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Lexicology of Korean Common Nouns*

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Lee, Juwon. 2016. Lexicology of Korean Common Nouns. Korean Journal of Linguistics 41-4, 715-739. In this paper I attempt to analyze various Korean transitive verb constructions whose meanings are associated with a qualia role. In particular, four generalizations are observed: (i) the verbs culki- ‘enjoy’ and kyenghemha- ‘experience’ must be associated only with a telic role of common noun object, (ii) the non-final light verb of a serial verb construction is related only to an agentive role of common noun object, (iii) if a quale of a common noun is associated with the light verb ha- ‘do’, then that quale is also associated with another qualia-related verb (e.g., culki- ‘enjoy’ or kyenghemha- ‘experience’), and (iv) the verb sicakha- ‘begin’ must be associated only with the first quale role on the LV-QUALIA list, which I propose in this paper. Based on these generalizations, the transitive verb constructions are formalized in Head-driven Phrase Structure Grammar (HPSG). (Kyung Hee University)

Key words: qualia roles, common noun, light verb, serial verb, HPSG, Korean

1. Introduction

The primary purpose of this paper is to analyze various Korean transitive verb constructions ‘whose’ interpretations are associated with some qualia roles (see the notions of qualia roles in Pustejovsky 1995; 2013).1 Based on the minimal pairs of the Korean light verb constructions (LVCs) given in (1), we can see that the specific meaning of the light verb ha- ‘do’ is determined by the common noun (CN) objects2 (see similar

* I would like to thank the three anonymous reviewers for their valuable comments and suggestions. Any remaining errors are my own.
1 Some aspects of a word’s meaning are referred to as agentive role or telic role: the former represents factors involved in the origin of an object and the latter the purpose and function of an object. For instance, the agentive role of book is write and the telic role of book is read (see the other two kinds of qualia roles in Pustejovsky 1995; 2013).
2 Another type of LVCs in Korean is the construction whose object is a verbal noun phrase (e.g., ki-ki swahak-ul kongwu-lul hay-ss-ta (lit.) ‘He did the study of mathematics’) (see Chae 1996; Choi & Wechsler 2001; Kim et al. 2004, among others). In this paper, I focus on the LVCs with a common noun object.

    Jane-Nom  rice-Acc  do-Pst-Dec
    (lit.)  ‘Jane did the rice.’ = ‘Jane cooked the rice.’

    Jane-Nom  coffee-Acc  do-Pst-Dec
    (lit.)  ‘Jane did the coffee.’
    = ‘Jane brewed/drank the coffee.’

    Jane-Nom  computer-Acc  do-Pst-Dec
    (lit.)  ‘Jane did the computer.’
    = ‘Jane used the computer.’

Though this type of LVC is quite productive in Korean (we can find many similar examples in a corpus or the Web; every common noun denoting a food seems to be able to appear as the object in an LVC), not every common noun can combine with the light verb, as illustrated in (2).

(2)  a.  #Jane-i  mwul-/sayngswu-lul  hay-ss-ta.
    Jane-Nom  water-/mineral water-Acc  do-Pst-Dec
    (lit.)  ‘Jane did the water/mineral water.’

   b.  #Jane-i  kyeysanki-/cacenke-lul  hay-ss-ta.
    Jane-Nom  calculator-/bicycle-Acc  do-Pst-Dec
    (lit.)  ‘Jane did the calculator/bicycle.’

These LVCs have the typical problems of multiword expressions (MWEs) (see the general problems of MWE in Sag et al. 2002). First, the words-with-space approach would result in a proliferation in the lexicon, since each combination of a CN and the light verb ha- ‘do’ (e.g., pap-ul

\[3\] English also has similar LVCs, even though they seem not to be productive (examples are from Im & C. Lee 2013: 205):

(i)  a.  John did the chocolate cake for my birthday.
    b.  Tell her to go and do her hair and nails.

Nonetheless, the two languages basically allow some combinations of the light verb and a common noun object (entity type noun in their terms).
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ha- ‘rice–Acc do’, khephi-lul ha- ‘coffee–Acc do’, khemphyute-lul ha- ‘computer–Acc do’, etc.) should be listed in the lexicon as a single lexeme (J. Lee 2011). This is an undesirable redundancy, missing the generalization that they consist of a CN and the light verb. Second, a compositional analysis (e.g., a syntactic rule combining the light verb ha- ‘do’ with a CN object) could overgenerate ungrammatical LVCs like the ones in (2), since it is not clear why a certain CN like sayngswu ‘mineral water’ or kyeysanki ‘calculator’ is disallowed in the LVC (lexical idiosyncrasy) (J. Lee 2011). Im & C. Lee (2013) seem to assume that every CN denoting an artifact includes its agentive and telic roles in a lexical semantic representation of CNs; however, this approach would suffer from the overgeneration. For instance, they assume that sukhapsu ‘scarf’ and cancenke ‘bicycle’ have the telic roles, wear and ride, respectively (Im & C. Lee 2013: 207, 216), but in fact sukhapsu ‘scarf’, but not cancenke ‘bicycle’, can be the object of an LVC.

This type of LVC is not the only construction involving qualia roles of CNs in Korean. Instead of the light verb, other verbs like culki- ‘enjoy’, kyenghemha- ‘experience’ or sicakha- ‘begin’ can appear with a CN object, as shown in the following: (see related English sentences in Pustejovsky 1995):

\[(3)\]

   Jane-Top glutinous rice-Acc enjoy-Pst-Dec
   (lit.) ‘Jane enjoyed the glutinous rice.’
   = ‘Jane enjoyed eating the glutinous rice.’

