Korean has two main morphemes for the approximation meaning: the Sino-Korean derivation affix -ye and the Native-Korean phrasal affix -ccum. These two morphemes are studied mostly based on their use in a classifier construction. -Ye and -ccum have essentially identical grammatical function, even though their formal properties drastically differ: they belong to the derivational (-ye) vs. syntactic (-ccum, phrasal affix) grammar components. For instance, they can co-occur in one word: [rare] (sip) nyen-ye-ccum ‘around (10) years’ and coexist in one phrase with no additional change of meaning (payk-ye kay-ccum ‘around 100…’). In the paper, besides -ye and -ccum, other approximation constructions (with postnouns -cengto and -namcis in a classifier construction) will be also considered; -cengto and -namcis will be compared to -ye and -ccum.

Keywords: approximate, odd, derivation, affix, phrasal affix, postnoun, grammatical function, synonymous.

1. Sino-Korean (SK) and Native Korean (NK) numerals

Derivation of SK numerals is as follows: regular morphemes cey- and -ye are used to derive ordinal numerals from the “basic” cardinal numerals and for odd-approximate numerals (beginning from 10). In the case of NK numerals, the ordinal form is derived with the affix -ccay; the approximate marker is -ccum. The derivation patterns are shown in Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Cardinal</th>
<th>Ordinal</th>
<th>Odd/Approximate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK</td>
<td>sip ‘10’</td>
<td>cey-sip ‘10th’</td>
<td>Sip-ye ‘a little more than 10’</td>
</tr>
<tr>
<td>NK</td>
<td>yel ‘10’</td>
<td>yel-ccay ‘10th’</td>
<td>Yel (kwen)-ccum ‘around ten’</td>
</tr>
</tbody>
</table>

NK forms are illustrated in examples (1)–(2). The cardinal/“adjective” [ADJ] form is used in a classifier construction (in (1a) or as a noun modifier (see (1b)). The derivations (2a–b) illustrate two hypotheses about the relation between the cardinal and the "enumera-

* This paper is based on the poster presented at IMM-14, May 2010. All errors are our fault.
tion” forms. In (2a), the cardinal form is regarded as basic (according to A.A. Kholodovič).
In (2b), the “enumeration” form is regarded as basic (following Korean authors).

(1) a. *yel kwen-uy* chayk(-ul)
10[NK] CLASS-GEN book(-ACC)

b. chayk *yel kwen(-ul)*
book 10[NK] CLASS(-ACC) “10 books”


c. *pongthwu seys(-ul)*
(’cang)
envelope  three.ENUM[NK](-ACC) (’CLASS) “3 envelopes”

In (2c), the use of the “enumeration” form (seys ‘three.ENUM’) is illustrated. This form has both numeral and classifier features; it can be used postpositively with a noun, and cannot co-occur with a classifier (cf. (1b)). Morphologically, the ENUM form is usually the same as the ADJ form.  

NK numerals 1–10 have another “approximate” -e(s) form: twu-e(s) ‘about two’. [Martin 1992: 178] lists the NK -namwun2 pattern similar to the SK -ye pattern in Table 1. It is used with round numbers and highly lexicalized (used mostly with ye[l] ‘ten’ in (3a)–(3b), which is possible only in the North Korea dialect).

(3) a. *ye-namun 10[NK]-APPR.ODD[NK]*
“a little more than 10”

b. *sumwu-namun 20[NK]-ODD*
“a little more than 20”

2. Features of NK and SK morphological approximate markers:
-CCUM (NK), -YE (SK)

The main features of -ccum [NK] are (1) an “approximately” [APPR] meaning, and (2) -ccum can attach to a classifier (not to a numeral) in a classifier construction (4a) or to an ENUM form (4b).^3

(4) a. *oleynci payk(-ccum) kay-cum*
orange 100[SK](-APPR[NK]) CLASS[SK]-APPR[NK]
“around 100 oranges”

b. *haksayng sumwul-ccum*
student 20.ENUM-APPR [NK]
“around 20 students”

---

1 Except for 1–4 and 20 that have different forms shown in (2a-b).
2 Nam-un [PART; frozen] ← nam-ta ‘be left’.
3 Certain classifiers such as wen ‘won’ can be dropped:
   (i) *ikes-un isip-ccum-naa-sy phalli-ta.*
   it-TOP 20[SK] CLASS-APPR-DAT sell-PASS-PRES-DECL
   “It sells for 200,000 won” [colloq.]
-Ccum has grammatical properties of phrasal affixes following [Pullum, Zwicky 1983; Yoon 1995]. (5a–b) states the phrasal properties of -ccum when used in a classifier construction.

