker *-no*

This final part of the paper is focussed around the Japanese prenominal particle *-no*. The analysis that I will develop is based on the idea that the wide range of uses of the morpheme *-no* can be explained by taking it to be the default linker to a following head noun, regardless of the semantic relationship it expresses. This makes it look quite similar to the Chinese linker *de* (see Kitagawa and Ross (1982)). It is not a genitive marker as such, but is the only means that the language has, to express whatever semantic relationships the 'genitive' can express. There is just one surface restriction on *-no*: it cannot be attached to an inflected predicate. The generative combinatoric morphology, however, can allow *-no* to attach to any host whatsoever, and a natural ranking of constraints places greater positive value on using an inflected form over one using *-no*, or one using both.

We now need to look at what forms Japanese can use in a prenominal context. In fact, there are only a few (see Kitagawa and Ross (1982)); the relevant morphemes are shown in (24) and are underlined. I gloss *-no* as a 'linker'.

- (24) Generalizations about Japanese prenominal modification:
- a. Verb or adjective forms which can inflect, do inflect:

tabe-te	<u>i-ru</u>	hito	se-ga	taka- <u>i</u>	kodomo
eat-GER	be-NPAST	person	height-NOM	tall-NPAST	child
‘a person who is eating’			‘a tall child’		
 - b. Adjectival Nouns take the prenominal copula *-na*:

benri- <u>na</u>	hoteru
convenient-COP.NPAST	hotel
‘a convenient hotel’	
 - c. Everything else takes *-no*:

asita- <u>no</u>	paatii	hataraki-sugi- <u>no</u>	hito	pikapika- <u>no</u>	kuruma
tomorrow-LNK	party	work-excess-LNK	person	twinkle-LNK	car
‘tomorrow’s party’		‘a person who overworks’		‘a shiny (new) car’	

It is clear that *-no* is a kind of default, and we can ask the following question about the analysis: How can we predict the behavior of *-no* without writing a lexical entry for it that explicitly excludes the environments of (24)a–b? Let us begin by considering the constraints shown in (25).⁵

⁵Formally, (25)a requires, in the system of Cho and Sells (1995), that the TYPE value of the form in question is N-SIS; only those forms shown in (24) satisfy this.

- (25) Constraints relevant to the expression of prenominal forms:
- a. ‘N-MOD’: take a form appropriate for a nominal modifier (one of the forms in (24)).
 - b. *AFFIX: Avoid Affix.
 - c. FAITH: express (parse) all input information.

Now let us state the lexical information as broadly as possible, generalizing the entry for *-no*.

- (26) Lexical entries/requirements:
- a. Inflectional endings attach only to morphologically bound forms (verb and adjective roots).
 - b. The linker *-no* attaches to anything that cannot inflect (any morphologically free form). This includes a form that is already inflected. It instantiates any relation *REL* which can connect its host to a following head noun, but it can not express tense. The ‘genitive relation’, which I schematize here as ‘*R*’, ranges over a subset of those relations schematized by *REL* (see (c)).
 - c. *-no*: satisfies ‘N-MOD’, expresses any relation *REL*.

Verb and adjective roots will inflect for tense. Verbs also have non-inflected forms, and these appear prenominally linked by *-no*, as in *tabe-sugi-no hito*.

Let us look at a simple case where the linker *-no* is not used, as shown in (27). This tableau shows the best expression in Japanese of ‘the fact that Taroo is eating (something)’.

(27)

[Taroo-NOM eat-NPAST fact]	FAITH	‘N-MOD’	*AFFIX
taroo-ga tabe-ru-no koto			**!
☺ taroo-ga tabe-ru koto			*
taroo-ga tabe-no koto	*!		*

Here the first and second candidates express all of the input information, but the first uses one morpheme more. The last candidate has only one affix, but does not parse the tense in the input.

We allow *-no* to be generated after an inflected verb; this is a string that children can produce, but in the adult grammar these forms are disfavored relative to ones without *-no*. Murasugi (1991) discusses two stages of overgeneralization of *-no* in acquisition data. At the first stage, children overgeneralize *-no* everywhere, adding it after inflected verb and adjective forms. At the second stage, children lose *-no* after adjectives, but retain it after verbs. Murasugi suggests that this is because the children are no longer treating adjectives as tensed forms, but rather just simple adjectival forms like English ‘red’, already in a noun-modifying form. At that stage, then, *-no* is used following true tensed (that is, verb) forms, but is not used anywhere else. After that, the adult stage is reached.