   Jane-Nom Africa coffee-Acc experience-Pst-Dec
   (lit.) ‘Jane experienced the African coffee.’
   = ‘Jane experienced drinking the African coffee.’

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4 The prenominal adjectives modifying the CNs seem to make the sentences sound more natural, but even without the modifiers, the sentences are still acceptable with the intended interpretations.

5 Although sicakha- ‘begin’ is different from culki- ‘enjoy’ and kyenghemha- ‘experience’ in terms of aspectual properties, this aspectual difference seems not relevant to the issue under discussion. What is important here is the fact that they all involve some kind of qualia roles in sentences like (3).
The verbs in (3) are also associated with a quale of the CN objects: the telic roles in these cases. I investigate in this paper how exactly the related meanings of the transitive verb constructions arise, employing the notions of quale roles and feature structures. In particular, I argue that the quale roles of a CN are related to each other in certain ways (e.g., there is a ranking among some quale roles of a CN) rather than simply being listed in the quale structure.

This paper is organized as follows. In section 2, I argue that quale roles are a kind of lexical meaning rather than pragmatic meaning. In section 3, some problems of J. Lee’s (2011) analysis are pointed out and then I modify it to accommodate the new empirical problems involving culki- ‘enjoy’ or kyenghemha- ‘experience’. Section 4 discusses the quale roles in the context of serial verb constructions (SVCs). In section 5, I show that there is a ranking among some quale roles and only the highest quale role must be associated with sicakha- ‘start’. Then some counterexamples to this generalization are discussed in section 6. Section 7 provides an HPSG analysis and section 8 concludes the paper.

2. Lexical Semantics vs. Pragmatics

In this section I discuss two different ways of how the specific meaning of the light verb ha- ‘do’ can be determined and then argue that the quale roles should be considered lexical meaning rather than pragmatic meaning (see J. Lee 2011; 2012). First, there are some cases where the light verb can receive a specific meaning from a context.

(4) a. [Context: In a pub Jane asked Bill, “What did you order?” Bill answered:]  
na-nun wain hay-ss-e.  
I-Top wine do-Pst-Dec  
(lit.) ‘I did wine.’ = ‘I ordered wine.’
b. [Context: In a birthday party Jane asked Bill, “What present did you give to her?” Bill answered:]  
na-nun wain hay-ss-e.  
I-Top wine do-Pst-Dec  
(lit.) ‘I did wine.’ = ‘I gave wine (to her).’

In (4) because of the different utterance contexts, the same sentence can have different interpretations. In these cases, pragmatics plays an important role in assigning a proper interpretation to the light verb. Based on this kind of data, one may argue that the qualia role meanings in (1) are also inferred from contexts. If the qualia roles are really pragmatic meaning, they should be unavailable without a context. However, even if the LVCs in (1) are assumed to be the very first sentences of an article or a novel and so context does not play a significant role in affecting the interpretation of ha- ‘do’, the qualia roles are still associated with the light verb in (1). Furthermore, as shown in (5), even a very specific context does not provide a qualia role to the light verb (see J. Lee 2015: 167–168).

(5) a. [Context: Everybody is supposed to drink water. Then Jane asked Tom, “Did you drink water?” Tom answered:]  
#ung, na-to mwul-ul hay-ss-e.  
yes I-also water-Acc do-Pst-Dec  
(int.) ‘Yes, I also drank water.’

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6 An anonymous reviewer pointed out that the light verb ha- ‘do’ in (i) has the meaning of sell in the given context.

(i) [Context: What does John sell in his store?]  
John-un khephi-lul ha-ko iss-ta.  
John-Top coffee-Acc do-Comp exist-Dec  
(lit.) ‘John is doing coffee.’ = ‘John is selling coffee.’

I agree that the light verb must have the self meaning in the context, but I doubt that it can still have the self meaning even if such a context is not available. If the sentence is the very first sentence of a text (e.g., novel), it seems that the light verb cannot have the self interpretation. Thus I assume that the self meaning in (i) comes from the context rather than some kind of quale of the common noun khephi ‘coffee’.
b. [Context: Everybody is supposed to eat rice for lunch. So Jane asked Tom, “Did you eat rice?” Tom answered:]

\#ung. na-to pap-ul hay-ss-e.
yes I-also rice-Acc do-Pst-Dec
(int.) ‘Yes, I also ate rice.’

Intuitively, the most natural candidates for telic roles of mwul ‘water’ and pap ‘rice’ should be drink and eat, respectively. These verbal meanings are clearly provided by the contexts in (5), but the light verb ha- ‘do’ of the sentences can never be associated with these verbal meanings. In short, the qualia roles are basically independent from utterance contexts; rather, it seems more plausible to view qualia roles as part of (conventionalized) lexical meanings of CNs (see a similar argument for the case of English in Asher 2011). Although how exactly the pragmatic meanings are assigned to the light verb ha- ‘do’ is an interesting problem, in this paper I focus on qualia roles of CNs.