(5) a. When -ccum attaches to a classifier, its scope is the whole Class(ifier) P(hrase):
   b. ClassP [cf. -ccum in (11d)]
      ClassP ccum
      [olenyn ci payk kay]

Examples (4a) and (5c) show that -ccum can attach to any classifier, including a SK noun /l/ denoting measure/period of time in (5c):

(5) c. sipi-wel isip-il-ccum [SKLD]
   12[SK]-month[SK] 20[SK]-CLASS.day[SK]-APPR[NK]
   “around December 20”

Examples (6a–b) show that -ccum attaches not only to quantity words/expressions but also to deictics, interrogative words (6a) and denominative postpositions (6b).

(6) a. Sicheng-i eti-ccum iss-ci yo?
   City_Hall where-APPR[NK] exist-SUSP PTCL.POL
   “Whereabouts is the City Hall?”
   (lit. “What_place around is…”) [Martin 1992: 437]

   b. myechil cen-ccum-kkaci
   a_few_days before-APPR[NK]-UNTIL
   ku-nun kenkangha-yss-ta
   he-TOP healthy-PAST-DECL
   “Until (around) a few days ago, he was healthy”

In examples (6b–c), -ccum occurs in a “multiple particle constructions” [Sohn 1999: 270], in which particles can be switched (as in (6c)).

(6) c. [Sey si-kkaci-ccum] / [Sey si-ccum-kkaci]
   [3[NK] hour-PTCL-APPR[NK]] / […]-APPR[NK]-PTCL
   kitaly-e po-taka
   wait-INF see-CONV
   an o-myen ka-l they-ya
   NEG come-COND go-PART.FUT MOD-EMPH
   “I will wait till around 3 o’clock, and then, if you haven’t come, I’ll leave”
   [Martin 1992: 632]

To conclude, we have shown that the approximation morpheme -ccum is a phrasal affix (phrasal affixes are widely used in agglutinative languages).

The affix -ye [SK] (1) has a more complex than just approximate ‘approximate + odd’ [APPR.ODD] meaning, and (2) it has derivation affix features. Example (7a) and Table 1

4 These are Type 3 classifiers following [Martin 1992: 182]; with such classifiers, numerals often go with nouns of the same origin (i):

(i) sey hay/ sam nyen
   3.ADJ[NK] CLASS.year[NK]/ 3[SK] CLASS.year[SK] “3 years”
show that -ye attaches to numerals, besides 1–9. Examples (7a–b) illustrate that -ye can also attach to ‘period of time/measure’ nouns (Type 3 classifiers) instead of attaching to a numeral. Example (7c) shows that adnominal position is restricted to Type 3 classifiers; unlike -ccum in (4a), -ye cannot attach to other classifiers.

(7) a. han-ye sikan/ 'han sikan-ye
1[NK]-APPR.ODD CLASS.hour[NK]/ 1 CLASS.hour-APPR.ODD
“around 1 hour”

b. isip-ye pwun/ isip pwun-ye
20[S]-APPR.ODD[S] CLASS.minute/ 20 CLASS-APPR.ODD
“around 20 minutes”

c. *oleyni payk kay-ye
    orange 100 CLASS[S]-APPR.ODD[S]
“around 100 oranges”

To conclude, -ye is essentially a derivational (not phrasal) affix. Its meaning is more complex than just approximate: ‘around and a little more than’.

So far, we have shown that Korean has two morphemes for the approximation meaning. -Ye and -ccum can co-occur in one phrase (8a) with no additional shift of meaning [-ye before -ccum]. (8b) with -ye synonymous to (4a) with -ccum is possible:

(8) a. sip nyen-ye-ccum
    10[S]-CLASS.year[S]-APPR.ODD[S]-APPR[NK]
“approximately 10 years”

b. Oleyni payk-ye kay
    orange 100[S]-CLASS[S]-APPR.ODD[S] CLASS[S]
“around 100 oranges”

Table 2 summarizes basic properties of -ye and -ccum.

<table>
<thead>
<tr>
<th>Morpheme</th>
<th>Origin</th>
<th>Meaning</th>
<th>Morphological status</th>
<th>Grammatical function</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Ye</td>
<td>SK</td>
<td>APPR.ODD</td>
<td>Derivational affix</td>
<td></td>
</tr>
<tr>
<td>-CCUM</td>
<td>NK</td>
<td>APPR</td>
<td>Phrasal affix &amp; particle</td>
<td></td>
</tr>
</tbody>
</table>

3. Postnouns/auxiliary nouns -CENGTO/-NAMCIS ‘APPR.POST(.ODD)’ compared to -YE and -CCUM

In this section, we will consider first the postnouns [Martin 1992]/postpositions [Khloodovic 1954] cengto ‘APPR.POST’ [SK] and namcis ‘APPR.POST.ODD’ [NK] in a row.

