

'Because of Doing' and 'Because of Happening': A Corpus-based Analysis of Korean Causal Conjunctives, *-nula(ko)* and *-nun palamey*

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Sangsuk Oh. 2004. 'Because of Doing' and 'Because of Happening': A Corpus-based Analysis of Korean Causal Conjunctives, *-nula(ko)* and *-nun palamey*. *Language and Information* 8.2, 131–147. The purpose of this paper is to propose a unified syntactic and semantic account of the two Korean causal conjunctive suffixes, *-nula(ko)* and *-nun palamey*, based on corpus linguistic analysis. Many of the linguistic accounts available, both in pedagogical references and in the literature on linguistics, provide incomplete analyses of these suffixes, based on fabricated linguistic data. Using naturally occurring, real linguistic data, this paper examines the syntactic and semantic structures of the two causal suffixes through a consideration of three areas of corpus linguistic analysis: token frequencies, collocations, and semantic prosody. An analysis based on concordance data reveals that the two causal connectives, *-nula(ko)* and *-nun palamey*, have more differences than similarities in terms of syntactic and semantic constraints. The idiosyncratic structures of the two suffixes are discussed in terms of same subject condition, verb selection, same agent condition, synchronicity condition, and negative semantic prosody. (Harvard University)

Key words: Korean, causal, conjunctives, connectives, corpus analysis, syntax, semantics

1. Introduction

It has been noted that providing a clear-cut semantic (as well as syntactic) account of Korean causal connectives is not easy. Among the reasons for the difficulty of providing a linguistic account for them are their fuzzy semantic properties, such as semantic overlapping, semantic and pragmatic ambiguities, their polysemous or

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polyfunctional nature, and their idiosyncratic semantic structures. Due to these fuzzy semantics, there has been a lot of controversy (in, e.g., H. Choi 1977, K. Nam and Lukoff 1983, I. S. Yang 1972, P. H. Yun 1998, S. Kim 1980, Ree 1975, C. H. Choi 1992, Sohn 1992, among others) over the meanings of the most frequently used causal conjunctives, *-(e)se* and *-(u)nikka* (cf. Oh 2002, 2004). The inherent difficult semantic structures are also reflected in the second / foreign language acquisition of Korean causal connectives, which generate much confusion for second / foreign language learners. It has been observed that students are constantly mixing the two causals incorrectly and it is difficult for them to learn the causal suffixes successfully.

The same is true for the less commonly used causals, *-nula(ko)* and *-nun palamey*, whose semantic, as well as syntactic, structure is very idiosyncratic especially to foreign language learners. Consider the following examples:

- (1) a. 민지가 숙제 하느라고 파티에 못 갔어요.
Minji-ka swukce ha-nulako phathi-ey mos kass-ess-e-yo
'Minji could not go to the party as a result of her doing homework.'
- b. *민지가 숙제 하는 바람에 파티에 못 갔어요.
Minji-ka swukce ha-nu palamey phathi-ey mos kass-ess-e-yo
'Minji could not go to the party as a result of her doing homework.'
- (2) a. *민지가 늦게 일어나느라고 아침 수업에 늦었어요.
Minji-ka nuc-key il-e-na-nulako achim swuep-ey nuc-ess-e-yo
'Minji became late for the morning class because she woke up late.'
- b. 민지가 늦게 일어나는 바람에 아침 수업에 늦었어요.
Minji-ka nuc-key il-e-na-nun palamey achim swuep-ey nuc-ess-e-yo
'Minji became late for the morning class because she woke up late.'
- (3) a. 민지가 자느라고 전화를 못 했어요.
Minji-ka ca-nu-la-ko cenhwa-lul mos hay-ss-e-yo
'She could not call as a result of her sleeping.'
- b. ??민지가 자는 바람에 [*민지가 / 내가]전화를 못했어요.
Minji-ka ca-nun palam-ey [*Minji-/nay-ka] cen-hwa-lul mos hay-ss-e-yo
i) *'Minji could not make a phone call because she slept.'
ii) 'I could not make a phone call because Minji was sleeping.'
- c. 민지가 잠드는 바람에 [민지가] 전화를 못 했어요.
Minji-ka camtu-nun palam-ey [Minji-ka] cenhwa-lul mos hay-ss-e-yo
'Because Minji fell asleep, she could make a phone call.'

