Korean deadjectival inchoatives and measure phrases: a compositional study

Dongsik Lim  * †
Hongik University

Dongsik Lim. 2016. Korean deadjectival inchoatives and measure phrases: a compositional study. Language and Information 20.1, 73-91. Korean adjectives in general cannot combine with measure phrases (MPs), but MPs are compatible with adjectives when they appear with the inchoative morpheme -(e)ci. In this case, MPs can only denote the difference between two states along the dimension denoted by the root adjective. To account for this, this paper proposes that i) -(e)ci is a spell-out of V in the directed motion construction which takes an abstract path argument, like become, and ii) this path argument contains a comparative morpheme. By assuming this we can explain why MPs appear with -(e)ci, as well as other interesting phenomena such as variable telicity in deadjectival verbs with -(e)ci. (Hongik University)

Key words: deadjectival inchoatives, directed motion construction, measure phrases, comparatives

1. Introduction

This paper aims to account for the syntax and semantics of measure phrases (hereafter MPs) with Korean deadjectival inchoatives, in comparison with MPs in English. First see (1) and (2), which show that MPs in English can appear with positive adjectives (Kennedy 1999, among others). Note that, Korean counterparts of (1) and (2) are unacceptable, which means that in general MPs in Korean are not compatible with adjectives (however, examples in 3 can be acceptable if they are used in a context which requires some comparison: see Section 5).

* This paper is a revised version of Lim (2010), and the idea of this paper also appeared as a part of Lim and Zubizarreta (2012). I thank two anonymous reviewers for their comments and questions. All remaining errors are mine, of course.
† Department of English Education, Hongik University, 94 Wausan-ro, Mapo-gu, Seoul 04066 South Korea. E-mail: dlim@hongik.ac.kr

© 2016 Korean Society for Language and Information
(1)  
a. That building is 300 feet tall.  
b. That ruler is 6 feet long.  

(2)  
a. ??That building is 300 feet low.  
b. ??That ruler is 6 feet short.  

(3)  
a. ??Ku pilting-i 300 phithu noph-ta/nac-ta.  
That building-Nom 300 feet tall-Decl/low-Decl  
(Intended) ‘That building is 300 feet tall/low.’  
b. ??Ku ca-ka 6 phithu kil-ta/ccalp-ta.  
That ruler-Nom 6 feet long/short-Decl  
(Intended) ‘That ruler is 6 feet long/short.’  

Unlike their adjectival counterparts, deadjectival inchoatives in Korean, which are formed 
by combining an adjectival root with -(e)ci, as in (4), can appear with MPs as far as the 
adjective is gradable, as shown in (5). Note further that, with deadjectival inchoatives with 
-(e)ci, MPs denote the difference between two states, like English comparatives in (6).  

(4)  
Jane-Nom pretty-Decl  
‘Jane is pretty.’  
Jane-Nom pretty-(e)ci-Past-Decl  
‘Jane became pretty.’  

(5)  
a. ??Ku pilting-i 3 phithu noph-aci-ess-ta/nac-ta.  
That building-Nom 3 feet tall-(e)ci-Past-Decl/low-(e)ci-Past-Decl  
(Intended) ‘That building became 3 feet taller/lower.’  
That ruler-Nom 6 feet long-(e)ci-Past-Decl/short-(e)ci-Past-Decl  
(Intended) ‘That ruler became 6 feet longer/shorter.’  

(6)  
That building is 6 feet taller than this building.  

Given these data, this paper specifically tries to account for the following two problems. 
First, we need to explain why MPs in Korean are not compatible with adjectives, unlike 
English, but are only compatible with deadjectival inchoatives with -(e)ci. Second, we also 
need to explain why MPs in deadjectival inchoatives only denote the difference between 
two states like MPs in English comparatives. To answer these two questions, in this paper 
I propose that i) -(e)ci is a spell-out form of the head v in the directed motion
construction (Zubizarreta and Oh 2007), ii) the path argument of -(e)ci is a degree projection headed by a comparative morphology more (Zubizarreta and Oh 2007, Lim and Zubizarreta 2012), and iii) the fact that MPs are allowed in -(e)ci constructions in Korean can be explained in terms of the non-standard semantics of gradable adjectives and degree morphology (Kennedy and McNally 2005, Svenonius and Kennedy 2006, among others) and the difference in the selectional restriction of degree morphology between Korean and English. Furthermore, I will show that the proposal made in this paper can also explain some semantic aspects of Korean deadjectival inchoatives with -(e)ci, such as variable telicity (Hay et al. 1999, Kennedy and Levin 2008, among others), and give some speculation of how this proposal can be extended to cases where -(e)ci appears with verbal predicates, as exemplified in (7):

    John-Nom house two CL-Acc build-Past-Decl  
    ‘John built two houses.’

    house two CL-Nom (John-by) built-(e)ci-Past-Decl  
    ‘Two houses were built (by John).’