- (28) Murasugi (1991), two stages of overgeneralization of Jp. *-no*:

- a. *-no* appears after all pronominal forms
(used everywhere)
- b. *-no* not used after adjectives
(still used after tensed (verb) forms)
- c. *-no* not used after adjectives or verbs (adult)
(not used after any inflected forms)

Given the constraint rankings above, this would mean that children at the first stage only can satisfy N-MOD with *-no*; then they learn that adjectival inflection can satisfy N-MOD, and then they learn that all inflection can.

3.2. The Absence of *-no*

Let us now extend the data to include the pronominal *-no*, meaning ‘one’, which is itself affixal. I follow Murasugi (1991) in taking this to be a separate pronominal form, rather than the linker *-no* followed by a null pronominal. The affixal nature of the pronominal becomes important in the next examples, where the expected sequence *-no-no* is actually just *-no*. Consider (29).

- (29) watasi-no kuruma-wa huru-i kedo [sensei-no-wa] atarasi-i-desu
 I-LNK car-FOC old-NPAST however [teacher-one-FOC] new-NPAST-LEVEL
 ‘My car is old, but the teacher’s (one) is new.’

My assumptions about this pronominal *-no* are given in (30), and I underline it in all the examples.

- (30) The morpheme *-no* which means ‘one’ is affixal, and the affixation relation itself can express the semantic relationship *R*.

The input corresponding to the bracketed part of (29) is shown in (31).

(31)

[teacher <i>R</i> <u>one</u> -FOC]	‘N-MOD’	*AFFIX
sensei-no- <u>no</u> -wa		***!
sensei- <u>no</u> -no-wa		***!
☺ (30) sensei- <u>no</u> -wa		**

Strictly speaking, in this example, the constraint ‘N-MOD’ is not relevant, as the head noun is not an independent noun, but is the affixal pronominal *-no*. In this case, the relation *R* can be expressed by the morphological affixation process, and the linker *-no* has no function, and so cannot be used.

If we look at more complex data, the same patterns hold. Consider what will happen if we pronominalize *kuruma* in (32).

- (32) sensei-no kuruma-no iro
 teacher-LNK car-LNK color
 ‘the color of the teacher’s car’

The correct output in this case has two morphemes *-no* in it, the pronominal and a linker, in that order. As the following noun *iro* is an independent word, the linker *-no* is necessary here to satisfy ‘N-MOD’.

- (33) watasi-no kuruma-wa aka-i kedo sensei-no-no iro-wa
 I-LNK car-FOC red-NPAST however teacher-one-LNK color-FOC
 siro-i-desu
 white-NPAST-LEVEL
 ‘My car is red, but the color of the teacher’s is red.’

In (34), the first *-no* in the first candidate is redundant as the affixation relation itself can express *R*; hence the second candidate is preferred. In the third candidate, the noun modification requirement cannot be satisfied without a linker *-no*, so it is the second candidate which is the output.

(34)

[teacher <i>R</i> <u>one</u> <i>R</i> color]	‘N-MOD’	*AFFIX
sensei-no- <u>no</u> -no iro		***!
☺ (33) sensei- <u>no</u> -no iro		**
sensei- <u>no</u> iro	*!	*

It has been thought that facts like these just described above perhaps derive from a kind of OCP constraint against identical adjacent elements; let us call it *NO-NO in this case. For the data considered so far, such a constraint has no observable role. If it did exist, it is a violable constraint, as some sequences of *-no-no* are tolerated. There are other circumstances, however, where it seems that we can indeed see the effects of such a constraint. Consider first the following examples involving *ga/no*-Conversion in noun-modifying clauses. I am not sure of the correct analysis of the case-marker *-no* here, so I just gloss it as ‘CASE’.

- (35) a. kagi-ga kakus-are-ta tokoro-wa ...
 key-NOM hide-PASS-PAST place-TOP ...
 ‘the place where the key is hidden ...’
 b. kagi-no kakus-are-ta tokoro-wa ...
 key-CASE hide-PASS-PAST place-TOP ...
 ‘the place where the key is hidden ...’

How do we allow for this option in the first place? It must be that *kagi-ga* and *kagi-no* compete equally as expression of the embedded subject, however that is achieved. Now let us replace the noun *kagi* with the sequence *taroo-no* (‘Taroo’s (one)’), thereby creating two occurrences of *no*.

- (36) a. taroo-no-ga kakus-are-ta tokoro-wa ...
 Taroo-one-NOM hide-PASS-PAST place-TOP ...
 ‘the place where Taroo’s is hidden ...’
 b. *taroo-no-no kakus-are-ta tokoro-wa ...
 Taroo-one-CASE hide-PASS-PAST place-TOP ...
 ‘the place where Taroo’s is hidden ...’