As shown here, (1b) and (2a) are awkward sentences due to the incompatibilities between the subordinate clauses and the following main clause. In (3), (b) is unnatural for the same reason as (1b) and (2a), if the two clauses are interpreted as having the same subject, as in (i) however, if we interpret (b) as having two separate subjects in the subordinate and the main clause, as in (ii), the sentence is

acceptable. An interesting point is that in (3b), if we replace the verb *ca-* 'sleep' with *camtul-* 'fall asleep', the sentence becomes natural, as in (3c), although the sentence has the same agent.

What would be the best explanation of these different uses of the two connectives, as shown in these examples? The author's initial motivation for writing the paper on these causals was the frequent observation that many KFL/KSL learners look for good reference grammar resources for these two causals, because they are so difficult to learn, but to no avail. Most of the materials available do not provide satisfactory answers to their questions: they are either too simplistic, or erroneous. Even previous linguistic descriptions are not satisfactory. Look at some accounts of the two causal connectives in Table 1:

As is evident here, these accounts are not only very sketchy, but also incomplete in several ways: they give too general information (as shown in the *italicized* parts in the table), miss basic information (as shown in terms of N/A), and give misinformation (as shown in the underlined parts).

In addition to these simplistic or erroneous accounts, most of the examples used are fabricated by those authors themselves, and so cannot provide realistic linguistic accounts of the two causals. Consequently, these accounts fail to show their actual usage.

The main purpose of this paper is to come up with a unified syntactic and semantic account of the two causal connectives, which overcomes the limitations of those earlier accounts, and which will eventually provide a good resource for learners of Korean to understand the use of the two causal connectives. In light of that, this research adopts a data-driven linguistic analysis (through the use of corpus concordance data) to see whether a linguistic differentiation can be derived to show the different behaviors of the two Korean causal connectives, *-nula(ko)* and *-nun palamey*. The different linguistic features of the two causals will be presented in terms of syntactic and semantic constraints, for which three areas will be considered: the token frequencies, syntactic distributions and semantic prosody of the two causals.

This paper consists of five sections. Section Two introduces the method of corpus analysis and the different corpora used in this research. Section Three presents a corpus linguistic analysis of *-nula(ko)* and *-nun palamey*, using three corpora, with the aid of concordance software (MonoConc Pro). In this section, the syntactic and semantic properties of the two causals are discussed through collocational analysis and a consideration of their associative meanings. Section Four provides a summary of this analysis, and Section Five contains the concluding remark

2. Method and Linguistic Corpora

Corpus linguistics provides a good tool for providing a realistic account of a linguistic phenomenon (as opposed to an introspective linguistic account) in that it deals with actual linguistic data.¹ According to Toginini-Bonelli, a corpus-driven

¹ Most existing linguistic descriptions regarding these two causal connectives are based on introspection by using fabricated linguistic data, leading these descriptions to be incomplete.

References	<i>-nula(ko)</i>	<i>-nun palamey</i>
You and Cho (2002: 117; 15)	A: Reason for/ <u>purpose</u> of an action B: 'for doing', ' <u>in order to</u> ' C: N/A	A: N/A B: 'because of', 'as a result of' C: <i>negative context</i>
Sohn et al (2001)	A: <i>The subject is performing one action at the expense of another.</i> B: 'as a result of, while, because of ~ing' C: context: is typically followed by an expression with a negative implication. This indicates that the person is failing to carry out the action called for.	A: <i>a reason or an explanation. An extended meaning of 'force'</i> B: N/A C: N/A
Ihm, Hong and Chang (1998)	A: <i>The first clause describes a reason or a cause for what is stated in the second clause.</i> B: 'because of', 'due to' C: The subjects for both clauses must be the same. The verb in the first clause must be an action verb. Usually a negative consequence due to what is described in the first clause is described.	A: <i>The adverbial clause is the cause of reason for what follows.</i> B: N/A C: N/A
King and Yeon (2000)	A: N/A B: 'what with ing, on account of process of ..ing, as a result of ..ing, because of ing' C: N/A	A: N/A B: 'because of doing~being, by reasons of the fact that (someone) is/was doing or is/was, (in) conjunction (with) doing~being' C: The consequence in a sentence with this pattern is typically adverse or negative.
DLI (1996): Korean in Context, Reference Grammar	A: <u>the same function of -(e)se and -kittaymwuney</u> B: N/A C: is attached only to action verbs; It is more colloquial than the other causal <u>connectives</u> . It is used only when the subject of the two clauses is the same; a negative consequence or a hardship often follows it.	A: <i>is used to express a cause and effect.</i> B: 'because of, <u>under the influence of, as a result of, on account of, or due to</u> .' C: <u>is used to assign blame.</u>
Here, A: indicates definition, B: English gloss or meaning, and C: context in which the causal connective is used.		

