



modal ‘need’ (e.g. *You need to/must do this*), it is a raising predicate. In (1d), *need*<sub>2</sub> has an IP complement and Raising to subject.

- (1) a. He desperately **needed**<sub>1</sub> [<sub>NP</sub> sleep/money]  
 b. I am tired and I<sub>i</sub> **need**<sub>1</sub> [<sub>CP</sub> PRO<sub>i</sub> to get some sleep]  
 c. I **need**<sub>1</sub> [<sub>CP</sub> (for) you to get some work done]  
 d. It’s way past your bedtime. You<sub>i</sub> **need**<sub>2</sub> [<sub>IP</sub> t<sub>i</sub> to be in bed in half an hour]

Both thematic and modal ‘need’ can take a nonsentient subject. In (2a) and (2b), *need*<sub>1</sub> takes either an NP or a clausal complement, and in (2c), *need*<sub>2</sub> only takes a clausal complement.

- (2) a. The house **needs**<sub>1</sub> [<sub>NP</sub> repair]  
 b. This car<sub>i</sub> **needs**<sub>1</sub> [<sub>CP</sub> PRO<sub>i</sub> to be repaired], but I am not insisting it be done.  
 cf. #This car must be repaired, but I am not insisting it be done.  
 c. This car<sub>i</sub> **needs**<sub>2</sub> [<sub>IP</sub> t<sub>i</sub> to be moved now], or it’s going to be towed.  
 cf. This car must be moved now, or it’s going to be towed.

**3. The grammatical properties of Korean *philyo*.** Korean *philyo* ‘need’ is semantically similar to *need*. It takes two arguments. However, the complements of Korean *philyo* are always NPs. Because of this, *philyo*<sub>1</sub> (thematic ‘need’) and *philyo*<sub>2</sub> (modal ‘need’) are implemented differently. *Philyo*<sub>1</sub> can have a nominal object, as in (3). With a clausal complement, it is ambiguous between *philyo*<sub>1</sub> (thematic ‘need’) and *philyo*<sub>2</sub> (modal ‘need’), as in (4).<sup>1</sup>

- (3) Sensayng-i haksayng-i **philyoha-y1**.  
 teacher-NOM student-NOM need-DECL  
 ‘Teachers need students.’
- (4) Kim-i cip-ul chengso-ha-nun kes-i **philyoha-y1/2**.  
 Kim-NOM house-ACC clean-do-SUBORD kes-NOM need-DECL  
 ‘Kim has a need for herself or someone else to clean the house.’ [*philyo*<sub>1</sub>]  
 ‘Kim must clean the house’ [*philyo*<sub>2</sub>]

Unlike *need*<sub>2</sub> in English, which takes an IP complement and involves Raising to Subject out of the embedded clause, clausal complements of *philyo*, in both meanings, are nominalized with the affix *kes*. This precludes any raising operation. However, since Korean allows null *pro* subjects, *Kim* in (4) might be the subject of either the higher or lower clause, leading to different interpretations.

When *Kim* is the subject of *philyo*<sub>1</sub>, it optionally controls null *pro* in the lower clause as in (5). When the embedded *pro* is coindexed with *Kim*, the sentence is interpreted as in (5a), and if not, then as in (5b). Alternatively, *Kim* might be the subject of the lower clause, with a null *pro* matrix subject. If *pro* is thematic, then it is interpreted as in (6a), and if non-referential, then as in (6b).

<sup>1</sup> As pointed out by Seulkee Park, there are *philyo* constructions parallel to examples (3) and (4) which can oftentimes disambiguate the *philyo*<sub>1</sub> and *philyo*<sub>2</sub> interpretations. Example (i), with an accusative object and the light verb *hata* ‘do’ is parallel to (3). In example (ii), *philyo* is the nominative argument of the existential verb *issta*, and the clause *Kim-i cip-ul chengso-ha-l* modifies this nominal subject.

- (i) Sensayng-i haksayng-ul **philyo1-lo-hata**.  
 teacher-NOM student-NOM need-CONNECTOR-do  
 ‘Teachers need<sub>1</sub> students.’
- (ii) [<sub>NP</sub> [Kim-i cip-ul chengso-ha-l] **philyo2]-ka issta**  
 Kim-NOM house-ACC clean-do-SUBORD need-NOM exist  
 ‘There is a need<sub>2</sub> for Kim to clean the house’