This paper is organized as follows. In Section 2 I review some observations in Zubizarreta and Oh (2007), suggesting that Korean deadjectival inchoatives -(e)ci can be analyzed in parallel with directed motion constructions (hereafter DMCs), such as ka-/o- ‘go/come’ constructions. In Section 3 I overview two theories adopted in this paper: the syntax of DMCs and the semantics of gradable predicates and comparatives. In Section 4 I make my proposal. In Section 5 I discuss further implications and empirical predictions of my proposal, and in Section 6 I conclude the paper and discuss remaining issues.

2. -(e)ci and ka/o: comparison

Here I present similarities and differences between -(e)ci constructions and typical DMCs headed by ka-/o- ‘go/come’. based on Zubizarreta and Oh (2007), showing why it is plausible to analyze -(e)ci in terms of DMCs.

2.1 Similarities

First, as in (8) and (9), both -(e)ci and ka/o- can take gradable adjectives as their complements, expressing the change of state of the subject along the scale associated with the gradable complements.1

1 L in the glosses, as well as -(e) in -(e)ci, indicates the linking vowels inserted by some
    Day-Nom dark-(e)ci-Past-Decl
    ‘The day became darker.’

    John-Nom height-Nom tall-(e)ci-Past-Decl
    ‘John became taller.’

(Zubizarreta and Oh 2007: 110)

    Day-Nom dark-L-go-Pres-Decl
    ‘The day is getting dark.’

    John-Nom height-Nom tall-L-go-Pres-Decl
    ‘John is getting tall.’

(Zubizarreta and Oh 2007: 110)

This suggests that -(e)ci can be analyzed in terms of DMCs. Specifically, Zubizarreta and Oh (2007) argues that the change of state can be syntactically represented as DMCs: a subject moves along the path, which is the scale associated with the gradable adjective. For example, in (8a) and (9a), the subject nal ‘the day’ moves along the scale of darkness, and in (8b) and (9b) the subject John moves along the scale of height/tallness.

Zubizarreta and Oh’s (2007) proposal is further supported by the fact that both can appear with the adverb cemcem ‘gradually’, which modifies a path projection in DMCs with subintervals (see Lim and Zubizarreta 2012).

    River-Nom gradually deep-(e)ci-Past-Decl
    ‘The river became gradually deeper.’

    Day-Nom gradually dark-(e)ci-Past-Decl
    ‘The day became gradually darker.’

(Zubizarreta and Oh 2007: 111)

    River-Nom gradually deep-L go-Pres-Decl
    ‘The river is getting deep.’

b. Nal-i cemcem etwup-e ka-n-ta.
    Day-Nom gradually dark-L go-Pres-Decl
    ‘The day is getting dark.’

(Zubizarreta and Oh 2007: 111)

phonological/morphological reasons which I will not discuss.
To summarize the distributional similarities between ka-/o- and -(e)ci, as well as their similarities in meaning when combined with gradable adjectives, lead us to assume that deadjectival inchoatives with -(e)ci can be analyzed in terms of DMCs.

2.2 Differences

There are also notable differences between ka-/o- and -(e)ci. First, unlike -(e)ci, ka-/o- may take a non-gradable complement as in (12), or a postpositional phrase denoting the physical path of the directed motion of the subject, as in (13).

    John-Nom die-L go-Pres-Decl
    ‘John is dying.’
    John-Nom die-(e)ci-Past-Decl

    John-Nom park-Loc go-Past-Decl
    ‘John went to the park.’
    John-Nom park-Loc-(e)ci-Past-Decl

These examples show that ka-/o- can express the physical motion as well as the abstract motion of the subject, whereas -(e)ci can only express the abstract motion along the scale associated with the adjectival complement. This difference may be because of the meaning of comparatives associated with the path argument of -(e)ci. See (14), where only -(e)ci is compatible with –pota ‘than’ phrase, which indicates the presence of the comparative meaning. This suggests that -(e)ci contains a comparative projection, either covert or overt.