3. Internal Organization of Qualia Structure

In this section, the analysis of J. Lee (2011) is briefly reviewed and based on this I develop a new organization of qualia roles of CNs. Particularly, I argue that qualia roles are not simply enumerated in the qualia structure, but they are organized in certain ways. Since the specific meanings of the LVCs like (1) are determined by the CN objects, J. Lee (2011) supported the idea that the semantics of a Korean CN basically consists of two components, the meaning of the CN itself and the qualia structure (see a similar formalization in Briscoe et al. 1990; Pustejovsky 1995 for English and Y. Lee 2000; Jun 2004; Im & C. Lee 2013 for Korean). For instance, the lexical entries of pap ‘rice’ and mwul ‘water’ is argued to have the following constraints (J. Lee 2011: 45):
In (6a) the CONTENT of *pap* ‘rice’ has two parts: the RESTRICTION list whose value is \[\text{rice}_\text{rel}\] and the QUALIA-STRUCTURE list whose value is the sum of the AGENTIVE and TELIC values via the sum operator.\(^7\) The value of the QUALIA list in (6a) is the same as that of the AGENTIVE list, since the TELIC list has no value. Because it is assumed that *ha*- ‘do’ of an LVC selects for a CN object whose QUALIA has some value and any QUALIA value can be associated with the light verb, the \[\text{cook}_\text{rel}\] in QUALIA of (6a) is the only available quale to be associated with the light verb in an LVC (J. Lee 2011). However, in (6b) QUALIA of *mwul* ‘water’ has no value at all, since the AGENTIVE and TELIC lists are all empty. Although *drink* seems to be the plausible candidate for the telic role of *mwul* ‘water’, the combination of the light verb *ha*- ‘do’ and *mwul* ‘water’ is disallowed as shown in (2a).\(^8\) This fact can be accounted

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\(^7\) Other attributes, \text{MODE} and \text{INDEX}, should be also included in the semantic structures (see Sag et al. 2003), but they are ignored here for the sake of a simpler representation.

\(^8\) As a reviewer pointed out, if *han* can ‘one cup’ is added, the sentence becomes acceptable.
for if we assume that the empty QUALIA list does not satisfy a selectional restriction of the light verb and thus the light verb cannot combine with *mwul ‘water*. This approach can account for the grammatical or ungrammatical LVCs in a principled way.

However, J. Lee (2011) only talks about the LVCs and as mentioned in (3) other verbs like *culki- ‘enjoy* can also combine with a CN object (Pustejovský 1995; Jun 2004). Interestingly, *mwul ‘water* or *sayngswu ‘mineral water* can contribute its telic role to the derivation of the specific meaning of a sentence headed by the verb *culki-ess-ta ‘enjoyed’ as shown in (7a). The example (3a) is repeated in (7b).

(7) a. Jane-un chakawun mwul-tsayngswu-lul
   Jane-Top cold water/mineral.water-Acc
   culki-ess-ta.
   enjoy-Pst-Dec
   (lit.) ‘Jane enjoyed the cold water/mineral water.’
   = ‘Jane enjoyed drinking the cold water/mineral water.’

   Jane-Top glutinous rice-Acc enjoy-Pst-Dec
   (lit.) ‘Jane enjoyed the glutinous rice.’
   = ‘Jane enjoyed eating the glutinous rice.’

In (7b) only the telic role eat of *pap ‘rice* is associated with *culki-ess-ta ‘enjoyed’, although *pap ‘rice* also has the agentive role

(i) John-un mwul-ul han can(-ul) hay-ss-ta.
   John-Top water-Acc one cup-Acc do-Pst-Dec
   (lit.) ‘John did a cup of water.’ = ‘John drank a cup of water.’

We may hypothesize then that the common noun *can ‘cup* is associated with drink probably because cup is a constrainer that normally contains liquid and liquid is what we drink. Note also that *han can ‘one cup* seems to be the object of the light verb in (i). If *han can ‘one cup* is not the object as in (ii), the light verb cannot have the drink meaning.

(ii) *John-un han can-uy mwul-ul hay-ss-ta.
   John-Top one cup-Gen water-Acc do-Pst-Dec
   (lit.) ‘John did a cup’s water.’

If the verb in (ii) is replaced with *masi-ess-ta ‘drank’, then the sentence is grammatical. So I assume here that the common nouns like *can ‘cup* include drink as their associated verbal meaning.
cook (see the LVC example in (1a)). The verb kyenghemha- ‘experience’ is parallel to culki- ‘enjoy’ in terms of the quale selection:

(8) a. Jane-un sayngswu-lul cheum Jane-Top mineral.water-Acc for the first time kyenghemhay-ss-ta. experience-Pst-Dec
(lit.) ‘Jane experienced mineral water for the first time.’
   = ‘Jane experienced drinking mineral water for the first time.’

b. Jane-un kyeysanki-lul cheum Jane-Top calculator-Acc for the first time kyenghemhay-ss-ta. experience-Pst-Dec
(lit.) ‘Jane experienced a calculator for the first time.’
   = ‘Jane experienced using a calculator for the first time.’

In (8) only a telic quale is related to the verb. Based on the data in (7) and (8), we can observe the following generalization:  

(9) Telic Role Generalization: the verb culki- ‘enjoy’ and kyenghemha- ‘experience’ must be associated only with the telic role of the CN object.

According to the analysis of J. Lee (2011), the sentences in (7) and (8) cannot be licensed, since pap ‘rice’ and mwul ‘water’ have no value for their TELIC lists, as stated in (6). Hence, the quale structures of CNs should be modified so as to accommodate the new data. If we assume

An anonymous reviewer pointed out that in a sentence like the following, the verb culki-ess-ta ‘enjoyed’ seems to be associated with read or write:

(i) ku cakka-nun tanpyensosel-ul culki-ess-ta. the writer-Top short.novel-Acc enjoy-Pst-Dec
(lit.) ‘The writer enjoyed short novels.’
   = ‘The writer enjoyed reading/writing short novels.’