Cengto is first of all a full noun that means ‘limit of a quantity’ [SKLD 2008], or degree/limit/measure’ [Martin 1992):

(9) a. sonhay-uy cengto damage-GEN measure “the measure of damage (caused)”

b. enu cengto-kkaci some degree-Delim-2.until “up to a certain degree”
"I want to buy a house like this" [this construction, price, etc.]

-Cengto’s properties in its grammatical (postnoun/postposition) use are (1) that it is postnominal, and not restricted to round numbers (similar to -ccum, cf. (10a) and (4a)), and (2) that it is quasi-synonymous to -ye (cf. (10b) and (8a)).

(10) a. han  *(sikan)-cengto ka-ta  [SKLD 2008]
    1[NK]  *(CLASS.hour[NK])-APPR.POST  go-PRED
    “to walk for around an hour”

b. oleynci  payk-ye    kay-cengto
    orange  100-APPR.ODD  CLASS-APPR.POST
    “around 100 oranges”

Is -cengto ‘APPR.POST’ in its grammatical use a full noun, as free postpositions [Rudnitskaya 2009] (e.g. aph ‘front, in_front_of’); or is it partially grammaticalized, similar to bound postpositions (e.g. -cen ‘before’)? The tests below show that -cengto has bound postposition rather than free postposition properties.

First, -cengto must go right after the noun stem, it cannot follow -uy ‘GEN’ in (11a) or any other particle or adverb. Second, -cengto (similar to -ccum) can form idiomatic constructions with an approximate meaning with nouns in (11b–c).

(11) a. han  sikan(-uy)  cengto
    1[NK]  CLASS.hour[NK](’-GEN)  APPR.POST
    “approximately one hour”

b. nayil-ccum//-cengto//-cengto-ccum  [cf. (13a)]
    tomorrow.NOUN-APPR/-APPR.POST/-APPR.POST-APPR
    “around tomorrow”

c. cwungkan-ccum//-cengto//-cengto-ccum
    middle-APPR/-APPR.POST
    “approximately in the middle”

Second, example (11d) shows that -cengto, similar to -ccum, can attach to a disjunction (‘20 or 30 years’). This example is additional evidence that supports statement (5) about -ccum being a phrasal affix. (11d) shows that both -ccum and -cengto are phrasal affixes.

(11) d. [isip nyen-ina samsip nyen]  *-cengto/  *-ccum
    [20[SK]-OR 30[SK]  CLASS.year]-APPR.POST/-APPR
    “approximately 20 or 30 years”

If -cengto (as an approximation marker) is a grammatical nominal marker, and it must always follow the stem (in (11a)), can it be placed in the 1st [Post] inflection slot in Table 3?
Table 3

Nominal inflection (based on [Cho, Sells 1995])

<table>
<thead>
<tr>
<th>(Stem)</th>
<th>(Hon)</th>
<th>(Plur)</th>
<th>(Post)</th>
<th>(Delim-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-nim-</td>
<td>-tul-</td>
<td>-ey-</td>
<td>-lo-</td>
<td>-man/-kkaci/-cocha-</td>
</tr>
</tbody>
</table>

(Delim-2) | (Cop)/(Mood/Quot) |
- (n)nun/-i/-ka/-to... | [(-i)/ (-ta) (-ko)...] |

Let us consider arguments for and against this claim. Similar to -ccum, -cengto is possible in (12a–b) and (13a); it cannot be part of “multiple particle constructions” — see (12b), (13a) vs. (6c) with -ccum. Examples (12a) and (13b–c)5 show that -cengto can attach case affixes. These data are evidence that might allow us to conclude that -cengto indeed belongs to nominal inflection and can probably be placed into some inflection slot in Table 3, say, into the [Post] slot (which immediately follows the stem).

(12) a.  i-ccum-eyse hancam ca-psita [Martin 1992: 437]
   this-APPR-LOC short_sleep (go_to_sleep)-PROPOS
   ‘i-cengto-eyse
   “Let us go to sleep somewhere (around) here”

   b. 2 nyen cen-ccum-chelem [from the Internet6]
   2 year before.POST-APPR-COMPAR.PTCL
   cen-cengto-chelem
   “The same as approximately 2 years ago”

(13) a. Na-nun Mikwuk-ey han I-TOP America-LOC I[SK]
   tal-cengto-ccum/ -ccum-cengto
   CLASS.month-APPR.POST-APPR/ -APPR-APPR.POST
   memwulu-l yeceng-i-O-ta
   stay-PART.FUT schedule-COP-PRES-DECL
   “I am scheduled to stay in America for around one more year”

   b.  yak isip pwun-cengto(-lul)
   around[ADV] 20 CLASS.minute-APPR.POST(-ACC)
   ttui-ess-ta
   “(He) jogged for around 20 minutes”

   c. Oleynici payk kay cengto(-ka)
   orange 100 CLASS APPR.POST(-NOM)
   cektangha-O-ta
   “Around 100 oranges are OK” [for this customer]