    That fence-Nom 5 min. before-than tall-(e)ci-Past-Decl
    ‘That fence became higher than 10 minutes ago.’

2 In addition to the differences discussed in this subsection, there are also morphological differences. Especially, as pointed out by an anonymous reviewer, ka- and o- are full-fledged verbs, whereas -(e)ci seems to be a suffix. However, for me it seems possible to insert a topic marker -(n)un between the adjectival root and -(e)ci, such as noph-a-nun-ci-ess-ta, ‘became higher, (but...)’ suggesting that -(e)ci is not just a suffix, but also has some properties similar to auxiliary verbs. Given this, even though I still agree that there are some morphological restrictions on the distribution of -(e)ci, I will keep assuming that ka-/o- as well as -(e)ci are the spell-outs of the v in DMCs.
   That fence-Nom 5 min. before-than high-L go-Past-Decl/come-Past-Decl
   (Zubizarreta and Oh 2007: 111)

Finally, ka-/o- constructions are always atelic when combined with gradable predicates, but -(e)ci constructions can also be telic, as in (15):

   He-Nom height-Nom one month for / one month in tall-L go-Pres-Decl
   ‘He is getting tall for a month/in a month.’

   He-Nom height-Nom one month for / one month in tall-(e)ci-Past-Decl
   ‘He became taller for a month/in a month.’

Below I will illustrate how my proposal can account for these similarities and differences, as well as the puzzle presented in the introduction. However, before doing so, I first present two background theories of my proposal: the syntax of directed motion proposed by Zubizarreta and Oh (2007), and the semantics of gradable predicates and comparatives proposed by Kennedy (1999) and Svenonius and Kennedy (2006).3

3. Background theories

In this section, I introduce two theories where my paper is based.

3.1 The syntax of inchoatives: Zubizarreta and Oh (2007)

Based on I-syntax (Hale and Keyser 2002), Zubizarreta and Oh (2007) claim that the meaning of directed motion can be represented as a construction, where the functional head \( v \) directly takes a path argument, and the entire construction is interpreted as denoting directed motion. According to them, the basic structure of the DMC is (16), where the path argument is marked as X (the category is not determined).

\[
(16) \quad v \\
\quad \downarrow \\
D \quad v \\
\quad \downarrow \\
\quad \downarrow \\
\quad \downarrow X_{\text{path}}
\]

3 An anonymous reviewer points out that the predicate with -(e)ci can appear as a complement of ka-/o-. At the moment I do not have a clear answer, but speculate that ka-/o- may take a derived inchoative as its path argument.
The $vP$ headed by the small $v$ taking the path argument is considered as a spell-out domain (Fox and Pesetsky 2005), and the small $v$ is spelled-out either as go, come, or become. In other words, the verbs heading DMCs do not have any intrinsic meaning, but are just different spell-outs of $v$, depending on the deixis and the nature of path arguments.

Furthermore, Zubizarreta and Oh (2007) claim that a directed motion can either be physical or abstract, depending on the nature of path arguments. In (17) (whose structure is in 18), the path argument is the prepositional phrase to the park, which denotes a physical path, and therefore the construction denotes a physical directed motion of John’s moving along the path to the park. Similarly, in (19) (whose structure is in 20), the path argument is the gradable predicate sour, and the construction denotes an abstract directed motion along the scale of sourness.

(17) John went to the park.

(18) $v$

```
    D
   /\  \
  /   \ 
John v  v

      v
    P

    P_path
    |    
  to    P_loc
      

  Path to P_loc
```

to the park

(19) The milk became sour (= the milk went sour)

(20) $v$

```
    D
   /\  \
  /   \ 
    v  A

      v
    A

    A

    sour
```

3.2 The semantics of adjectives: Kennedy (1999), Svenonius and Kennedy (2006)

In the standard semantics of adjectives (Heim 2001, among others), adjectives are assumed to be functions from degrees to properties (of type \(<d,et>\) ), but here I adopt Kennedy’s (1999) proposal, where adjectives are assumed to be functions from individuals to degrees (of type \(<e,d>\) ). For example, the lexical entry for old is (21):

\[
[[\text{old}]]^e = \lambda x. \text{the degree to which } x \text{ is old}
\]