This looks a counterexample to the Telic Role Generalization in (9). However, it is not clear whether write is not derived from the linguistic context; writers are normally related to literature which short novels belong to. If the subject in (i) is replaced with John whose job is not specified and there is no context before the sentence, only read seems to be associated with culki-ess-ta ‘enjoyed’.
that mwul ‘water’ (or sayngswu ‘mineral water’) has drink as its TELIC value in (6b), then the QUALIA list must also have drink as its value because of the sum operator. This then overgenerates the ungrammatical sentences like (2a) (#Jane-i mwul-/sayngswu-lul hay-ss-ta. (lit.) ‘Jane did the water/mineral water.’) since the light verb ha- ‘do’ requires a CN object whose QUALIA list has some value and a value of the QUALIA list is associated with the light verb (J. Lee 2011). Similarly, if we assume that pap ‘rice’ has eat as its TELIC value in (6a) and so the QUALIA list automatically includes eat as one of its values, then the LVC in (1a) (Jane-i pap-ul hay-ss-ta. (lit.) ‘Jane did the rice.’) becomes to have another interpretation (Jane ate the rice), a semantic overgeneration.

In order to block these syntactic or semantic overgenerations, I propose to introduce the new attribute, L(light)V(erb)-QUALIA, whose value is not defined as the sum of the AGENTIVE and TELIC values, but independently posited according to the possible interpretations of the light verb ha- ‘do’ of an LVC (a further motivation for LV-QUALIA is presented in section 5). For example, the light verb of the LVC (1a) is interpreted as cook, so cook is a value of LV-QUALIA of pap ‘rice’ as in (10a) below. Similarly, since the LVCs in (2a) are not licensed at all, the LV-QUALIA list of mwul ‘water’ is just empty as in (10b).

(10) a. pap ‘rice’
b. mwul 'water'

The LV-QUALIA values of other CNs are determined in the same way: the light verb in (1b) (Jane-i khephi-lul hay-ss-ta, (lit.) 'Jane did the coffee.') can be interpreted as either brew or drink, so the LV-QUALIA list of khephi 'coffee' is declared to include brew and drink as its members. Similarly, hay-ss-ta 'did' in (1c) (Jane-i khemphyuthe-lul hay-ss-ta, (lit.) 'Jane did the computer.') is interpreted as used, and thus LV-QUALIA of khemphyuthe 'computer' has use as its element. Accordingly, if we assume that the light verb ha- 'do' requires a CN object whose LV-QUALIA list (instead of the QUALIA list) has some value and the light verb is associated with any value of LV-QUALIA, then the overgenerations can be prevented. Equipped with the independent LV-QUALIA list, we can now say that the CNs have a TELIC value, as illustrated in (10), because they can combine with the verb culki- 'enjoy' or kyenghemiha- 'experience'.

4. Agentive-oriented Constructions

It may not be necessary to posit the feature LV-QUALIA for all the CNs, since many CNs cannot combine with the light verb ha- 'do' (see the examples in (2)). That is, we can posit LV-QUALIA only for the CNs that can combine with the light verb. However, there seems to be no category that includes all and only CNs that can combine with the light verb (see the lexical idiosyncrasy in section 1). Then LV-QUALIA should be posited in the individual CNs that can appear in an LVC and we would miss the generalization that such the CNs have an element in their LV-QUALIA list. Instead, if LV-QUALIA is posited in the type cn (common noun) in a type hierarchy and the specific value (possibly an empty list) of LV-QUALIA is stated in each CN, we can capture the generalization. Even though a CN (e.g., mwul 'water') has an empty LV-QUALIA list, this empty list plays the role of preventing the CN from combining with the light verb, which is also a desirable result.
In the previous section, some motivations for the values of the TELIC and LV-QUALIA lists were presented. I show here that the AGENTIVE value of a CN can be determined by serial verb constructions (SVCs) (see Korean SVCs and related discussions in J. Lee 2011; 2012; 2014a; 2014b). When the light verb *ha*—‘do’ is used as a non-final verb of an SVC, it should be related only to an agentive role of the CN object. For instance, in (11a) the V1 (the first verb) is the light verb *hay* and only the agentive role *cook* of *pap* ‘rice’ is possible for the specific meaning of *hay* and similarly for (11b).

(11) a. *J*ane-\*-un*  
    *pap*-\*ul  
    *hay*  
    *mek*-\*ess*-ta.  
    
    Jane-Top  
    Rice-Acc  
    do.Comp  
    eat-Pst-Dec  
    (lit.) ‘Jane did the rice and then ate it.’  
    = ‘Jane cooked the rice and then ate it.’

b. *J*ane-\*-un*  
    *khephi*-\*lul  
    *hay*  
    *mek*-\*ess*-ta.  
    
    Jane-Top  
    Coffee-Acc  
    do.Comp  
    eat-Pst-Dec  
    (lit.) ‘Jane did the coffee and then ate it.’  
    = ‘Jane brewed the coffee and then drank it.’

Alternatively, one might say that since it is just implausible to consume something already drunk or eaten, the telic role, *drink* or *eat*, of the CN object is not available for *hay* in the SVCs. However, in (12) the telic role *use* of *khemphyute* ‘computer’ cannot be the specific meaning of the light verb *hay*, even though it is not implausible to send a used computer to someone (see J. Lee 2011; 2012; 2015).

(12) *#J*ane-\*-un*  
    *khemphyute*-\*lul  
    *hay*  
    *ponay*-\*ss*-ta.  
    
    Jane-Top  
    Computer-Acc  
    do.Comp  
    send-Pst-Dec  
    (lit.) ‘Jane did the computer and sent it (to someone).’