5 -Ccum, as in (12a), can attach case markers (quite rarely).
6 S.-K. Hwang, who has found this example, judges the string [cen[N]]-ccum-chelem as marginally grammatical, whereas the opposite order [(cen[N])-chelem-ccum] is considered ungrammatical.
Now let us see whether we may regard the ‘APPR.POST’ *cengto* as a full noun (Step 1 in Table 4) or as a partially grammaticalized word/ particle (Step 2 in Table 4). The data above (exx. (11)–(13)) show that *cengto* ‘measure/degree’ [in (9), written as a separate word] is a full noun (Step 1 in Table 4), but -*cengto* in the APPR.POST grammatical use is a nominal stem partially grammaticalized (Step 2 in Table 4). The ‘APPR.POST’ -*cengto* loses some full noun features [independent word status, ability to have genitive modifiers] and acquires certain features of a phrasal particle.

### Table 4
(from [Hopper, Traugott 1993: 7])

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>content word</td>
<td>grammatical word</td>
<td>clitic</td>
<td>inflectional affix</td>
</tr>
</tbody>
</table>

Let us finally look at the properties of a quasi-synonymous postnoun/postposition -*namcis* ‘APPR.POST.ODD’[NK]. Its meaning is similar to -ye’s ‘APPR.ODD’ meaning (see section 2) — ‘little more than’[SKLD 2008]. However, its grammatical features are similar to the features of -*cengto* (see (11)–(13) above): -*namcis* is postnominal, it is most frequently used as an approximation marker rather than as a full noun. -*Namcis* is restricted to round numbers, and is partially grammaticalized: see examples (14a–d).

(14) a. han tal **namcis**
1 month APPR.POST.ODD
“a little more than 1 month”

b. Kamca-lul sip killo **namcis-Ø**
potatoes-ACC 10 kilo APR.POST.ODD-ACC
sas-sa-ta buy-PAST-DECL
“(I) bought a little more than 10 kilograms potatoes”

c. Ku-nun payk myeng **namcis-eykey/-uy**
he-NOM 100 CLASS.man APPR.POST.ODD-DAT/-GEN
Cici-lul pat-ass-ta [cf. -*cengto* in (12a), (13b-c)]
support-ACC get-PAST-DECL
“He was supported by a little more than 100 people”

d. hantal(-ul) **namcis(-ul)** [cf. -*cengto* in (11a)]
one month(ACC) APR.POST.ODD-ACC
ku tosi-ey(se) sal-ass-ta
thistown-LOC live-PAST-DECL
“I lived in this town a month and a little more”

---

7 ‘*Namcis* can also be used (similar to *cengto*’*ta* ‘to a degree that…) as a base of a predicate: **namcis-ha-ta**

‘APPR.POST.ODD-do-PRED’:

(i) Inlyuhak-uy yeksa-nun kyewu il
anthropology-GEN history-TOP just one
seyki **namcis-ha-ta**
century APPR.POST.ODD-do-DECL
“The history of anthropology is just a little more than 1 century [old]”
As a conclusion, we present the comparative Table 5. In this table, the origin, the meaning, and the grammatical properties of -ye, -ccum, -cengto, and -namcis are listed. We see from the Table that -ye and -cengto have SK origin, but -ccum and -namcis are of NK origin. However, the origin does not fully determine any features of the approximation markers.

The SK -ye is a derivation affix, unlike the NK -ccum (which is a phrasal affix), whereas both the SK -cengto and the NK -namcis are partially grammaticalized postnouns/postpositions. The meaning of the SK -ye and the NK -namcis is identical (APPR.ODD ‘a little more than’), and the NK -ccum’s and the SK -cengto’s meanings are identical (APPR ‘approximately’). We see that grammaticalization and lexicalization strongly influence the semantic and syntactic properties of the markers under consideration.

<table>
<thead>
<tr>
<th></th>
<th>YE</th>
<th>CCUM</th>
<th>CENGTO</th>
<th>NAMCIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Origin</strong></td>
<td>SK</td>
<td>NK</td>
<td>SK</td>
<td>NK</td>
</tr>
<tr>
<td><strong>Tag/Meaning</strong></td>
<td>APPR.ODD</td>
<td>APPR</td>
<td>APPR.POST</td>
<td>APPR.POST. ODD</td>
</tr>
<tr>
<td><strong>Grammatical status</strong></td>
<td>Derivational affix</td>
<td>Phrasal affix &amp; particle</td>
<td>Noun in a grammatical use; partially grammaticalized</td>
<td>Nominal stem used only as a grammatical marker</td>
</tr>
<tr>
<td><strong>Position</strong></td>
<td>Postnumeral</td>
<td>Postnominal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 5**

References: