Towards a Functional Account of Case Marker Reduction and Coda Neutralization in Korean

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Ahn, Hee-Don, Kang, Hyunsook and Han, Jeong-Im. 2002. Towards a Functional Account of Case Marker Reduction and Coda Neutralization in Korean. *Discourse and Cognition* 9.1, 77-96. In this paper, we argue that principles on language’s communicative function can uniformly account for various form reduction phenomena in syntax and phonology. Focusing on the case marker reduction and coda neutralization in Korean, we claim that deletion or neutralization is basically triggered by the economy principle of production (Minimize Effort), but monosyllabic elements are exempted from these reduction phenomena because reduction phenomena are also heavily restricted by the optimal principle of recognition (Maximize Information). Based on these functional approaches using two antagonistic functional principles, some ellipsis phenomena in Korean and English are also revisited. (Konkuk University · Hanyang University · Konkuk University)

Key words: case marker reduction, coda neutralization, ellipsis, functional principles

1. Introduction

This paper\(^1\) presents empirical and theoretical arguments that the form reduction phenomena in syntax and phonology, which are basically triggered by the economy principle of production "Minimize Effort," is

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heavily restricted by the optimal principle of recognition "Maximize Information." We argue that these two principles of communicative function of language are at work in diverse deletion and neutralization contexts.

These two principles have been developed by Martinet (1952, 1955) and Lindblom (1986, 1990) for building a quantitative model of sound contrast selection, and recently revived in a number of work, acknowledging the role of speech perception in explaining the language sound system (Boersma 1998, Flemming 1995, Kirchner 1997, Steriade 1997 among others). Minimize Effort appears to be a general principle of human motor behavior: the speaker will minimize his/her articulatory and organizational effort. Thus this principle tries to keep linguistic forms as simple as possible. On the other hand, as for the principle Maximize Information, the morphophonological contrasts should be maximized in order to enable the hearer to reconstruct the meaning of the utterance, without any mistake in recognition. Thus Maximize Information tries to preserve the contrast in underlying representation on the surface.

In the realm of pragmatics and functional grammar, similar principles have been put forward. For example, Horn (1984) attempts to subsume Grice's (1975) Cooperative Principle and its submaxims under two antagonistic principles: namely, speaker-based R-principle "Say no more than necessary" vs. hearer-based Q-principle that basically says "Be as informative as possible." Notice that the two principles Horn proposes are essentially akin to the functional strategy Minimize Effort and Maximize Information in that they necessarily conflict with each other. Thus in real communication a balance should be achieved between these two principles and a division of pragmatic labor can be seen to resolve the conflict between them.2) In other words, the interaction between what is good for

2) According to the Division of Pragmatic Labor put forward in Horn (1984:22), the R-principle induces a stereotypical interpretation: the unmarked expression tends to become associated with unmarked situation. Q-principle, by contrast, comes into play only with the complementary marked interpretation. Horn's essential ideas on Division of Pragmatic Labor, however, have been reinterpreted and reanalyzed in various ways by others (see Levinson 1987, for example). Our antagonistic functional principles Minimize Effort and Maximize Information are just meant to be "roughly" equivalent to Horn's R- and Q-principles. It should be emphasized, therefore, that we do not intend to make any strong claim beyond what is actually suggested here; that is, Minimize Effort and Maximize Information do not necessarily correspond to "markedness" degree of form and function in the strict sense of
the speaker and what is good for the hearer can give rise to various linguistic patterns: omission and neutralization can occur and the speakers output is simplified, potentially creating a difficulty for the hearer. Or the speaker may maintain contrast, producing a more complicated output, and thus avoiding ambiguity for the hearer.

In this paper numerous pieces of evidence are drawn from the case marker reduction and coda neutralization phenomena in Korean that exhibit monosyllabic effects which essentially correlate with the reduction/neutralization possibilities of morpho-syntactic and phonological segments.

2. Case Marker Reduction

It is widely held that accusative case marker can be deleted in Korean: (# indicates zero case)

(1) a. (say)os-lul ipessta → (say)os-# ipessta
   (new)cloth-ACC wore (new) cloth wore
   'I wore a (new) cloth.'

   b. (kulim)chayk-ul ilkessta → (kulim)chayk-# ilkessta
      (picture)book-ACC read (picture)book read
      'I read a (picture) book.'

Case morpheme lul can be contracted to l (in addition to deletion) if the stem ends with a vowel:

(2) a. (hen)cha-lul phalamasta → (hen)cha-l phalamasta
   (used)car-ACC sold
   → (hen)cha-# phalamasta
   'I sold a (used) car.'

   b. (i)kay-lul sassta → (i)kay-l sassta
      (this)dog-ACC bought
      → (i)kay-# sassta
      'I bought (this) dog.'

Horn (1984). Discussing full details of Horn's functional principles compared with ours goes far beyond the scope of this paper, and we will leave it for future research. We thank an anonymous reviewer for bringing this problem to our attention.
Certain postpositions behave similarly as case morphemes in Korean if they are attached to the syntactic "arguments" of the verbs:3)

(3) a. saycip-(ey/?ul) salayo
   new house-in live
   'I live in a new house.'

b. twissan-(ulo/ey/ul) kanta
   rear mountain-to go

3) Whereas we find the examples in (3) perfectly acceptable, an anonymous reviewer judged them either as simply unacceptable, or at least as significantly deviant when the postpositions are deleted or replaced by an accusative case marker. There are, in fact, some speakers who we consulted judged the sentences somewhat odd, too. The acceptability of the sentences improve significantly if we substitute the complements with more definite or specific expressions (ia-b), or words with more syllables (ic-d).

(i) a. na-nun aphpatu(ey/?ul) salayo
    I-TOP apartment-in live
    'I live in an apartment.'

b. Mary-nun namsan-(ulo/ey/ul) kassta
    Mary-TOP Namsan-to went
    'I went to Namsan.'

c. John-nomin phachwulso-(eyse/hul) nawass-ulttay, ...
    John-NOM substation-from came out-when
    'When John came out of the (police) substation, ...'

d. Ku-nun Mary-lul myenuli-(lo/hul) samaassta
    he-TOP Mary-ACC daughter-in-law made
    'He made Mary his daughter-in-law.'

Thus, it seems that increasing definiteness/specificity and/or the phonological size of words (based on the number of syllables) tends to enhance the saliency of information that may make amends for the loss of information that results from missing postpositional/case markers. Interestingly, the observed omissibility of case/postposition in Korean seems just the opposite of the possibility of case marker realization in many other languages, as discussed in Aissen (2000). Given a characterization of the relevant prominence scales, Aissen (2000, 2) proposes that the higher in prominence a direct object, the more likely it is to be overtly case marked. According to her analysis, the dimensions along which prominence is assessed include animacy (Human > Animate > Inanimate) and definiteness (Personal pronoun > Proper noun > Definite NP > Indefinite specific NP > Non-specific NP). Thus, in Sinhalese, for example, only objects high in prominence on the animacy hierarchy are overtly case marked; in Hebrew, only objects high in prominence on the definiteness hierarchy are case marked; ... and the like. It thus appears that the degree of case drop possibility between Korean and other languages must be accounted for independently. We will not explore the issue further here.
'I will go to the rear mountain.'
c. cise-(eyse/lul) nawasse
   substlation-from came out
   'I came out of the (police) substitution.'
d. Mary-lul anay-(lo/lul) samassta
   Mary-ACC wife made
   'I made Mary my wife.'

Note that most omissible postpositions in (3) (perhaps except for (3a)) can
alternate with accusative case markers, and this may imply that the oblique
nouns can be regarded as (semi-)arguments of the verbs. Note also that
beside deletion, contraction of postpositional/case morpheme is also possible
after vowel-ending stem as in (4).

(4) a. cise-(eyse/lul) nawasse → cise-(se/l) nawasse (=(3c))
   b. Mary-lul anay-(lo/lul) samassta
      → Mary-lul anay-(l) samassta (=(3d))

On the other hand, postpositions (sometimes called lexical or semantic
cases) that come with non-selected syntactic arguments (namely, adjuncts),
cannot undergo omission, partly due to their inherent meaning that cannot
be completely recovered by syntactic information, as shown in the
following.4)

(5) a. hakkyo-eyse ttwuyessta → *hakkyo-# ttwuyessta
   school-at run school run
   'I run at school.'
   b. haksayng-eykey malhayssta → *haksayng-# malhayssta
      student-to said student said
      'I said to the student.'

4) In (5a), for example, the overt candidates for the missing preposition can be eyse 'at', lo 'to',
loptule 'from', -haymounen 'because of', etc. to list a few. Thus, the missing preposition
cannot be properly interpreted unless there is a context salient enough to recover it. Note in
passing that a condition on deletion given in Pesetsky (1998) has recourse to the constraint
Recoverability along the similar line: a syntactic unit with semantic content must be
pronounced unless it has a sufficiently local antecedent.
Thus, we may come up with the following generalization as to the reduction possibilities for case/postpositional morphemes in Korean:

(6) Only case/postpositional morphemes in syntactically selected arguments can be deleted.

As noted by Lee (1995), however, there are exceptions to this generalization when the host argument is "monosyllabic" (in contrast to polysyllabic (3)) and "indirect" argument, as shown below (See Marantz 1984 for direct vs. indirect argument distinction).

(7) a.*cip-# salayo
    house live
    ‘I live in a house.’

b.*san-# kanta
    mountain go
    ‘I will go to the mountain.’

c.*se-# nawasse
    substation came out
    ‘I came out of the (police) substation.’

d.*Mary-lul che-# samassta
    Mary-ACC wife made
    ‘I made Mary my wife.’

Monosyllabic indirect argument also resists contraction (contra polysyllabic (4)):

(8) a.*se-l [<lul] nawasse
    ‘I came out of the (police) substation.’

    b.*Mary-lul che-l [<lul] samassta

5) Although we starred the sentences in (7), we do not intend to indicate the absolute ill-formedness. It should also be noted that some speakers, including an anonymous reviewer of this paper, find the distinction between (3) and (7) not as sharp as indicated. Thus, our argument holds only for those who have fairly clear contrasts like the authors of this paper. In fact, we must admit that judgments for some examples in this paper vary even among ourselves. Hereafter, we will rely mainly on the “relative” judgments of the data. We believe the instability or variability in judgments would not further undermine our claim since this property, on the contrary, may reflect the typical nature of functional drive.
'I made Mary my wife.'

Note that monosyllabic "direct" arguments pattern with polysyllabic ones on permitting deletion and contraction of case markers (cf. (1) and (2) for polysyllabic direct arguments):

(9) a. os-# ipessta
    cloth wore
    'I wore a cloth.'

b. chayk-# ilkessta
    book read
    'I read a book.'

c. cha-# phalassta / cha-l phalassta
    car sold car-ACC sold
    'I sold a car.'

d. kay-# sassta / kay-l sassta
    dog bought dog-ACC bought
    'I bought a dog.'

Thus, this fact draws a sharp distinction between direct and indirect arguments in relation to case reduction possibilities for monosyllable words.6)

6) Two anonymous reviewers indicated that adding a syllable to a semi-argument, as in (i) below, may not necessarily improve the acceptability, in contrast to (7a-b):

(i) a.*na-nun hakkyo-# salayo
    I-TOP school live
    'Intended reading: I live at school.'

b.*Mary-nun saycip-# kassta
    Mary-TOP new house went
    'Intended reading: I went to the new house.'

Unlike the reviewers' judgment, the sentences are marginally acceptable to us. However, we also find these examples less acceptable than (3a-b) in the text and (ia-b) in fn. 3. Notice that if the hakkyo and saycip in (i) are replaced by a "definite" expression koki 'there', for example, the sentences become perfect. Again, this observation raises an interesting question on the nature of enhancing informational unit. Perhaps definiteness, besides counting the number of syllables, is a crucial factor for Maximize Information, as discussed in fn. 3. Then, the oddness of the above sentences is exactly what is expected under the present analysis because hakkyo and saycip are relatively lowerly-ranked in definiteness/specificity hierarchy,
All other things being equal in colloquial speech, deletion or contraction appears to be favored, due to the functional principle of minimization of articulatory effort unless it violates the seemingly conflicting functional principle of minimization of perceptual obscurity: Maximize Information. In this respect, a monosyllabic noun in Korean may not be able to serve as a full-fledged information unit by itself without any overt realization of grammatical endings unless some additional information is provided to highlight and disambiguate it.\(^7\) It seems that a direct argument can be fully identified and received a canonical case by its selector, i.e. by transitive verb. Then, phonological presence of grammatical case morpheme in direct argument is informationally "redundant" since the canonical form of case realization is predicted by syntactic configuration, hence preferably subject to deletion/contraction (due to Minimize Effort) in neutral colloquial context. In contrast, overt realization of case/postposition morpheme in indirect arguments cannot be unambiguously licensed by its selector (say, verb) since there is no canonical form fully recovered by syntactic relations (see for example (3b) that shows three possible cases/postpositions ulo/ey/ul for the argument of the verb kata 'go'). Thus, the reduced monosyllabic indirect complements are not acceptable since they are informationally deficient without coherent grammatical morphemes that specify their roles in the sentence. Polysyllabic indirect complements, however, can be self-informative without help of grammatical formatives attached to them.\(^8\)

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7) Again, recall Pesetsky's (1998) Recoverability condition on silent categories, as discussed in fn. 4.

8) An anonymous reviewer points out that we should clarify why monosyllabic constituents are "informationally deficient" in contrast to "self-informative" polysyllabic ones. At this stage, we would employ these terms rather descriptively. We suggest that self-informative (polysyllabic) items are "perceptually" more contrastive and prominent in that they may cause less obscurity or ambiguity than informationally deficient (monosyllabic) elements. It seems that there are at least two different ways to make a word (linguistically) salient in the discourse: on the one hand, by enriching more semantic or pragmatic features such as definiteness, specificity, animacy, or on the other, by adding or retaining phonological strength like lengthening syllable number in the word. This paper is primarily concerned with the latter (prosodic) strategy.
3. Coda Neutralization

The parallels in the permissible environments for deletion and contraction are observed in Korean phonology. As is well-known, if a consonant cluster appears in the coda position, cluster reduction occurs. As in (10), if followed by a vowel-initial suffix, however, both consonants surface, one as a coda of the preceding syllable and the other as an onset of the following syllable.

(10) Consonant cluster reduction

\[
\begin{array}{lll}
/talk/ & \text{chicken} & \text{tak} & \text{tal.ki} \\
/kaps/ & \text{price} & \text{kap} & \text{kap.si} \\
\end{array}
\]

Also aspirated and tense stops, fricatives, and affricates are never allowed in the coda position. Instead, in this position they all surface as the corresponding lax stops. Again, if followed by a vowel-initial suffix, these segments are resyllabified as the onset of the following syllable without any phonetic change, which is shown in (11) (Kim-Renaud 1974, etc.).

(11) Coda neutralization

\[
\begin{array}{lll}
/puak\text{h}/ & \text{kitchen} & \text{pu.\text{ak}} & \text{pu.\text{a.khi}} \\
/muri\text{ph}/ & \text{knee} & \text{mu.\text{ri.p}} & \text{mu.ri.\text{phi}} \\
\end{array}
\]

However, it has recently been observed that consonant cluster reduction tends to take place even before a vowel-initial suffix (Lee 2000) (cf.

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9) One reviewer pointed out that from the cognitive perspective, [puak.khi] may cost less effort than [puak.ki], since the former output can be derived from the input /puakh+i/ without any phonological change. However, we suggest that even in the cognitive level, [puak], not [puak.khi], may take less effort. Note that the simplified form [puak] appears on the surface when used as an independent word, without any following suffix. Thus if the same surface form may appear in all forms included in the same paradigm, co-indexing these forms is more easily processed by both the speaker and the listener. On the other hand, with the unsimplified form [puak.khi], the speakers or listeners should learn that different forms appear depending on the following suffix. Then it would lead to more effort to the speaker and listener. Consequently, it is noteworthy in this regard that Minimize Effort works in this way even "cognitively."
Kenstowicz 1996).

(12)  
\[
\begin{array}{ccc}
/talk/ & \text{chicken} & \text{tak} \\
/kaps/ & \text{price} & \text{kap}
\end{array}
\]

We also observe that relatively younger speakers tend to neutralize coda consonants before a vowel-initial suffix as well as in an independent form.

(13)  
\[
\begin{array}{ccc}
/puakh/ & \text{kitchen} & \text{pu.\text{ak}} \\
/muri\text{ph}/ & \text{knee} & \text{mu.r\text{i.p}}
\end{array}
\]

We claim that two functional principles of language communication are also at work here, that is, Maximize Information and Minimize Effort. The difference in phonetic realization of coda consonants in (10) and (11) on the one hand, and in (12) and (13) on the other hand can be explained with the relative ranking of these two principles. For speakers producing the surface forms as in (10) and (11), Maximize Information is more highly ranked than Minimize Effort principle. However, speakers with the forms in (12) and (13) have higher ranked Minimize Effort than Maximize Information principle. Note that forms in (12) and (13) with reduced coda are easier to be articulated than those in (10) and (11), and at the same time reduced segments can be perceptually retrieved rather easily. Those who speak with either a reduced form or a full form allow both ranking. Thus the optimal final form is selected by the operation of these two conflicting forces.

Interestingly, it is not the case that any form with reduced coda can always occur before vowel-initial suffixes. For example, /nac/ ‘daytime’ appears as [nac] before a vowel-initial suffix, never as [nas], an expected neutralized form.\textsuperscript{10} Likewise, /pak\text{k}/ ‘outside’ appears as [pak\text{k}] before a vowel-initial suffix, not as [pak]. Note that all these words are monosyllabic. With the lack of enough information flow, the disambiguation of an utterance including these words does not seem to be easily facilitated.

\textsuperscript{10} /nac/ appears as [nat] in an independent form, not as [nas]. However, a nominal final stem never ends with [t] and all the coronal final noun stems show /s/ before a vowel-initial suffix in addition to the unchanged form.
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(14)  
/nac/  daytime  nat  na.ci  *na.si  
/pakk/  outside  pak  pa.kki  *pa.ki

However, even these words appear with a neutralized coda before a vowel-initial suffix, when they constitute a part of a compound noun as in (15).

(15)  
/nac/  day-and-night  nat  pam.na.ci  pam.na.si  
/pakk/  in-and-out  pak  anh.pa.kki  anh.pa.ki

As we see in (15), if words in (14) become one element of a compound, resulting in polysyllabic stems, the neutralized coda may occur before a vowel-initial suffix. For example, [paki] is acceptable if it is a part of [anpaksi].

A similar fact can be observed in words with a consonant cluster. Before a vowel-initial suffix /-i/, /talk/ ‘chicken’ can surface either as [taki] or [talki], even though many people prefer [taki]. However, if /talk/ becomes a part of a compound noun such as /thoŋ+talk/ ‘whole (roasted) chicken’ and /amŋ+talk/ ‘hen’, it surfaces only as [tak] before a vowel initial suffix.

(16)  
/talk/  chicken  ta.ki  tal.ki  
/thoŋtak/  whole chicken  thoŋ.ta.ki  *thoŋ.tal.ki

As in (16), for a monosyllabic word with a consonant cluster, consonant cluster reduction is optional for many speakers; on the other hand, if an extra syllable [thoŋ] ‘whole’ is added to this word, [thoŋtaki] is the only possible output. Again, the difference between monosyllable and polysyllables is crucial in the surface realization of codas.11

11) Based on his/her intuition, one reviewer pointed out that this paper cannot explain why both [amŋtalk] and [amŋtalki] are possible output forms from the input /amŋ+talk+i/, whereas only [thoŋtaki], not [thoŋtalki] is possible from /thoŋ+talk+i/. Similarly, [pam+nac+iro] and [pam+nas+iro] are both possible output forms of /pam+nac+iro/, whereas [han+nas+in] is not a possible output of /han+nac+in/ ‘midday-TOP’. To account for
The obligatory consonant cluster reduction in (16) and the optional neutralization in (15) can be accounted for if we adopt constraints like Maximize Perception/Information and Minimize Articulation/Effort and the confliction of constraints. Recall that, for a monosyllabic word with a consonant cluster like /talk/ chicken, both forms [talki] and [taki] are acceptable. For these speakers, Maximize Information is ranked as high as Minimize Effort, and thus both [talki] and [taki] are selected. If an additional syllable is attached to a monosyllabic stem, forming a compound, more information could be provided, and hence the role Maximize Information becomes less important (in other words, its ranking is demoted). Instead, the role of Minimize Effort becomes relatively more important. Therefore, [thoŋtaki] is selected. For a monosyllabic word like /pakki+t/ 'outside-NOM' which prohibits coda neutralization before a vowel-initial suffix such as [pakki], not [paki], the role Maximize Information plays is more crucial than that of Minimize Effort. However, if a monosyllabic stem becomes polysyllabic being a part of a compound noun, the role of Maximize Information for a monosyllabic stem becomes less significant than the role it played for a monosyllabic stem and thus Maximize Information fares even with Minimize Effort. Therefore, both forms, [anhpakki] and [anhpaki], selected by the domination of Maximize Information and Minimize Effort respectively, are acceptable.

4. Further Implications

It is conceptually necessary that there be an interface (or interfaces) between the computational system of language and other performance systems; namely, the articulatory-perceptual system (=system of sound) and the conceptual-intentional system (=system of thought) (Chomsky 1995). Jackendoff (1997) claims that the only level of linguistic representation of these discrepancies, we should note that /thoŋ+talk/ and /pam+nac/ are almost lexicalized compounds, and thus [thoŋtak] is easily recognized as a kind of food rather than a whole chicken; similarly, [pamrat] is used with the meaning of 'always', not just 'day and night'. On the other hand, each morpheme in the words /am+thalk/ and /han+nac/ still maintains its own meaning and thus the meanings of /am+thalk/ and /han+nac/ can be compositionally derived from two morphemes. Overall, the more lexicalized the form is, the more likely it is pronounced as a simplified form. Why this should be so remains unclear to us, however, and awaits another paper.
which the speaker is conscious is the phonological representation, and others such as syntax and semantic structures are part of our unconscious knowledge. Debate, then, centers on what makes the surface structures unacceptable to the speaker/hearer's conscious level. There can be several factors invoking the ill-formedness of utterances: syntactic ungrammaticality, semantic incongruity, pragmatic infelicity, processing difficulty, to name a few. In many cases, it is extremely unclear which part of our knowledge system is responsible for the putative unacceptability; that is, whether the source of deviance is internal or external to the component of language faculty.

In this section, we would like to explore some ellipsis phenomena in Korean and English that were previously dealt with in terms of (formal) syntactic analyses. We attempt to provide a unified account for seemingly unrelated phenomena on the basis of a minimal set of functional assumptions as discussed before.

Consider the following contrasts (Ahn 1996:13):

(17) a. na-nun ku-ka olh-ta-(ko) sayngkakhanta
      I-TOP he-NOM right-DECL-COMP think
      b. I think (that) he is right.

Complementizer -ko in Korean and that in English can be dropped in colloquial speech if the clause introduced by them is in the complement position. We may regard the complement position as a canonical position that can license missing COMP. In striking contrast, if the clause headed by COMP takes place in the non-canonical position, as in (right)-dislocated (18) or subjectivized (19), COMP drop is not possible (Ahn 1996:13).

(18) a. na-nun sayngkakhanta, ku-ka olh-ta-*(ko)
      I-TOP think he-NOM right-DECL-COMP
      b. (That)* he is right, I think.

(19) a. ku-ka olh-ta-*(ko) manhun salamul-eykey
      he-NOM right-DECL-COMP may people-by
      sayngkaktoye ciessta
      has been thought
b. (That)* he is right has been thought by many people.

The classic approaches (Ahn 1996, Pesetsky 1995, for example) capitalize on a purely syntactic property: subject/object asymmetry, complement/non-complement position asymmetry, etc. We suggest that the source of asymmetries are derived from functional reason. Note that without overt COMP in (18)-(19), the sentences may produce severe obscurity. In other words, if -ko/that is not present, the embedded clauses can be mistakenly interpreted as matrix clause reading.

Parallel accounts can be given to the following contrasts (Ahn 1996, 14):

(20) a. John-i yene-lul manhi kwu-e-(se)
    John-NOM salmon a lot broil-INF-COMP
    mek-ess-ta
eat-PAST-DECL
    'John broiled and ate the salmon a lot.'

b. John-i yene-lul manhi mek-ess-ta,
    John-NOM salmon a lot eat-PAST-DECL
    kwu-e-*(se)
    broil-INF-COMP
    'John broiled and ate the salmon a lot. (emphasis on broiling)'

Dislocated conjunctive particle -se cannot be omitted since the adverbial phrase kwu-e can be wrongly interpreted as declarative plain style ending, at the end of sentence without -se.


(21) Answer to a question:
    John-i way wulci?
    'Why is John crying?'

a. kongpwuhaki silh-e-(se) wunta
    studying hate-INF-COMP cry
    '(He) is crying because he doesn’t like to study.'

b. kongpwuhaki silh-uni-(kka) wunta
studying  hate-INF-COMP cry
'(He) is crying because he doesn’t like to study.'

(22) Answer to a question:

\textit{John-i way wulci?}

'Why is John crying?'

\begin{enumerate}
\item a. kongpwuhaki silh-e-*(se)

studying  hate-INF-COMP

'(Its) because he doesn’t like to study.'

\item b. kongpwuhaki silh-uni-*(kka)

studying  hate-INF-COMP cry

'(Its) because he doesn’t like to study.'
\end{enumerate}

You (1998) suggests that reason particles \textit{-e-se} and \textit{-uni-kka} can be reduced to \textit{-e} and \textit{-uni} respectively only if they are unambiguously employed. Note that deleting \textit{-se} in (22a) may induce ambiguity whether \textit{-e} is a subordinator or a declarative plain style ending. Along similar lines, (22b) with \textit{-kka} ellipsis creates ambiguity between a subordinator reading and a plain style interrogative reading. You’s (1998) observation lends another evidence to our claim that functional analysis can in fact cover much broader aspects of ellipsis phenomena in general.

We can further extend our functional analysis to the so-called \textit{that-t} effect (23) and anti-\textit{that-t-effect} (24) in English:

(23) a. Who do you think (that) you saw?

b. Who do you think *(that) left?

(24) a. I know the man (that) Mary loved.

b. The man *(that) loved Mary left.