Hence, (12) indicates that the light verb *hay* of an SVC is limited to an agentive role. This general constraint of *hay* can be stated as follows:

(13) **Agentive Role Generalization**: the non-final non-causative light verb of an SVC must be associated only with an agentive role of the CN object.\(^{11}\)

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\(^{11}\) The light verb *ha*—‘do’ can be also used as a causative verb (like *make* in English):
Since *produce* (a plausible candidate for the AGENTIVE value of *khemyuth* ‘computer’) cannot be the specific meaning of *hay* in (12), *khemyuth* ‘computer’ should have the empty AGENTIVE list, unless there is any independent factor blocking the sentence in (12). Also, the CNs *mwul* ‘water’ and *sayngsu* ‘mineral water’ cannot be the object of an SVC involving *hay*, suggesting that they have the empty AGENTIVE list, as well. I do not present a formalization of the SVCs in this paper; what is important here is that the light verb *hay* of an SVC makes reference to an agentive role of the CN object and so supports the existence of the AGENTIVE list in QUALIA-ST of CNs.

Interestingly, although the values of LV–QUALIA are independently posited from the AGENTIVE and TELIC values, the LV–QUALIA values are not unrelated to the values of the AGENTIVE or TELIC list. Based on the data so far, we can observe that if LV–QUALIA has a value, then it is also a value of AGENTIVE or TELIC, but not conversely:

(14) **Light Verb Qualia Generalization:** if a qualia role of a CN is associated with the light verb *ha*– ‘do’ of an LVC, then the qualia role is associated with the verb of another type of construction involving qualia role, but not conversely.

For instance, in (10a) *pap* ‘rice’ has *cook* as the LV–QUALIA value, and *cook* is also the value of AGENTIVE (*cook* of *pap* ‘rice’ is associated with the non-final light verb *hay* of a serial verb construction in (11a)); *pap* ‘rice’ has *eat* as the TELIC value (*eat* is associated with the verb *cukki-ess-ta* ‘enjoyed’ in (7b)), but it is not included in the LV–QUALIA list. There seems to be no appropriate formal tool to reflect this generalization on the feature structure of CN in HPSG. This generalization cannot be stated on the type *cn* (common noun), to which all the common nouns belong. Instead, this constraint is satisfied individually by each lexical entry of CN as in (10).

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(1) *ku-ka khepki-lul ttukep-key hay-as-ta.*
he-Nom coffee-Acc hot-Key do-Pst-Dec
(ilt.) ‘He did the coffee hot.’ = ‘He made the coffee hot.’

The causative light verb *ha*– ‘do’ in (1) denotes some unspecified causing action in the event of making the coffee hot. The non-causative light verb, but not the causative light verb, is related to a qualia role of a CN object.
5. Ranking among Qualia Roles

In addition to the entailment relations among the qualia roles in the qualia structure (the Light Verb Qualia Generalization), I argue here that there is a ranking among the qualia roles in the LV-QUALIA list. Consider the following sentences headed by the verb *sicakhay-ss-ta* ‘began’ (see Im & C. Lee 2013 for similar examples and Pustejovsky 1995; Egg 2003 for English examples and discussions).

   Jane-Nom rice-Acc begin-Pst-Dec
   (lit.) ‘Jane began the rice.’
   = ‘Jane began cooking the rice.’
   
   Jane-Nom computer-Acc begin-Pst-Dec
   (lit.) ‘Jane began the computer.’
   = ‘Jane began using the computer.’
   
c. Jane-i *khephi-lul sicakhay-ss-ta.*
   Jane-Nom coffee-Acc begin-Pst-Dec
   (lit.) ‘Jane began the coffee.’
   = ‘Jane began brewing the coffee.’

In (15a) only the agentive role of *pap* ‘rice’ is related to the verb *sicakhay-ss-ta* ‘began’, but in (15b) the telic role of *khemphyuthe* ‘computer’ is associated with the verb. Thus *sicakha-* ‘begin’ is not restricted to a certain type of qualia role, unlike *culki-* ‘enjoy’ or *kyenghemha-* ‘experience’. In (15c) *sicakha-* ‘begin’ is associated with the agentive role of *khephi* ‘coffee’, but not with the telic role.12 Then the question is which qualia role of a CN is systematically associated with the verb *sicakha-* ‘begin’. My hypothesis for such the VPs in (15) is that there is the ranking (i.e., agentive role > telic role) among the values of the LV-QUALIA list, so the agentive role of a CN object is used first with *sicakha-* ‘begin’, but if agentive role is not available, then telic role is used, and if even telic role is not available, then it is ungrammatical (see a preliminary discussion on this in J. Lee 2011:)

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12 As mentioned in section 2, we need to distinguish qualia meaning and pragmatic meaning. I assume that the sentences in (15) are used as the very first sentence of an article to minimize contextual effect.
47). This ranking constraint could be formulated as in (16).

(16) **Qualia Ranking Generalization** (to be revised): the verb *sicakha*-‘begin’ must be associated only with the first qualia role in the LV-QUALIA list of the CN object.

It is assumed in (16) that agentive role comes earlier than telic role in the LV-QUALIA list. For example, the light verb in (1b) can be associated with *brew* or *drink*, and thus *khephi* ‘coffee’ includes the following feature structure, [LV-QUALIA ≪{brew_rel}, {drink_rel}≫]. Then only the first qualia role, *{brew_rel}*, should be associated with the meaning of *sicakha*-‘start’ as in (15c). Other examples involving *sicakha*-‘begin’ are presented in (17) and (18).

(17) a. *ku-ka pwulkoki-lul hay-ss-ta.*
   he-Nom Korean barbecue-Acc do-Pst-Dec
   (lit.) ‘He did the Korean barbecue.’
   = ‘He cooked the Korean barbecue.’

b. *ku-ka pwulkoki-lul sicakhay-ss-ta.*
   he-Nom Korea barbecue-Acc begin-Pst-Dec
   (lit.) ‘He began the Korean barbecue.’
   = ‘He began cooking the Korean barbecue.’

(18) a. *ku-ka hongcha-lul hay-ss-ta.*
   he-Nom black.tea-Acc do-Pst-Dec
   (lit.) ‘He did the black tea.’
   = ‘He brews/drinks the black tea.’

b. *ku-ka hongcha-lul sicakhay-ss-ta.*
   he-Nom black.tea-Acc begin-Pst-Dec
   (lit.) ‘Jane began the black tea.’
   = ‘Jane began brewing the black tea.’

In (17a) the light verb is associated with the agentive role *cook* of the CN object, and so the LV-QUALIA list of *pwulkoki* ‘Korean barbecue’ has *cook* as its sole value. Therefore, only *cook* is available for *sicakhay-ss-ta* ‘began’ in (17b). According to (18a), LV-QUALIA of *hongcha* ‘black tea’ has *brew* and *drink* as its values and in (18b) only *brew* (the first value of LV-QUALIA) is associated with the verb. As shown in (2a), *mwul* ‘water’ and *sayngswu* ‘mineral water’ should have no value for their LV-QUALIA lists, and so *sicakha*-‘begin’ cannot
combine with mwul ‘water’ or sayngswu ‘mineral water’, as illustrated in (19).

(19) #ku-ka mwul-lsayngswu-lul sicakhay-ss-ta.
    he-Nom water/-mineral.water-Acc begin-Pst-Dec
    (lit.) ‘He began the water/mineral water.’

Note that the ranking must be among the values of LV-QUALIA, rather than the sum of the values of AGENTIVE and TELIC. For instance, the sum of AGENTIVE and TELIC of mwul ‘water’ or sayngswu ‘mineral water’ is the list whose sole member is drink, but sicakha-‘begin’ cannot combine with mwul ‘water’ or sayngswu ‘mineral water’, as shown above.

In short, besides the LVCs, the combinations of a CN object and sicakha-‘begin’ further motivate the existence of LV-QUALIA, because sicakha-‘begin’ has to make reference to a certain element of LV-QUALIA. If the LV-QUALIA list of a CN is empty, the CN cannot be the object of sicakha-‘begin’.

6. CNs Denoting Things to Wear

In this section, I discuss what seem to be counterexample to the Qualia Ranking Generalization in (16) and the generalization is modified accordingly. The CNs like moca ‘hat’ and ssengullasu ‘sunglass’ have wear as their TELIC value as evidenced by (20a,b) and their LV-QUALIA lists include wear as supported by (20c).

(20) a. ku-nun moca-lsseungullasu-lul cuiki-ess-ta.
     he-Top hat-/sunglass-Acc enjoy-Pst-Dec
     (lit.) ‘He enjoyed the hat/sunglasses.’
     = ‘He enjoyed wearing the hat/sunglasses.’

b. ku-nun moca-lsseungullasu-lul cheum
   he-Top hat-/eyeglass-Acc for the first time
   kyenghemhay-ss-ta.
   experience-Pst-Dec
   (lit.) ‘He experienced the hat/sunglasses for the first time.’ = ‘He experienced wearing the hat/sunglasses for the first time.’
c. **ku-nun moca-issengullasu-lul ha-ko nawa-ss-ta.**
   he-Top hat-/sunglass-Acc do-Coor come.out-Pst-Dec
   (lit.) ‘He did the hat/sunglasses and then came out.’
   = ‘He wore the hat/sunglasses and then came out.’

Both the Light Verb Qualia Generalization in (14) and the Telic Role Generalization in (9) are applied to the sentences in (20). Interestingly, however, the verb *sicakha-* ‘begin’ cannot combine with *moca* ‘hat’ or *ssengullasu* ‘sunglass’, as illustrated in (21).

(21) **#ku-ka moca-issengullasu-lul sicakhay-ss-ta.**
    he-Nom hat-/sunglass-Acc begin-Pst-Dec
    (lit.) ‘Jane began the hat/sunglasses.’

Other similar CNs (*ankyeng* ‘eyeglass’, *sikyey* ‘watch’, *mokkeli* ‘necklace’, *kwikeli* ‘earring’, *sukhaphu* ‘scarf’, *moktoli* ‘muffler’, etc.) do not appear with *sicakha-* ‘begin’ as well, although their LV-QUALIA lists include wear (e.g., *moktoli-lul hay-ss-ta* ‘did the muffler’ = ‘wore the muffler’). This is not expected from the Qualia Ranking Generalization in (16) and it seems necessary to revise the generalization. But if we want to maintain the generalization, a confounding factor blocking the sentences in (21) must be identified. Although it is not clear why the sentences are disallowed, we can see all the CNs in (21) belong to the category of things to wear and this category may be related to the ungrammaticality of the sentences. However, how exactly the category (perhaps with other factors) can derive the ungrammaticality is not clear.14 I assume that the

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13 Some CNs which belong to the same category of *moca* ‘hat’ or *ssengullasu* ‘sunglass’ can appear with *sicakha-* ‘begin’.

14 Lily-ka caknyen-ey kwikeli-lul sicakhay-ss-ta.
   Lily-Nom last.year-in earring-Acc begin-Pst-Dec
   (lit.) ‘Lily began earrings last year.’
   = ‘Lily began her habit of wearing earrings last year.’

