Double Allomorphy in Korean Nominative Pronouns? Evidence from Demonstrative and Interrogative Proforms for a Floating Segment Analysis and Derivation by Phase*

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1 Introduction

In Korean, only some words are subject to variation in the environment of the nominative marker. For instance, the first person singular non-honorific pronoun is [nɛ] when *-ka* 'nominative' is suffixed to it, but [na] in isolation or when followed by any other particle of the language (Yeon and Brown 2019). Common and proper nouns, on the other hand, never change: [pada] 'sea'

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stays the same no matter the morphological context. Only a subset of vowel-final pronouns undergoes similar alternations.

Cho (2016)'s analysis does not consider the changes in bases. I will suggest an alternative to her allomorphic approach according to which the nominative has two forms (1). Her arguments are that *-ka* appeared much later than *-i* in the history of Korean (Sohn 1999) and that these forms are phonologically unrelated. I contend that an analysis in synchrony can account for the facts better if the marker has a single underlier.

(1) a. -i after Cs: paɾam-i → 'wind'
wind-NOM

b. -ka after Vs: pada-ka → 'sea'
sea-NOM

In Section 2 I lay out the theoretical assumptions that underlie my novel analysis: Phases (Chomsky 2001), CVCV phonology (Scheer 2004) and Element Theory (Backley 2011).

Section 3 demonstrates how getting the underlying representation of the nominative marker right allows us to derive the relevant alternations in the phonology, without appealing to allomorphy. I will show that a derivation by phase can predict the surface alternations not only in the nominative marker, but also in the bases it attaches to. The derivation follows naturally from the underlying representation of the marker if it comprises three floating segments but only two syllabic positions, in line with Scheer's analysis (2016).

(2) C V

i k a

We will see that hiatus resolution proceeds differently within and across phases (Newell 2017; Newell and Piggott 2014), which is why function-word bases ending in a vowel may have alternating surface forms in the environment of *-ika*, while lexical words do not.

The current approach is argued to have more explanatory power than positing allomorphic alternations for both the pronouns and *-ika*. It is also compatible with the observation that the marker can surface as [ika] in some limited contexts. Additional evidence from free variation of demonstrative and interrogative proforms brings forth that some bases can also have floating segments. While these pronouns might have allomorphs, the variation they display is compatible with *-ika* having a single underlier.

Section 5 concludes and offers a brief discussion of what future research on this topic might look like.

2 Allomorphy or Conspiracy?

The nominative marker commonly surfaces as *-i* after a base ending with a consonant and as *-ka* after a vowel. The following examples show this alternation with common noun bases (3) and pronominal bases (4).

(3) a. pada-ka → 'sea'
sea-NOM
b. paɾam-i → 'wind'
wind-NOM

(4) a. uɾi-ka → 'we'
1PL-NOM
b. taŋʃin-i → 'you (intimate)'
2SG-NOM

However, there are a few contexts where the nominative marker surfaces as *-ika* rather than just *-i* or *-ka*.[1] In (5), we see that it is possible for a proper noun to be followed by *-ika* under the conditions that i) it ends in a consonant and ii) it refers to a human. This can only be done when talking to someone one is close to in informal situations.

(5) a. /kajɔŋ-ika/ → [kajɔŋ-ika], [kajɔŋ-i], *[kajɔŋ-ka] 'Kayoung'
Kayoung-NOM

b. /sɔnwu-ika/ → *[sɔnwu-ika]. *[sɔnwu-i], [sɔnwu-ka] 'Sunwoo'
Sunwoo-NOM

Speakers sometimes also pronounce the full nominative marker as three segments after the gender neutral third person pronoun *kɨ*, as in (6).

(6) /kɨ-ika/ → [kɨ-ika], [kɨ-ka], *[kɨ-i] 'he or she'
3SG-NOM

What we are especially concerned with in this current paper is that the last vowels of some pronouns change quality in the environment of the nominative marker. Table 1 illustrates these alternations for all of the relevant personal pronouns. It also shows that the accusative and topic markers do not trigger the same changes.

[1] Thanks to the audience at the Japanese/Korean Linguistics Conference (JK 30) for bringing the facts in (5) and (6) to my attention. However, more research is needed since -i might also precede the accusative marker: [kɨ-i-ɾɨl] 'he or she (accusative)'.

Pronoun	Nominative	Accusative	Topic
na '1SG'	nɛ-ka	na-ɾɨl ~ na-l	na-nɨn ~ na-n
nɔ '2SG'	ni-ka ~ nɔ-ka[2]	nɔ-ɾɨl ~ nɔ-l	nɔ-nɨn ~ nɔ-n
cɔ '1SG HON'	cɛ-ka	cɔ-ɾɨl ~ cɔ-l	cɔ-nɨn ~ cɔ-n

Table 1. Personal pronouns with irregular nominative forms

Cho (2016) considers that the different forms of the accusative and topic markers ([ɾɨl] ~ [ɨl] ~ [l] and [nɨn] ~ [ɨn] ~ [n] after nouns) can be derived phonologically by a ɨ-deletion rule and a coda-copy rule, but it is taken for granted in the literature that the nominative variants *-i* and *-ka* need to be memorized, and that their alternation is therefore allomorphic (Lee 2009). Importantly, the allomorphy analysis does not explain why only the latter alternation brings about changes in the surface forms of some bases.

The pronouns in Table 1 have something in common: They represent all of the personal pronouns ending in [a] or [ɔ]. Crucially, proforms with other final vowels do not behave the same way: [uɾi] '1PL' and [kɨdɛ] '2SG (poetic)', for instance, do not exhibit any idiosyncrasies when affixed with the marker.

Finally, two pronouns exhibit free variation in the environment of *-ika*. The first one is a demonstrative pronoun (7a) and the second one is interrogative (7b). Note that the variants [ikɔka] and [mwɛ] are not acceptable in the standard Seoul dialect, hence the asterisk.

(7) a. /ikɔs-ika/ → [ikɔʃ-i], [ikɛ], *[ikɔ-ka] 'this (proximal)'
DEM.PROX-NOM

b. /mwɔs-ika/ → [mwɔʃ-i], *[mwɛ], [mwɔ-ka] 'what'
what-NOM

I propose below that the underlying form of the nominative marker can account for the patterns presented in this section. Rather than positing allomorphs for both *-ika* and the personal pronouns in Table 1, I will show that we can predict all surface forms in the phonology. The next section will introduce the theoretical tools needed for the analysis to come in Section 4.

3 Theoretical Tools

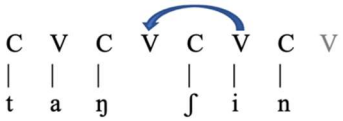
To shed new light on the data reported in the previous section, I propose an analysis within the frameworks of Phase Theory (Chomsky 2001), Element Theory (Backley 2011) and CVCV Phonology (Scheer 2004). I argue that

[2] [ni-ka] is less formal whereas [nɔ-ka] is more common in contemporary Korean, even though the latter is sometimes not mentioned in grammar books such as Yeon and Brown (2019).

these tools will allow us to specify the syllabic and elemental structure of the morphemes involved in a way that accounts for the alternation phonologically, rather than allomorphically.

In a CVCV framework (Scheer 2004), the syllabic structure to which melodies can attach consists of a sequence of consonants and vowels. If two consonants follow each other, there is an empty nucleus in between. By definition, a coda precedes such empty vocalic positions. In languages where words can end with a consonant, there is a final empty nucleus (FEN). This FEN is further parametrized cross-linguistically. In Korean, I will assume it is not accessible in the sense that no floating segments can attach to that position. Therefore, FENs are greyed in the representations.

(8)



'you (intimate)'

Once the association of melodies to syllabic positions is completed, governing and licensing relations are delivered by every vowel from right to left. These lateral relations respectively weaken and strengthen the segments they affect. A non-final empty vocalic position is always governed (weakened), as represented in (8) with the blue arrow. Strengthening is done via licensing, which will not be shown in the following representations since it is not relevant to the present analysis.

To account for the changes in bases with a final vowel, I will appeal to Element Theory (Backley 2011) to detail the representation of each segment. This monovalent trait system uses only three elements, represented between vertical lines, to distinguish all vowels of a phoneme inventory (9).

(9)

|I| belongs to high front vowels, |U| is for high back vowels and |A| is associated with low vowels. The representation of schwa, like Korean /ɨ/, is empty, meaning this vowel has no element. Elements can combine to yield mid-vowels and can be headed to differentiate high-mid from low-mid vowels. In these cases, the head is underlined. This framework will be used to illustrate coalescence in terms of combination of elements.

Based on vowel harmony phenomena, Lee (1996) established the representation of the Korean vowel inventory in Element Theory. It has been slightly modified in (10) considering the recent merge of /e/ and /ɛ/ in Korean (Yeon and Brown 2019).[3]

(10) Korean vowel inventory

a	**ɔ**	**ɛ**	**i**	**o**	**u**	**ɨ**
|A|	|A|	|AI| ~ |AI|	|I|	|AU|	|U|	| |

Finally, to account for the different behaviour of lexical and functional bases affixed with *-ika*, I will propose a derivation by phase (Chomsky 2001). Once syntactic cycles are sent to the phonology and computed, they are no longer accessible to some operations. Vowel coalescence can only take place within a phase. It has already been shown that hiatus resolution proceeds differently within and across such cycles for a wide variety of languages (Newell 2017; Newell and Piggott 2014). I will assume that lexicalizing heads, like little *n* for nouns, are phase heads (Marantz 2007). The next section will show how these theoretical tools combine to predict the surface forms of the nominative marker and its bases.