- (5) a. Kim<sub>1</sub>-i [NP [VP pro<sub>01</sub> cip-ul chengso-ha]]-nun kes]-i philyoha-y  
 Kim-NOM house-ACC clean-do-SUB kes-NOM need-DECL  
 ‘Kim has a need for herself to clean the house.’ [philyo<sub>1</sub>]
- b. Kim<sub>1</sub>-i [NP [VP pro<sub>02</sub> cip-ul chengso-ha]]-nun kes]-i philyoha-y  
 Kim-NOM house-ACC clean-do-SUB kes-NOM need-DECL  
 ‘Kim has a need for someone else to clean the house.’ [philyo<sub>1</sub>]
- (6) a. pro [NP [VP Kim-i cip-ul chengso-ha]]-nun kes]-i philyoha-y  
 Someone Kim-NOM house-ACC clean-do-SUB kes-NOM need-DECL  
 ‘Someone needs for Kim to clean the house.’ [philyo<sub>1</sub>]
- b. pro [NP [VP Kim-i cip-ul chengso-ha]]-nun kes]-i philyoha-y  
 it Kim-NOM house-ACC clean-do-SUB kes-NOM need-DECL  
 ‘It is necessary for Kim to clean the house.’ [philyo<sub>2</sub>]

Like English, *philyo* can also take a nonsentient subject, and (7) can have two interpretations, as we saw for (4).

- (7) cip-i chengso-toy-nun kes-i philyoha-y  
 house-NOM clean-PASSIVE-SUB kes-NOM need-DECL  
 ‘The house is in need of being cleaned.’  
 ‘It is necessary that the house be cleaned.’

As before, these two interpretations are dependent on whether the passivized nominal *cip* ‘house’ is overtly in the matrix or the embedded clause. We can see the contrast in (8).

- (8) a. cip<sub>1</sub>-i [NP [VP pro<sub>01</sub> chengso-toy-nun kes]]-i philyoha-y  
 house-NOM clean-PASSIVE-SUB kes-NOM need-DECL  
 ‘The house is in need of being cleaned.’ [philyo<sub>1</sub>]
- b. pro [NP [VP cip<sub>1</sub>-i chengso-toy-nun kes]]-i philyoha-y  
 it house-NOM clean-PASSIVE-SUB kes-NOM need-DECL  
 ‘It is necessary that the house be cleaned.’ [philyo<sub>2</sub>]

**4. CPC constructions with *need* and *philyo*.** Turning to the CPC complements, we noted that CPCs have a passive interpretation despite the absence of overt passive morphology. (9a) is a CPC and (9b) is a true passive paraphrase of that.

- (9) a. The house needs [VP?/NP? **painting**] [CPC]  
 b. The house needs to be painted. [Embedded passive]

In Korean, (10a) is a CPC with *philyo* taking a simple NP complement, and in (10b), the verbal noun (VN) *chengso* ‘clean’ takes a passive verbal morpheme *toy*, which has a subordinating suffix *nun* and nominalizer *kes*, to become the NP complement of *philyo*.

- (10) a. cip-i [v?/N? **chengso**]-ka philyo-hay [CPC]  
 house-NOM clean-NOM need-DECL  
 ‘The house needs cleaning.’
- b. cip-i chengso-ka toy-nun-kes-i [Embedded passive]  
 house-NOM clean-NOM PASS-SUBORD-NOMINAL-NOM  
 philyo-hay.  
 need-DECL  
 ‘The house needs to be cleaned.’

In (9a), *need* has a gerundive complement, which might be a VP or an NP. In (10a), *philyo* takes a verbal noun (VN) complement that functions variously as a V or an N.

4.1 ENGLISH ‘NEED’ GERUNDIVE AND CPC CONSTRUCTIONS. When *need<sub>I</sub>* takes a gerundive complement, it is unclear what its category might be. In (11a), we find a gerundive object-verb complement, and in (11b) we see a bare gerundive verb complement.

- (11) a. Kim **needs<sub>I</sub>** [VP?/NP? house-cleaning]  
 b. The house **needs<sub>I</sub>** [VP?/NP? cleaning]

Given that *-ing* expressions can be nominal or verbal, it is not clear whether the complements of *need<sub>I</sub>* in (11) are NPs or VPs, since gerunds can be both.<sup>2</sup> The ambiguous status of *ing* is apparent when we consider (12) where the subjects are more NP-like as we go from (12a) to (12c).

- (12) a. [NP [VP **him** reading that book]] took a long time  
 b. [NP **his** [VP reading that book]] took a long time  
 c. [NP **his** [V reading] **of** that book] took a long time

We assert that the gerundive compound *house-cleaning* in (11a) and that the gerundive *cleaning* in (11b) are both NP and not VP complements of the verb *need<sub>I</sub>*. This is supported by the following, they (i) co-occur with determiners and quantifiers; (ii) take adjectival but not adverbial modifiers; (iii) are accompanied by either *by* or *from* agent-like modifiers (iv) have the object preceding the verb; (v) are not used as VP-idioms; and (vi) when the gerundive complement is a phrasal verb (e.g. *look up*), do not allow the intensifier *right* to be inserted between the verbal morpheme and the particle (e.g. *\*look right up*).

Taking up (i), note that a true VP gerund – even one with a compounded object – cannot take a specifier or a quantifier, as in (13). In contrast, gerundive complements of *need<sub>I</sub>* can be preceded by either, as in (14).

- (13) Kim is [VP {**\*a**/**\*some**} pizza-eating]  
 (14) a. Kim **needs<sub>I</sub>** [NP {**a**/**some**} house-cleaning]  
 b. The house **needs<sub>I</sub>** [NP {**a**/**some**} cleaning] [CPC]

Second, VP gerundives can be modified by adverbs, but not adjectives, as in (15). In contrast, gerundive complements of *need<sub>I</sub>* are modified by adjectives, but not adverbs, as in (16).

- (15) Kim is [VP thorough\*(**ly**) investigating a corona virus]  
 (16) a. Kim **needs<sub>I</sub>** [NP thorough\*(**ly**) house-cleaning]  
 b. The house **needs<sub>I</sub>** [NP thorough\*(**ly**) cleaning] [CPC]

Third, VP gerundives in passives can have *by* modifiers, but not *from* modifiers, as in (17). Gerundive complements of *need<sub>I</sub>*, however, can have either *by* or *from* modifiers, as in (18).

- (17) The house is [VP being cleaned {**by**/**\*from**} Kim]  
 (18) a. Kim **needs<sub>I</sub>** [NP some house-cleaning {**by**/**from**} Kim]  
 b. The house **needs<sub>I</sub>** [NP some cleaning {**by**/**from**} Kim] [CPC]

<sup>2</sup> As pointed out by Frances Blanchette, example (11b) has parallels in some varieties of American English with sentences like (i).

(i) *The house needs cleaned.*

While we suspect, based on a cursory examination of the data, that *cleaned* in (i) heads a VP, in contrast with *cleaning* in (11b). Further discussion of this contrast lies outside the bounds of this paper.

Fourth, the object of a VP gerundive usually follows the verb as in (19a) and (19b). However, gerundive complements of *need*<sub>I</sub>, must precedes the verb, as (20a) and (20b) show.

- (19) a. Kim disliked [<sub>VP</sub> him cleaning (the) **house**]  
 b. \*Kim disliked [<sub>VP</sub> him **house-cleaning**]
- (20) a. Kim really needs<sub>I</sub> [<sub>NP</sub> **house-cleaning**]  
 b. \*Kim really needs<sub>I</sub> [<sub>NP</sub> cleaning-**house**]

Fifth, when a VP-idiom forms a lexical compound, it loses its idiomatic meaning. We see this in the contrast between (21a) and (21b), where the VP gerundive is idiomatic and the NP gerund formed through the compounding of *hit* and *book* is not. When we attempt to use this idiom as a complement of *need*<sub>I</sub>, it fails, because *need*<sub>I</sub> cannot take a VP gerundive complement as in (22a), and the NP gerundive complement in (22b) cannot be idiomatic.

- (21) a. Jeremy dislikes [<sub>VP</sub> **hitting the books**]  
 b. \*Jeremy dislikes [<sub>NP</sub> **book-hitting**]
- (22) a. \*Jeremy needs [<sub>VP</sub> **hitting the books**]  
 b. \*Jeremy needs [<sub>NP</sub> **book-hitting**]

Finally, when a gerundive complement of *need* is a phrasal verb, the intensifier *right* cannot be inserted between the verbal morpheme and the particle. These facts, in particular, show the NP gerund analysis of *need*<sub>I</sub> complements to be correct.

Observe the contrast between gerundive and passive VP complements of *need*<sub>I</sub> in (23).

- (23) a. The 1<sup>st</sup> word was ignored by the students, but the 2<sup>nd</sup> one<sub>i</sub>  
 needs<sub>I</sub> [<sub>CP</sub> PRO<sub>i</sub> to [<sub>VP</sub> be **looked t<sub>i</sub>** [<sub>PP</sub> **right up**]]] [Embedded passive]  
 b. The 1<sup>st</sup> word was ignored by the students, but the 2<sup>nd</sup> one  
 needs<sub>I</sub> [<sub>NP</sub> **looking (\*right) up**] [CPC]

The asymmetry between CPC and passive in (23) is explained by our proposed structure for the CPC. In (23a), the object of *look up* (i.e. *the 2<sup>nd</sup> one*) is a complement of *look*, and the particle *up* projects a PP that is modified by *right*. In (23b), *look up* is lexically derived as a compound phrasal verb and the *-ing* affix attaches directly to the head of this compound (i.e. to *look*). In this context, *right* cannot be inserted immediately before *up*.

We know that this is the case whenever a phrasal verb's particle is not separated from its head. In (24b), *up* is attached directly to *look* and cannot project a PP that would accommodate *right*.