(Svenonius and Kennedy 2006: 149)

The immediate problem of this theory is the result of applying the function to an individual is just a degree, meaning that an adjective cannot be predicated of that individual. To solve this issue, Kennedy (1999) assumes that adjectives should first combine with another functional head, which Kennedy calls Deg:

\[
[[\text{DegP } \text{Deg AP }]]^e = \lambda g <e,d>. \lambda x. g(x) > d s(g)(c)
\]

(22) 
(Svenonius and Kennedy 2006: 149)

In addition to Kennedy’s (1999) proposal, to account for why MPs are compatible with adjectives, Svenonius and Kennedy (2006) further assume another covert morphology, Meas, which can be a head of a DegP and also takes an MP of type d (therefore Meas is of type \(<<e,d>,<d,et>>\) ):

\[
[[\text{Deg Meas }]]^e = \lambda g <e,d>. \lambda d. \lambda x. g(x) > d
\]

(revised from Svenonius and Kennedy 2006: 150)

Since the type of adjectives is \(<e,d>\), not \(<d,et>\), the lexical entry of the comparative morphology should also be changed accordingly. Svenonius and Kennedy (2006) adopt Kennedy and McNally’s (2005) proposal on the comparative morphology, where the lexical entry for the comparative morphology –er/more is (25). According to this lexical entry, -er/more derives a new adjective of type \(<d,ed>\) from an adjective of type \(<e,d>\), where the standard of comparison is changed from 0 to d'. d' is provided with either by the overt
than clause (the pota clause in Korean), or by the context.\footnote{Here I do not deal with the structure of the than clause in detail, but simply assume that the than clause is of type d, even though this is obviously too simplified. For the discussion on this issue see Pancheva (2006) and Park (2008), among others.}

\begin{equation}
[[\text{more}]]=\lambda g_{e,d}. \lambda d'. \lambda x. \text{the degree to which } x \text{ is } g \text{ w.r.t. } d'
\end{equation}

4. Proposal

Following Zubizarreta and Oh (2007) and Lim and Zubizarreta (2012), I propose that inchoativity in deadjectival verbs with -(e)ci can be structurally represented as a directed motion along an abstract path, and -(e)ci is a spell-out of \(v\) in DMCs, the path of which is abstract and contains a degree projection headed by the (overt or covert) comparative morpheme \text{-er/more}. I also propose that the difference between -(e)ci and ka-/o- is that, whereas -(e)ci only takes an abstract path, provided by the comparative phrase headed by \text{-er/more}, ka-/o- takes either a physical or an abstract path. To account for the distribution of MPs, I further propose that there is difference in selectional restriction between Meas in English and that in Korean: in English Meas may take the AP as its complement, but in Korean the head Meas only takes comparatives headed by \text{-er/more} as its complement. This proposal may look ad hoc, but given that in many languages MPs can only combine with comparatives, and even in English many adjectives are not compatible with MPs (see Schwarzschild 2005), this proposal is not totally implausible.\footnote{An anonymous reviewer asked what the difference in meaning between Meas with an adjective without -(e)ci and Meas with -(e)ci is. For me the former is just a comparison between two states, whereas the latter has the meaning of change of state (of a single entity or entities denoted by the subject) due to the DMC.}

Regarding semantic composition, I tentatively assume that \(v\) takes an argument of type \(\langle e,t\rangle\) and returns another predicate of type \(\langle e,t\rangle\), whose semantics correspond to the meaning of directed motion along an abstract path:\footnote{I specify the lexical entry for \(v\) as ‘become’, but this does not mean that \(v\) has the same semantics as the overt become. Again, in this analysis \(v\) is the head of a \(\tilde{\gamma}\), and therefore depending on the nature of its path argument, it can be interpreted (and spelled-out) either as go/come or become.}

\begin{equation}
[[v]]=\lambda P_e. \lambda x. x \text{ becomes } P
\end{equation}

Let us see how this proposal accounts for our previous puzzles. First consider the case where -(e)ci appears with an MP, as in (27):

\begin{equation}
\text{Ku wultali-ka 6 phithu noph-aci-ess-ta.}
\end{equation}
That fence-Nom 6 feet tall-(e)ci-Past-Decl
'That fence became 6 feet taller.'

In my proposal, (27) is analyzed as (28), and the semantic composition is shown in (29) (here I ignore tense for convenience):

\[
\begin{align*}
(28) & & v \\
& & \triangleright \downarrow \downarrow \\
& & v \\
& & \triangleright \downarrow \\
& & \text{That fence} \\
& & \downarrow \downarrow \\
& & \text{Deg} \\
& & \triangleright \downarrow \\
& & \text{MP} \\
& & \downarrow \downarrow \\
& & \text{Comp} \\
& & \downarrow \downarrow \\
& & \text{Deg} \\
& & \downarrow \downarrow \\
& & \text{6 feet} \\
& & \downarrow \downarrow \\
& & \text{Comp} \\
& & \downarrow \downarrow \\
& & \text{P} \\
& & \downarrow \downarrow \\
& & \text{Comp} \\
& & \downarrow \downarrow \\
& & \text{A} \\
& & \downarrow \downarrow \\
& & \text{er} \\
& & \downarrow \downarrow \\
& & \text{tall} \\
& & \downarrow \downarrow \\
& & \text{than d}_c
\end{align*}
\]

(29) \[
[[\text{tall}]]^e = \\
\lambda \text{x}_c. \text{the degree to which x was tall} \\
[[\text{taller}]]^e = \\
\lambda d' \lambda \text{x}_c. \text{the degree to which x was tall w.r.t. d'} \\
[[\text{taller than d}_c]]^e = \\
\lambda \text{x}_c. \text{the degree to which x was tall w.r.t. to d}_c \\
[[\text{Meas taller than d}_c]]^e = \\
\lambda \text{x}_c. \text{tallness of x w.r.t. d}_c \text{ was more than or equal to d} \\
[[\text{6 feet Meas taller than d}_c]]^e = \\
\lambda \text{x}_c. \text{tallness of x w.r.t. d}_c \text{ was more than or equal to 6 feet} \\
[[\text{became 6 feet Meas taller than d}_c]]^e = \\
\lambda \text{x}_c. \text{tallness of x w.r.t. d}_c \text{ became more than or equal to 6 feet} \\
[[\text{that fence became 6 feet Meas taller than d}_c]]^e = \\
tallness of that fence w.r.t. d_c \text{ became more than or equal to 6 feet}
\]

The adjectival complement tall denotes an individual’s degree of tallness from the standard, that is, 0. By combining with -er, the standard of the degree of tallness changes from 0 to the degree d_c, which is provided with by the covert than clause. The
comparative phrase *taller than d*, then combines with the degree morphology *Meas*, which further needs to combine with the MP *6 feet*. Then the DegP headed by *Meas* combines with the *v* as its complement, and the subject the fence finally combines with the predicate. When the entire construction is spelled out, the *v*, the head of the DMC, is spelled-out as -(e)ci. Here the MP *6 feet* denotes the degree of change of the fence’s tallness, as expected.

Then the next question is how to account for the cases where -(e)ci occurs without any MPs, like (30):

    That fence-Nom tall-(e)ci-Past-Decl
    ‘That fence became taller.’

Even though there is no overt MP in (30), (30) still means that there is some degree d’c to which the tallness of the fence changes. Therefore I assume that the structure of (30) is (31), which is essentially the same as (28). The difference between (27) and (30) is that in (30) we have a covert measure phrase d’c indicating the degree of change of the fence’s tallness.

(31)

\[
\begin{array}{c}
\text{That fence} \\
\text{D} \\
\text{Deg} \\
\text{V}
\end{array}
\]

\[
\begin{array}{c}
\text{MP} \\
\text{Deg} \\
-(e)ci
\end{array}
\]

\[
\begin{array}{c}
d’c \\
\text{Comp}
\end{array}
\]

\[
\begin{array}{c}
P \\
\text{Comp}
\end{array}
\]

\[
\begin{array}{c}
\text{than d’} \\
\text{A}
\end{array}
\]

\[
\begin{array}{c}
tall \\
\text{Comp}
\end{array}
\]

\[
\begin{array}{c}
\text{er}
\end{array}
\]

The semantic derivation of (30) is (32):

---

7 Thanks to Roumyana Pancheva for suggesting this analysis.

8 Semantically, instead of a covert MP d’c, one may assume that the variable d’ in Meas bount by the lambda operator is existentially quantified.
Finally we need to account for the cases where an adjective appears as a complement of \( ka-/o- \), as in (33):

(33) \( \text{Nal-i etwup-e ka-n-ta.} \)

\( \text{Day-Nom dark-L go-Pres-Decl} \)

‘The day is getting dark.’

As we saw above, \( ka-/o- \) is not compatible with a comparative phrase. It is not compatible with an MP, either, as in (34):

(34) \( \text{*John-i khi-ka 3 cm khu-e-ka-n-ta.} \)

\( \text{John-Nom height-Nom 3 cm tall-L-go-Pres-Decl} \)

Therefore, I propose that, when an adjective combines with \( pos \), the \( v \) is spelled out as \( ka-/o- \). The structure of (33) is (35), and the derivation of (35) is (36):

(35) \[
\begin{array}{c}
v \\
\text{D} \\
The \text{day} \\
\text{AP}
\end{array}
\]

\[
\begin{array}{c}
\text{Deg} \\
\text{v}
\end{array}
\]

\[
\begin{array}{c}
\text{Deg} \\
\text{dark}
\end{array}
\]

\[
\begin{array}{c}
\text{deg} \\
\text{pos}
\end{array}
\]
(36) $[[\text{dark}]]^e = \\
\lambda x e. \text{the degree to which } x \text{ was dark} \\
[[\text{pos dark}]]^e = \\
\lambda x e. \text{darkness of } x \text{ was more than } d_s(\text{dark})(c) \\
[[\text{became pos dark}]]^e = \\
\lambda x e. \text{darkness of } x \text{ became more than } d_s(\text{dark})(c) \\
[[\text{the day became pos dark}]]^e = \\
\text{darkness of the day became more than } d_s(\text{dark})(c)

Summarizing this section, my proposal accounts for initial puzzles in the following ways. First, the similarities between \textit{ka-/o-} constructions and \textit{(e)ci} constructions are accounted for by assuming that they share the same structure in l-syntax: the directed motion construction (Zubizarreta and Oh 2007). Second, differences between \textit{ka-/o-} constructions and \textit{(e)ci} constructions are accounted for in terms of the difference of the path arguments: in \textit{(e)ci} constructions there is a phrase headed by comparative morphology \textit{-er/more} in the path argument, whereas in \textit{ka-/o-} constructions there is no comparative phrase. Finally, the compatibility of measure phrases with \textit{(e)ci} constructions is accounted for in terms of the comparative morphology \textit{-er/more} in the path argument and the difference of the selectional restriction of \textit{Meas} between Korean and English.

5. Further implications and predictions

Before concluding the paper, in this section I discuss some implications and empirical predictions of the proposal. Specifically, I discuss MPs in Korean without \textit{(e)ci}, and the variable telicity of \textit{(e)ci} deadjectival inchoatives.

5.1 Measure phrases without \textit{(e)ci}

As alluded above, sometimes MPs in Korean can appear with adjectives. Specifically, where there is a standard of comparison either overtly or covertly, as exemplified in (37):

(37) (comparing two buildings) 
Ce pilting-i (i pilting-pota) 6 phithu (te) noph-ta. 
That building-Nom this building-than 6 feet (more) high-Decl 
‘That building is 6 feet higher (than this building).’

My analysis can easily extend to cases like (37), by simply assuming that the comparative morphology \textit{-er/more} takes a gradable predicate \textit{noph}– ‘high’, and the covert
degree morphology Meas takes the comparative projection as its argument. Therefore, in my proposal, the L-syntactic structure for (37) is (38):

(38) $\begin{array}{c}
\text{That building} \\
\text{6 feet} \\
\text{than this building} \\
\text{high}
\end{array}$

5.2 Variable telicity of -(e)ci deadjectival inchoatives

English deadjectival verbs from gradable adjectives are sometimes called degree achievements (Dowty 1979, Hay et al. 1999, Kennedy and Levin 2008, among others). One important characteristics of degree achievements is variable telicity: they may be telic or atelic, depending on the nature of the scale of the adjectival core, as shown in (39)-(41):

(39) Variable telicity
   a. The soup cooled in 10 minutes. (Telic)
   b. The soup cooled for 10 minutes. (Atelic)

(Kennedy and Levin 2008: 157)

(40) Atelic by default
   a. The gap between the boats widened for a few minutes.
   b. ??The gap between the boats widened in a few minutes.

(Kennedy and Levin 2008: 160)

(41) Telic by default
   The sky darkened (?but it didn’t become dark)

(Kennedy and Levin 2008: 159)

Zubizarreta and Oh (2007) simply report -(e)ci inchoatives are telic, but at least some
of deadjectival inchoatives with -(e)ci seem to show variable telicity. For example, *chakap-eci* ‘cool’ (V), which is derived from *chakap* ‘cool’ (A), is compatible with both *in*-adverbials and *for*-adverbials.\(^9\) Compare (42) with (43), where the telicity is determined by the path argument *kongwen-ey* ‘to the park’:

   soup-Nom 10 minute for cool-(e)ci-Past-Decl  
   ‘The soup cooled for 10 minutes.’\(^{10}\)

   soup-Nom 10 minute in cool-(e)ci-Past-Decl  
   ‘The soup cooled in 10 minutes.’

(43) a. *??John-i 10 pwun tongan kongwen-ey ka-ess-ta.*  
   John-Nom 10 minute for park-Loc go-Past-Decl  
   (lit.) ‘John went to the park for 10 minutes.’

   John-Nom 10 minute in park-Loc go-Past-Decl  
   ‘John went to the park in 10 minutes.’

Other examples with -(e)ci further show that deadjectival inchoatives with -(e)ci are similar to degree achievements (also see Kim and Lee 2013): that is, the telicity of deadjectival inchoatives with -(e)ci varies depending on the nature of the scale associated with the adjectival core. (42), which we saw above, is an example of deadjectival inchoatives with variable telicity; (44) is an example where deadjectival inchoatives are interpreted as telic by default; in (45) the predicate is interpreted as atelic by default.\(^{11}\)

(44) a. *??Soystengeli hana-ka 10 pwun tongan phyengphyengha-eci-ess-ta.*
   Chunk.of.metal one-Nom 10 minute for flat-(e)ci-Past-Decl
   (lit.) ‘A chunk of metal became flat for 10 minutes.’

   Chunk.of.metal one-Nom 10 minute in flat-(e)ci-Past-Decl

---

\(^9\) An anonymous reviewer asked whether Korean temporal adverbials show the same properties as those in English (or other Indo-European languages). Here I simply assume that, following previous studies on Korean lexical aspects (such as Kim and Lee 2013), *-maney* adverbials and *-tongan* adverbials correspond to *in*-adverbials and *for*-adverbials, respectively.

\(^{10}\) Some native speakers report that (42a) is worse than (42b), but they also agree that there is less clear contrast in acceptability between (42a) and (42b) than (43a) and (43b).

\(^{11}\) (45b) has the reading where the gap between two cars began to widen after 10 minutes, the reading which is not relevant to our discussion.
‘A chunk of metal became flat in 10 minutes.’

(45) (In a car racing)
a. Twu cha sai-uy kankyek-i 10 pwun tongan
   Two car between-Gen gap-Nom 10 minute for
   (kyeysok) nelp-eci-ess-ta.
   (continuously) wide-eci-Past-Decl
   ‘The gap between two cars become wider for 10 minutes.’

b. ??Twu cha sai-uy kankyek-i 10 pwun maney
   Two car between-Gen gap-Nom 10 minute in
   nelp-eci-ess-ta.
   wide-eci-Past-Decl
   ‘The gap between two cars become wider in 10 minutes.’

I propose that the variable telicity of -(eci) inchoatives can be explained by extending Kennedy and Levin’s (2008) analysis of degree achievements to -(eci) inchoatives. According to Kennedy and Levin (2008), variable telicity of degree achievements can be accounted for in terms of their semantics of comparatives and the properties of the adjectival core under the degree achievements. Specifically, they claim that degree achievements take adjectival projections headed by the comparative morphology as their complements. As defined in (25), the comparative morphology derives another adjective g’ from the original adjective g: the only difference between g and g’ is that g’ has a new standard d’ in the scale, which is introduced by the than clause. This means that the adjective derived by the comparative morphology always has a lower bound, that is d’.

Let us see how their claim accounts for variable telicity of degree achievements. According to them, the telicity of the degree achievement is determined depending on the nature of the scale associated with the adjectival core: if there is an upper bound as well as a lower bound on the scale associated with the adjectival core, the degree achievement is interpreted as telic; otherwise, it is interpreted as atelic. Since the adjectival core in the degree achievement always has the lower bound (by the comparative morphology), the telicity of a degree achievement varies only depending on whether the scale with the adjectival core has the upper bound or not.