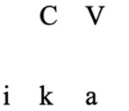
4 Analysis

I will show that the data presented in Section 2 can be explained by the underlying representation of *-ika*.

4.1 Vowel Alternations via Coalescence

I propose that the lexical entry of the nominative marker is comprised of three floating segments but only two skeletal positions (CV). This was shown in (2) repeated in (11) below.

(11)



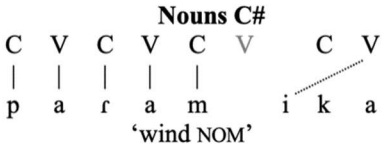
The association of melodies to available positions proceeds from left to right from the perspective of the melodic tier. Association lines do not cross, and unlinked segments are not pronounced. Recall that FENs are greyed because they are not accessible in Korean. No floating segment can attach to

[3] The two front-mid vowels have since merged completely (Yeon and Brown 2019). For this reason, the low-mid vowel /e/ does not figure here, and the headedness of /ɛ/ and /i/ has been removed as it is superfluous.

these empty final Vs. Finally, empty VC sequences are deleted at the end of a cycle (Gussmann and Kaye 1993).

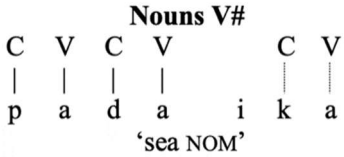
Lexical nouns never change form in the environment of the nominative marker. If the nominal base ends in a consonant, /i/ links first to the V position in its own lexical entry because it cannot associate to the greyed FEN of its base. The subsequent linkage of /k/ and /a/ is blocked, since it proceeds from left to right and association lines cannot cross. This is illustrated with the word *param* 'wind' in (12).

(12)



After a nominal base ending in a vowel, /k/ links first followed by /a/. This time, /i/ remains floating since it cannot coalesce with the last vowel of a noun as will be demonstrated below. Hence, it is not pronounced. This is represented with the word pada 'sea' (13). Melodic material and syllabic positions are computed in independent modules of the phonology (Scheer 2022). Association of segments is sensitive to neighbouring melodies.

(13)

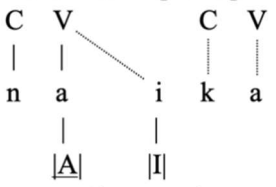


Pronouns ending in a consonant follow the same pattern: /i/ associates first, blocking /k/ and /a/ from surfacing. The greyed FEN is still inaccessible.

(14)

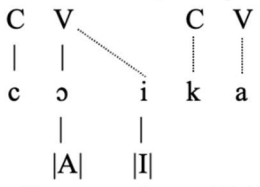
To account for the alternating pronominal bases in Table 1, I propose that the final vowels of these roots undergo coalescence with the initial /i/ of *-ika*. In (15), the coalescence of |A̲| or |A| and |I| yields [ɛ] (|A̲I| ~ |AI|).

(15) a. /na-ika/ → [nɛ-ka]



'1SG NOM'

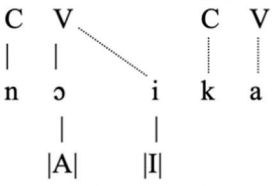
b. /cɔ-ika/ → [cɛ-ka]



'1SG NOM (honorific)'

The second person singular pronoun in (16) requires some more attention since coalescence does not yield the expected [ɛ].

(16) /nɔ-ika/ → [ni-ka], [nɔ-ka]

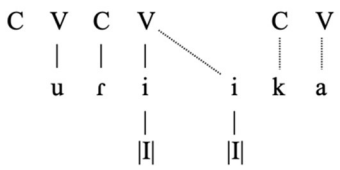


'2SG NOM'

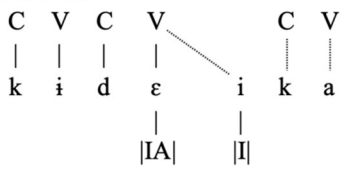
Note that |A| is not headed in the representation of /ɔ/. I propose that unheaded (weak) |A| cannot coalesce with |I| in this pronoun since this would make it indistinguishable from the first person pronoun in (15a). The only remaining element is |I|, resulting in the form [nika] '2 SG NOM' instead of *[nɛka]. An alternative is to delete the |I|, giving the alternative form [nɔka].

Recall that some vowel-final pronouns behave the same way as any other noun, with no vowel alternations, which may seem to pose a challenge for the above analysis. However, I argue that vowel coalescence takes place in such contexts even though no effect is observed.[4] The addition of |I| to the elemental representation of /i/ and /ɛ/ does not provoke any surface effect, because these vowels already contain this element (17).

(17) **Pronouns V#**



'1PL NOM'



'2SG NOM (poetic)'

[4] Further evidence that the pattern analyzed henceforth involves coalescence comes from the genitive particle in Korean, which can take the form ɨi or ɛ in isolation but also coalesce with the previous vowel of pronouns it attaches to: /na-ɨi/ → [nɛ] 'my'.

4.2 Phases Block Coalescence

We now must explain why the vowel of the suffix coalesces in the derivation of pronouns, but not in the derivation of nouns. The differing behavior of nouns and pronouns is due to their syntactic structure. Functional categories like pronouns do not contain a lexical head in their syntactic structure, whereas lexical nouns contain a root dominated by a little *n* head (Marantz 2007). These phase heads influence the derivation since they are responsible for sending syntactic structure to the phonological module. Once a cycle is computed by the phonology, it can no longer be altered (Chomsky, 2001). Vowel coalescence only takes place within a cycle in Korean, like in Ojibwe (Newell and Piggott 2014) and many other languages (Newell 2017).

Pronouns have the structure [X -ika]$_{DP}$. Brackets indicate phases, in this case DP (Chomsky 2001). Nouns have two cycles. A lexical head triggers a cycle of interpretation before *-ika* is introduced: [[X $\emptyset_n$]$_{nP}$ -ika]$_{DP}$.

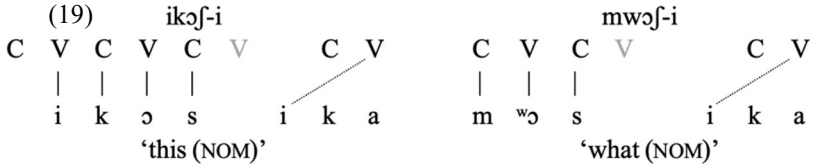
The case of demonstrative and interrogative pronouns is intriguing since they exhibit some unusual free variation, repeated in (18).

(18) a. /ikɔs-ika/ → [ikɔʃ-i], [ikɛ], *[ikɔ-ka] ‘this (proximal)’
DEM.PROX-NOM

b. /mwɔs-ika/ → [mwɔʃ-i], *[mwɛ], [mwɔ-ka] ‘what’
what-NOM

The first variant is straightforward: /i/ links because the base ends in a consonant and the remaining floating segments are unpronounced.

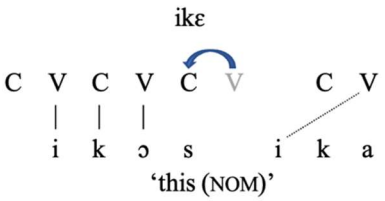
(19)



The two other variants are more mysterious. One would expect [ikɛka] to be possible instead of [ikɛ], since it would mirror the behavior of personal pronouns in (15). The only explanation is that the final /s/ of the base is still present in the underlying representation of [ikɛ] while there is no /s/ at all in the underlying form of expressions such as [mwɔka].

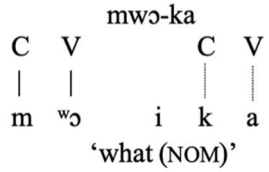
The final /s/ of the former is responsible for triggering the association of /i/. But this consonant must be floating since it does not block coalescence with the preceding vowel. The FEN in these pronouns governs the floating /s/, leaving it unlinked. After unpronounced segments are erased, coalescence can take place, as in (15) above.

(20)



As for the derivation of [mwɔka], no final /s/ is involved. The floating /k/ and /a/ link to the available syllabic positions because the nominative marker is attached to a base ending in a vowel.

(21)



The absence of coalescence in this last case requires more investigation. The syntactic structure of the pronoun might be in cause. Demonstratives are multimorphemic: *ikɔs* contains the demonstrative determiner *i* 'this (proximal)' and the bound noun *kɔs* 'thing', which might be dominated by a little *n* head, triggering a phase. The decomposition of the interrogative form is less clear.

5 Conclusion and Discussion

I have shown that there is no need to posit allomorphs for the nominative marker in Korean since all surface forms can be derived from a single underlier. The underlying representation of *-ika* comprises three floating segments but crucially only two syllabic positions as shown in (11).

To derive all surface forms of the nominative marker and its bases, both phonological and syntactic factors need to be considered. Coalescence can only take place within a phase, which is why only pronouns with final vowels display idiosyncrasies. The subsegmental structure of this last vowel also plays a role, as it needs to be compatible with |I| to coalesce.

More research is needed to thoroughly explain the behavior of demonstrative and interrogative proforms, since some of their variants in the environment of *-ika* are unusual under the current analysis.

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