In (23b) \textit{that} must be absent when the subject is present, while in (24b) \textit{that} must be present if it relativizes the subject. We suggest that functional strategy is at work here as well. Notice that the presence of \textit{that} in (23b) and the absence of \textit{that} in (24b) can cause obscurity in processing the sentence. Put differently, \textit{that} in (23b) can be mistakenly interpreted as the
subject of the downstairs verb left, while without that in (24b) may result in incorrect parsing of the object Mary as the subject of the upstairs verb left, and so forth.

Interestingly, there have been attempts to incorporate functional considerations into the grammatical analysis. Consider the following contrasts cited in Newmeyer (1986:121):12)

(25) a. A woman that was pregnant took the job.
    b. A woman _ took the job [that was pregnant].

(26) a. A woman that was attractive took the job.
    b. *A woman _ took the job [that was attractive]

It was a puzzling fact that the rule of Extraposition-from-NP may apply to (25a) to derive (25b), but not to (26a) to (26b). Perlmutter and Postal (cited in Newmeyer 1986 without concrete references) suggest that the incorrect reading of (26b) is blocked by a transderivational constraint sensitive to the fact that this sentence, but not (25b), induces ambiguity. We contend that their transderivational constraint can naturally be subsumed under one of more general functional principles: Maximize Information.

5. Conclusion

In this paper, we try to capitalize on the syntactic and phonological behaviors of reduction facts in Korean. Given these parallels as shown in monosyllable constraints, we are led to the conclusion that the reduction (a covering term for both deletion and contraction) of case/postpositional morphemes behaves on a par with the coda reduction process (including coda neutralization and coda simplification) in Korean.

We make a strong claim that a very substantial portion of these large phenomena is genuinely functional in nature. A unified explanation is

12) An anonymous reviewer pointed out that changing the adjective attractive into unattractive or ugly would improve the acceptability of (26b) since with this change the extraposed sentence might get more focus, and for this reason, it could be more easily separated from the host NP a woman. Lack of sharp intuition on this contrast among native speakers will leave the matter to future research.
presented based on the antagonistic functional principles: Minimize Effort vs. Maximize Information. Our proposal seems to be reminiscent of the recent treatment of optionality (Müller 1999) and the distribution of null subjects (Samek-Lodovici 1996) in Optimality-theoretical syntax (see Prince and Smolensky 1993 for broad perspectives on the nature of interactions of conflicting constraints mainly based on morpho-phonological observations). The concept Maximize Information in a sense evaluates a number of candidate phonological outputs, and selects the optimal one for the perceptual specification, taking into account many aspects of minimizing perceptual confusion. Minimize Effort principle, by contrast, largely motivated by the functional drives of minimization of articulatory effort, can be characterized as gestural constraints mainly responsible for production mechanism.13) Perhaps this idea can naturally be modeled within the framework of Optimality Theory (cf. McCarthy and Prince 1995, Pesetsky 1998) as ranked violable constraints such as Faithfulness, Markedness, and the like. Space restrictions do not allow us to discuss the relevant details at length here.

We believe that the functional approach adopted here shed fresh light on a set of intriguing facts that look far too broad and complex to capture under formal grammatical analyses (in contrast to the functional or pragmatic ones) such as generative syntax, rule-based phonology and so forth. It is not clear how formal grammar approaches can unite the reduction phenomena discussed in this paper. The functional approach taken here, on the other hand, is much better equipped to accomplish the desired unification. Although the problems and solutions that we have addressed in this work are preliminary, our observation lends strong support to the proposition that a good number of facts in our language should simply go beyond the computational systems of language in the sense of Chomsky (1995), and hence solicit the functional treatment that is expressed by the language performance systems. We hope future research can further clarify the nature of functional principles sketched out in this paper.

13) But recall fn. 9 for an attempt to extend this principle further to the cognitive or perceptual domain.
References


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