- (24) a. They [<sub>VP</sub> looked the word [<sub>PP</sub> (**right**) **up**]] in the dictionary  
 b. \*They [<sub>VP</sub> [<sub>v</sub> [<sub>v</sub> looked] [<sub>P</sub> (**\*right**) **up**]] the word] in the dictionary

The structure of the CPC complement in (23a) is similar and shown here in (25).

- (25) [<sub>NP</sub> -ing [<sub>v</sub> [<sub>v</sub> look] [<sub>P</sub> up]]] → [<sub>NP</sub> look<sub>I</sub> -ing [<sub>v</sub> [<sub>v</sub> t<sub>I</sub>] [<sub>P</sub> up]]]

In (25), the V head *look* undergoes head movement to the N head *-ing* of the gerundive NP. The P in the compound *up* cannot project a phrase and cannot thereby host *right*.

4.2 KOREAN 'PHILYO' VERBAL NP AND CPC CONSTRUCTIONS. Like English, Korean also has CPC constructions with the verb *philyo*, but their syntax is different from what we have found with the English verb *need*. In (26a), the complement of *philyo* is a VN object-verb compound, and in (26b) it is a CPC with a bare VN complement.



- (29) a. Kim-i          cip-**ul**          chengso-\*(**ha**)-yss-e  
 Kim-NOM    house-ACC    clean-do-PST-DECL  
 ‘Kim cleaned the house.’  
 b. Kim-i          cip-**ul**          **sass-e**  
 Kim-NOM    house-ACC    buy-PST-DECL  
 ‘Kim bought the house.’
- (30) a. Kim-i          cip-(\***ul**)-chengso-ka          philyoha-y.  
 Kim-NOM    house-ACC-clean-NOM          need-DECL  
 ‘Kim needs<sub>1</sub> house-cleaning.’  
 b. cip-{i/\***ul**}          chengso-ka          philyoha-y.  
 house-{NOM/ACC}    clean-NOM          need-DECL  
 ‘The house needs<sub>1</sub> cleaning.’ [CPC]

Third, the nominalizer *-kes*, together with the VP-subordinator *-nun*, can only be attached to VP clausal complements, but not to NP complements. In (31a), the verb *sa* ‘buy’ forms a transitive VP with its object *kapang* ‘bag’. This VP has the subordinator *nun* attached to it, and is then nominalized with *kes*, forming a NP complement of *cohaha* ‘like’ and getting marked with accusative case *ul*. In (31b), the transitive VN *kapang-kwumay* ‘bag-purchase’ takes accusative case directly, indicating that it is already an NP. In (32), the transitive VN *cip-cheongso* ‘house-clean’ and the bare VN *cheongso* ‘clean’ both take the nominative case assigned by *philyo*, and neither can be suffixed with *nun-kese*. Accordingly, we assume that these VNs are NPs.

- (31) a. Kim-i          [NP [ [VP kapang-ul    sa] nun] **kes**]-ul          cohaha-n-ta.  
 Kim-NOM          bag-ACC          buy SUB    kes-ACC          like-PRES-DECL  
 ‘Kim likes buying a bag.’  
 b. Kim-i          [VN kapang-kwumay]-lul          cohaha-n-ta.  
 Kim-NOM          bag-purchase-ACC          like-PRES-DECL  
 ‘Kim likes buying a bag.’
- (32) a. Kim-i          [VN cip-cheongso] {-ka/\*-**nun-kes-i**}          philyoha-y  
 Kim-NOM          house-clean          {-NOM/-SUB-kes-NOM}          need-DECL  
 ‘Kim needs<sub>1</sub> house-cleaning.’  
 b. cip-i          [VN cheongso]          {-ka/\*-**nun-kes-i**}          philyoha-y  
 house-NOM          clean          {-NOM/-SUB-kes-NOM}          need-DECL  
 ‘The house needs<sub>1</sub> cleaning.’ [CPC]

Finally, a Korean nominal expression can be modified by adjectives but not adverbs, as in (33a) where *cip* ‘house’ is modified by the adjective *kkalkkumhan* ‘neat’. In contrast, verbal expressions take adverbial modifiers, as in (33b), where the VP *cip-up cheongso-ha* ‘clean the house’ is modified by the adverb *kkalkkumhakey* ‘neatly’. In (34), the transitive VN *cip-cheongso* ‘house-clean’ and the bare VN *cheongso* ‘clean’ both take adjectival but not adverbial modifiers.

- (33) a. Kim-i          [VP          [NP **kkalkkumhan** [NP cip]]]-ul          cheongso-ha]-yss-e  
 Kim-NOM          neat          house-ACC          clean-do-PST-DECL  
 ‘Kim cleaned the neat house.’  
 b. Kim-i          [VP **kkalkkumhakey**          [VP [NP cip]-ul          cheongso-ha]]-yss-e  
 Kim-NOM          neatly          house-ACC          clean-do-PST-DECL  
 ‘Kim cleaned the house neatly.’