In this analysis the variable telicity of degree achievements from various adjectives is accounted for in the following way. First, adjectives like flat or straight have an upper bound: the degree achievements derived from these adjectives are telic. Second, adjectives like wide do not have an upper bound: the degree achievements derived from these adjectives are atelic. Finally, adjectives like cool may or may not have an upper bound, depending the context: the telicity may vary depending on the presence or the absence of a contextually determined upper bound.12

Further investigation is required, but by assuming the comparative morphology
underlying -(e)ci constructions, the proposal made in this paper gives a way to analyze variable telicity in -(e)ci constructions in parallel with that of the degree achievements. Since in my analysis -(e)ci inchoatives include comparative projections as their path arguments, just like English degree achievements, the variable telicity of -(e)ci can be analyzed in the same way as degree achievements.

Finally, my analysis predicts that when there is an overt measure phrase specifying the upper and the lower bound of the degree of change, the -(e)ci inchoative is interpreted as telic, which seems to be borne out, as in (46):

(46) a. ??Suphu-ka 10 pwun tongan 3 to chakap-aci-ess-ta.
  soup-Nom 10 minute for 3 degree cool-(e)ci-Past-Decl
  (lit.) ‘The soup cooled 3 degrees for 10 minutes.’
  b. Suphu-ka 10 pwun maney 3 to chakap-aci-ess-ta.
  soup-Nom 10 minute in 3 degree cool-(e)ci-Past-Decl
  ‘The soup cooled 3 degrees in 10 minutes.’

6. Conclusion

In this paper I propose that -(e)ci is a spell-out of the v of the directed motion construction, the path argument of which is a degree projection headed by a comparative morphology -er/more, and that measure phrases with -(e)ci constructions in Korean can be explained in terms of the non-standard semantics of gradable adjectives and the degree morphology, and the difference of selectional restriction of the degree morphology between English and Korean. Finally, I showed that the non-standard semantics of gradable adjectives and the degree morphology can account for the semantic characteristics of -(e)ci constructions as degree achievements, such as variable telicity.

Obviously, there are many questions remaining unsolved, among which I address one: how can the analysis be extended to apparent passives with -(e)ci as in (7), repeated as (47) below?

  John-Nom house two CL-Acc build-Past-Decl
  ‘John built two houses.’
  house two CL-Nom (John-by) built-(e)ci-Past-Decl
  ‘Two houses were built (by John).’

12 For linguistic criteria of whether an adjective has an upper bound or not, see Kennedy and McNally (2005), among others.
Based on the observations that -(e)ci is in general compatible with verbs of change of state and verbs of creation, which are also compatible with a specific kind of resultatives in Korean, Lim and Zubizarreta (2012) assume that verbs compatible with -(e)ci also include adjectival cores in the l-syntax level, which can also introduce the comparative projection. Still, it remains unanswered why -(e)ci behaves like a passivizing morpheme.\(^{13}\)

I do not know how this question can be answered at the moment, but let me make some speculations here (suggested by Maria Luisa Zubizarreta in p.c.). First, following Lim and Zubizarreta (2012), let us assume that verbs which may appear with -(e)ci can also take degree projections as its complement: -(e)ci is a spell-out of the v in the DMC where the path argument contains a degree projection. Degree projections need to be predicated of a theme argument: the theme, but not the agent, can be the object of comparison, since only the object can be regarded as what moves along the path of building. Therefore, -(e)ci combined with the verb should be the predicate of the theme rather than the agent of the verb: the theme should move to the subject position of -(e)ci. We may further speculate that in Korean some verbs which have the scalar property may combine with the comparative morphology, mainly because there is no clear-cut categorial distinction between adjectives and verbs (See also Kim M.-J. 2002 for the argument for the absence of the adjectival category in Korean). Of course, it still remains how to syntactically formalize this idea, but I will leave this as a topic of future research.

<References>

Hay, Jennifer, Christopher Kennedy, and Beth Levin. 1999. Scalar Structures Underlies Telicity in “Degree Achievements”. In *Proceedings of SALT 9*.

---

\(^{13}\) See Lim and Zubizarreta (2012) for an argument against -(e)ci as a passivizer.
Dongsik Lim  
Korean deadjectival inchoatives and measure phrases


Submitted on: January 19, 2016  
Revised on: February 13, 2016  
Accepted on: February 13, 2016