(36)b is ungrammatical, and so here we see the effects of a *NO-NO constraint. By assumption, the two forms will directly compete, but now (b) violates one more constraint, *NO-NO, and hence is not the optimal output. Where this constraint is ranked relative to Avoid Affix is not clear from the data discussed here; its effects would not be visible in the tableaux (31) and (34) above, so long as it is ranked lower than N-MOD. Pending further investigation, I show it below Avoid Affix in (37).

(37)

[Taroo's _{SUBJ} hide-PASS-PAST ...]	*AFFIX	*NO-NO
☺ (36) taroo- <u>no</u> -ga kakus-are-ta	**	
taroo- <u>no</u> -no kakus-are-ta	**	*!

Conclusion

In the domains considered here, an account based on OT seems to provide a natural account of cooccurrence restrictions between morphemes, and also an account of what we might call ‘economy of expression’, where the language chooses the least complex morphological and syntactic structure that it can. These economy constraints are simply stated:

- (38) a. Avoid Affix.
 b. Avoid X⁰.

Incidentally, these two constraints compete: in order to be faithful to an input, the fewer affixes you use, the more words you will need, and vice versa. Future work will need to investigate the relative ranking of these constraints with respect to each other, and other constraints.

- (39) You could reduce violations of ‘Avoid Affix’ by violating ‘Avoid X⁰’ (and vice versa); hence these two constraints compete too.

This paper has only sketched partial analyses of small sets of data. However, the view taken here of the notion of ‘economy of expression’ presents it as being grounded directly in the morphological forms of the language, as opposed to some larger and perhaps less clearly motivated syntactic constructs.

References

- Bresnan, Joan. 1996. Optimal syntax: Notes on projection, heads, and optimality. Ms. Stanford University (available at <http://csli-www.stanford.edu/users/bresnan/>).
- Cho, Young-mee Yu, and Peter Sells. 1995. A lexical account of inflectional suffixes in Korean. *Journal of East Asian Linguistics* 4, 119–174.
- Endo, Yoshio. 1994. Stage/individual-level nouns. In M. Koizumi and H. Ura (eds.), *Formal Approaches to Japanese Linguistics 1*, MIT Working Papers in Linguistics 24, 83–99. Cambridge, Dept. of Linguistics, MIT.

- Grimshaw, Jane. 1995. Projection, heads, and optimality. Ms. Rutgers University (available via anonymous FTP to rucss.rutgers.edu).
- Han, Hak-Sung. 1996. Syntactic affixation and the structure of Korean. In Hee-Don Ahn, Myung-Yoon Kang, Yong-Suck Kim, and Sookhee Lee (eds.), *Morphosyntax in Generative Grammar (Proceedings of 1996 Seoul International Conference on Generative Grammar)*, 23–37. Seoul, The Korean Generative Grammar Circle, Hankwuk Publishing Co.
- Kim, Jong-Bok. 1995. *The Grammar of Negation: A Lexicalist, Constraint-Based Perspective*. Doctoral dissertation, Stanford University.
- Kitagawa, Chisato, and Claudia Ross. 1982. Prenominal modification in Chinese and Japanese. *Linguistic Analysis* 9, 19–53.
- Murasugi, Keiko. 1991. *Noun Phrases in English and Japanese: A Study in Syntax, Learnability and Acquisition*. Doctoral dissertation, University of Connecticut.
- Poser, William. 1992. Blocking of phrasal constructions by lexical items. In Ivan Sag and Anna Szabolcsi (eds.), *Lexical Matters*, 111–130. Stanford, CSLI Publications.
- Prince, Alan, and Paul Smolensky. 1993. Optimality theory: Constraint interaction in generative grammar. Ms. Rutgers University (available via anonymous FTP to rucss.rutgers.edu).
- Sells, Peter. 1994. Sub-phrasal syntax in Korean. *Language Research* 30, 351–386.
- Sells, Peter. 1995. Korean and Japanese morphology from a lexical perspective. *Linguistic Inquiry* 26, 277–325.
- Sells, Peter. 1996. Case, categories, and projection in Korean and Japanese. In Hee-Don Ahn, Myung-Yoon Kang, Yong-Suck Kim, and Sookhee Lee (eds.), *Morphosyntax in Generative Grammar (Proceedings of 1996 Seoul International Conference on Generative Grammar)*, 47–62. Seoul, The Korean Generative Grammar Circle, Hankwuk Publishing Co.
- Urushibara, Saeko. 1993. Nonagentive light verb constructions: Korean vs. Japanese. In S. Kuno et al. (ed.), *Harvard Studies in Korean Linguistics*, Vol. 5, 423–435.

Department of Linguistics
Stanford University
Stanford, CA 94305-2150
sells@csl.stanford.edu
This version: November 26, 1996