However, the sentence in (i) is interpreted as an habitual activity, but not a specific action of putting on earrings (Im & C. Lee 2013: 222). Moreover, the ungrammatical sentences in (21) appear not to be able to have a habitual interpretation. So I assume that the CNs like *kwikeli* ‘earring’ bear some peculiar property to allow a habitual reading. For the present I set aside this problem and focus on *sicakha*-constructions describing specific events, but not habitual activities (or jobs).
Qualia Ranking Generalization is restricted to a certain type of CNs (i.e., things except something like clothes) and CNs can be classified into two subtypes, CNs with clothing_rel(ation) (i.e., CNs denoting some kind of clothes or the like) and CNs with non_clothing_rel(ation), as in the following semantic taxonomy:

\[
\text{entity_rel} \\
\text{clothing_rel} \\
\text{hat_rel, sunglass_rel, ...} \\
\text{non_clothing_rel} \\
\text{rice_rel, coffee_rel, ...}
\]

This hierarchy is a very simplified version of taxonomies of concepts, of course. Nonetheless, based on the basic distinction in (22), we can now say that the Qualia Ranking Generalization is applied only to non-clothing CNs:

(23) **Qualia Ranking Generalization** (final version): the verb sicakha- ‘begin’ must be associated only with the first qualia role in the LV-QUALIA list of the non-clothing CN object.

I have shown that the qualia ranking is associated with the aspectual verb sicakha- ‘begin’, though the question of whether we can find other cases involving some kind of qualia ranking is left for future work. Now the Qualia Ranking Generalization and the other ones observed above should be reflected in a formalization of the transitive verb constructions, which I turn to in the next section.

7. A Constraint-based Analysis

This section shows that the transitive verb constructions can be properly analyzed in the framework of Head-driven Phrase Structure

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14 An anonymous reviewer said that ip-ki sicakha-ta ‘begin wearing’ and ssu-ki sicakha-ta (lit.) ‘begin covering’ sound very awkward. However, we can find many naturally occurring examples of the kind in the Web. So the ungrammaticality of (21) seems not ascribed to the semantic combination involving wearing and beginning.
Grammar (see HPSG in Pollard & Sag 1994; Sag et al. 2003), though I do not argue that HPSG is the only available grammatical theory for an adequate analysis of the constructions.

7.1. The light verb constructions

In order to analyze the VP of the LVC in (1a) \( \text{pap-ul hay-ss-ta} \) (lit. ‘did the rice’ = ‘cooked the rice’), we first need a phrasal rule for the VP. The combinations of a transitive verb and its CN object can be licensed by the general Head-Complement Rule (see Sag et al. 2003; Kim 2004):

(24) Head-Complement Rule:
\[
[\text{hd-comp-ph}] \rightarrow [H, [\text{COMPS}]]
\]

In (24) the head (marked with H) requires a complement (tagged [1] in the COMPS list); when the head actually combines with the expression [1] in syntax, [1] is subtracted from the COMPS list of the phrase (hd-comp-ph).

The non-causative light verb ha- ‘do’ is subject to the constraints in (25).

(25) The non-causative light verb lexeme ha- ‘do’:
\[
[\text{tr-light-v}] \\
\text{ARG-ST} < \text{NP}, \left[ \text{RESTR} \langle \text{entity-rel} \rangle, \left[ \text{QUALIA-ST} \langle \text{LV-QUALIA} \rangle, \text{[AGNT]} \right] \right] > \\
\text{RESTR} < [1] >
\]

The light verb ha- ‘do’ requires an expression whose LV-QUALIA list is not empty and any of the LV-QUALIA values can be identified with the RESTR value of the light verb itself (i.e., [1] is structure-shared). Note also that either clothing CN or non-clothing CN can be the complement of the light verb, since it selects for a complement with \([\text{entity-rel}]\), which is the supertype of \([\text{clothing-rel}]\) and \([\text{non_clothing-rel}]\) in (22).

With the syntactic rule in (24) and the relevant words (the words \text{pap-ul} ‘rice-Acc’ and \text{hay-ss-ta} ‘do-Pst-Dec’ can be derived from the stems,
pap ‘rice’ and ha~ ‘do’, respectively, by some lexical rules which are independently needed, the VP pap-lul hay-ss-ta (lit.) ‘did the rice’ can be licensed as in (26).

(26) The VP pap-lul hay-ss-ta (lit.) ‘did the rice’ in (1a):

In (26) hay-ss-ta ‘did’ serves as the head daughter of the head-complement phrase (hd-comp-ph). The specific meaning [cook_rel] of the light verb comes from the LV-QUALIA value of the object (pap-ul) by the structure-sharing of [rice_rel] and [rice_rel] of the object is added to RESTR of the VP via the Semantic Compositionality Principle, which states that “In any well-formed phrase structure, the mother’s RESTR value is the sum of the RESTR values of the daughters.” (Sag et al. 2003: 143). The ungrammatical LVCs in (2a) (#Jane-i mwul-/sayngswu-lul hay-ss-ta. (lit.) ‘Jane did the water/mineral water.’) are not licensed, since ha~ ‘do’ requires a complement whose LV-QUALIA has some element as stated in (25), but mwul ‘water’ and sayngswu ‘mineral water’ are defined as having no LV-QUALIA value (see (10b) for mwul ‘water’).

7.2. Culki-constructions

Since culki~ ‘enjoy’ must be associated only with a telic role of its CN object (the Telic Role Generalization in (9)), the transitive verb requires
a CN complement whose TELIC has some value:

(27) The verbal lexeme culki- 'enjoy':

\[
\text{tr--non--light--v}
\]

\[
\text{ARG-ST < NP, [RESTR < [entity \_rel] > [QUALIA-\text{ST} \text{TELIC < \ldots \ldots >] >] > RESTR < [enjoy \_rel] > [SIT x1 \text{AGENT} i \text{] [SIT x2 \text{AGENT} j \text{]} >] >]
\]

In (27) the RESTR value of the CN complement is [entity \_rel], so it can be clothing CN or non-clothing CN. A TELIC value is associated with [enjoy \_rel] via the structure sharings: the TELIC value (tagged \[\]) of the complement is identified with the second member of RESTR of the verb and the value (tagged \[\]) of the SIT feature of \[\] is structure-shared with the value of ARG2 of [enjoy \_rel]. The verb kyenghemha- 'experience' should have almost the same feature structure: it also selects for a CN object which has some value for its TELIC and any TELIC value is associated with [experience \_rel]. Now, the VP khephi-lul culki-ess-ta (lit.) 'enjoyed the coffee' can be licensed as follows:

(28) The VP khephi-lul culki-ess-ta (lit.) 'enjoyed the coffee':
7.3. Sicakha-constructions

We can state the constraints of the verb sicakha- ‘begin’ as in the following feature structure:

(29) The verbal lexeme sicakha- ‘begin’:

\[
\begin{align*}
&\text{ARG-ST} \llangle \text{NP}, \text{RESTR} \llangle \text{non_clothing_rel} \rrangle > \\
&\text{LV-QUALIA} \llangle [], > \\
&\text{RESTR} \llangle \text{begin_rel} \\
&\text{SIT} \llangle \text{AGENT}, > \\
&\text{ARG2} \llangle [], > \\
\end{align*}
\]

In (29) the verb sicakha- ‘begin’ requires a non-clothing CN complement (an expression with \text{non_clothing_rel}) and this complement must have some value for LV-QUALIA. The first element of the LV-QUALIA list becomes part of the meaning of sicakha- ‘begin’: the tagged \( \square \) of LV-QUALIA is identified with the second member of RESTR of the verb, and the value (i.e., \( \square \)) of the SIT feature of \( \square \) is structure-shared with the value of ARG2 of \text{begin_rel}. The feature structure in (30) shows how the VP khephi-lul sicakhay-ss-ta (lit.) ‘began the coffee’ is licensed by the current system.
(30) The VP *khephi-lul sicakhay-ss-ta* (lit.) ‘began the coffee’:

<table>
<thead>
<tr>
<th>PHON &lt;khephi-lul, sicakhay-ss-ta&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJ &lt;NP&gt;</td>
</tr>
<tr>
<td>COMPS &lt;</td>
</tr>
<tr>
<td>DTRS &lt;</td>
</tr>
<tr>
<td>LV-QUALIA &lt;</td>
</tr>
<tr>
<td>HD-DTR &lt;</td>
</tr>
<tr>
<td>RESTR &lt;</td>
</tr>
<tr>
<td>PHON &lt;khephi-lul&gt;</td>
</tr>
<tr>
<td>RESTR &lt;coffee rel&gt;</td>
</tr>
<tr>
<td>PHON &lt;sicakhay-ss-ta&gt;</td>
</tr>
<tr>
<td>SUBJ &lt;NP&gt;</td>
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<td>COMPS &lt;</td>
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<tr>
<td>DTRS &lt;</td>
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<td>LV-QUALIA &lt;</td>
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<td>HD-DTR &lt;</td>
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<tr>
<td>RESTR &lt;</td>
</tr>
<tr>
<td>PHON &lt;khephi-lul&gt;</td>
</tr>
<tr>
<td>RESTR &lt;coffee rel&gt;</td>
</tr>
</tbody>
</table>

In (30) since [coffee_rel] is a subtype of [non_clothing_rel], according to the semantic taxonomy in (23), *khephi-lul* ‘coffee—Acc’ can be the object of the verb *sicakhay-ss-ta* ‘began’. The first member ([brow_rel]) of LV-QUALIA of the non-clothing CN object (*khephi-lul*) is structure-shared with the second member of RESTR of *sicakhay-ss-ta* ‘began’. The meaning of the CN object itself, [coffee_rel], is added to the RESTR list of the VP, again by the Semantic Compositionality Principle (see Sag et al. 2003: 143), when the verb syntactically combines with the CN object. However, the ungrammatical combination #sayngswu-lul sicakhay-ss-ta (lit.) ‘began the mineral water’ is not generated, because of the empty LV-QUALIA list of the non-clothing CN, sayngswu ‘mineral water’.

8. Conclusion

In this paper the four generalizations have been observed: (i) *culki*—‘enjoy’ and *kyenghemha*—‘experience’ must be related only to a telic role of the CN object (the Telic Role Generalization), (ii) the non-final non-causative light verb (*hay*) of an SVC must be associated only with an agentive role of the CN object (the Agentive Role Generalization), (iii) a qualia role in LV-QUALIA must be a value of the TELIC or AGENTIVE
list (the Light Verb Qualia Generalization), and (iv) sicakha–’begin’ must be associated only with the first qualia role in the LV-QUALIA list (the Qualia Ranking Generalization). Based on these observations, I proposed a constraint-based analysis of the transitive verb constructions involving qualia roles. However, in this paper I did not discuss why the verbs have such the selectional properties, which appears to be related to lexical semantics of the verbs, a deeper question to investigate in future research. I also leave it to future work to explore further consequences of the proposed system of qualia roles of CNs.

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