[Table 1] Summary of the previous accounts of two causal connectives

linguistics is "an empirical approach to the description of language use, assuming a contextual and functional theory of meaning and making use of the new technologies" and it "aims to derive linguistic categories systematically from the recurrent patterns and the frequency distributions that emerge from language in context". (2001: 87) A corpus-driven analysis is observation-based and in this

sense its account is realistic, as opposed to intuition-based analyses, which tend to use fabricated linguistic data.

Three different corpora are used in the current study. They are the Adapted *Sejjong* Written (ASW) corpus, the Adapted *Sejjong* Spoken (ASS) corpus, and the author's own corpus (SSO) corpus. The Adapted *Sejjong* Written (ASW) corpus is an abridged version of the *Sejjong* corpus jointly published by the National Korean Language Institute and the Department of Tourism and Culture in Korea. The compilation is based on 10 different genres such as novels, science, general, humanities (=anthropology, philosophy), newspaper, art and life, essays, education, society. This corpus consists of 2,009,438 words from 61 different texts. The Adapted *Sejjong* Spoken (ASS) corpus is a 1,118,970-word spoken corpus consisting of three different types: everyday conversation transcripts, TV talk show transcripts, and TV drama (soap opera) scripts. The SSO corpus consists of 2,123,579 words and was compiled by the author using 49 different texts of written genres such as novels, essays, and academic writings on philosophy and religion.

Using concordance data elicited from these three different corpora (305 concordances from SSO corpus, 337 concordances from ASW, and 220 concordances from ASS corpus), three areas, among several areas of corpus linguistic analysis, are examined. They are token frequencies, collocation analysis, and semantic prosody.

3. An Analysis of *-nula(ko)* and *-nun palamey*

In order to find out the different usage of the two causal connectives based on these linguistic corpora, this study will be concerned with three main areas: token frequencies to check the status of the two connectives in comparison with other causal connectives as well as to see usage difference between the two causal connectives in question in terms of genre; collocational context to see syntactic properties of the two forms; semantic prosody to see the network of association and type of connotation that the two connectives have. An analysis of these three areas is presented in this section.

3.1 Frequencies of *-nula(ko)* and *-nun palamey*

One of the benefits of corpus analysis is that it provides quantitative information on the distribution of linguistic items in particular genres and the degree of probability of when and where they can be encountered. In this sense, total and relative frequencies of the two causal connectives will shed some light on their actual usage in terms of how important the items are in general, which item is more frequently used, which item is preferred in a particular genre, and so forth. As Coady and Huckin (1997) note,² this kind of information is one important part of knowing a word.

Examination of the three different corpora reveals that the total frequencies of

² According to Coady and Huckin, knowing a word means: i) the degree of probability of when and where to encounter a given word and the sorts of words to be found with it; ii) the limitations imposed on it by register, iii) its appropriate syntactic behavior, iv) its underlying form and derivations, v) network of associations it has, vi) its semantic features, its extended or metaphorical meanings, and so on.

two causal connectives are consistently different, as shown in Table 2, below.

	<i>-nula(ko)</i>	<i>-nun palamey</i>	<i>-(e)se</i>	<i>-(u)nikka</i>	<i>-(i)mulo</i>	<i>-ki ttaymuey</i>
SSO corpus (2,123,579 words)	191 tokens	114 tokens	733 tokens	769 tokens	1,211 tokens	1,535 tokens
ASW corpus (2,009,438 words)	210 tokens	127 tokens	688 tokens	531 tokens	1,096 tokens	1,494 tokens
ASS corpus (1,118,970 words)	148 tokens	72 tokens	322 tokens	470 tokens	191 tokens	1,120 tokens

[Table 2] Frequencies of *-nula(ko)* and *-nun palamey* in comparison with those of other causal connectives in three different corpora

The relative frequencies of the two causal connectives *-nula(ko)* and *-nun palamey* compared to four other causal connectives show that the two causal connectives under consideration here are far less used than the others. It is assumed that as we see later, the constrained syntactic features and semantic prosody are responsible for the more restricted usage of these two suffixes compared to more common usage of four other causal connectives.

As for the two causals, *-nula(ko)* and *-nun palamey*, the token frequency³ of the former is consistently much higher than that of the latter in all three corpora. In two (ASW and ASS) corpora, the token frequencies of *-nula(ko)* are almost double those of *-nun palamey*. As will be discussed shortly, it is notable that the structurally and semantically more constricted form, *-nula(ko)* has higher frequencies than *-nun palamey*.

Examining frequency sub-corpora of *-nula(ko)* and *-nun palamey* from the ASW and ASS corpora illuminate usage differences in terms of genre. In a total of 13 sub-corpora⁴ consisting of different genres (ten different written genres such as novels, science, news, etc and three spoken genres such as daily conversation drama scripts, etc), there is a consistently higher frequency of *-nula(ko)* tokens. The only exception to this trend is in newspaper articles, where the number of tokens of *-nun palamey* is higher than that of *-nula(ko)*. It is speculated that the more frequent usage of *-nun palamey* in this case results from the fact that many of these newspaper articles deal with reports of events or incidents which require

³ The similar frequency difference is observed in two other author's own corpora (SSO II and SSO III), which have approximately one and half million words and two million words, respectively. In SSO II corpus, the token frequency between *-nula(ko)* and *-nun palamey* is 172 vs. 87 while in SSO III corpus, it is 225 vs. 115.

⁴ The token frequencies of *-nula(ko)* vs. *-nun palamey* in these 13 sub-corpora are as follows: Children's story (12 tokens vs. 5 tokens [from 52,052 words]); Novels (564 vs. 310) from 74 texts; [from 2,039,091 words]; Science (19 vs. 17) [from 18 texts of 434, 424 words]; General (53 vs. 25) from 22 texts of 928,694 words]; Humanities (anthropology; philosophy) (50 vs. 15) from 26 texts of 888,255 words]; **Newspaper articles (113 vs. 132) [from 83 texts of 2,009,539 words]; Art and Life (42 vs. 37) [from 25 texts of 795,590 words]; Essays (171 vs. 61) [from 29 texts of 974,372]; Education (137 vs. 56) [from 26 texts of 766,353 words]; Society (38 vs. 19) [from 32 texts of 835,072 words], Spoken, TV talk show scripts (46 vs. 39) [from 122 texts of 533,671 words]; TV drama scripts (66 vs. 12) [from 51 texts of 314,424 words], Daily conversation transcripts (11 vs. 2) [from 30 texts of 64,405 words]

more usage of *-nun palamey*.⁵

The higher token frequency of *-nula(ko)* in these corpora indicates that the former is more frequently used compared to the latter in both written and spoken styles of Korean. These statistical data also fit with the authors' intuition in which *-nula(ko)* is a more frequently used connective than *-nun palamey*.⁶ This is notable when considering the fact that *-nula(ko)* is more restricted than *-nun palamey* in terms of syntactic and semantic constraints, as shown in the latter sections. This implies that there are more pragmatic and cognitive needs for language users to use the former regardless of its structural and semantic complexities.

3.2 Collocation and Syntactic Properties of *-nula(ko)* and *-nun palamey*

One way to discover structural properties of a linguistic item is to look at its environment. We can do this by examining collocation,⁷ which refers to "the occurrence of two or more words within a short space of each other in a text" (Sinclair 1991). Collocation is usually used to refer to the co-occurrence of two single words but it can be used to refer to the co-occurrence of items at all grammatical levels, not just the word level (Firth 1957). The co-occurrence of two items become interesting if it seems to happen for a purpose, and especially if it is repeated, if there are "patterns of collocation" (Partington 1998: 16). The habitual associations of a word with other items can thus be studied both by calling up concordances of that word and by obtaining lists of its most frequent collocates. Through collocate frequency data, we want to find out types of preceding elements (i.e. verbs) of the two causal connective suffixes.⁸ This process is important when one considers that the knowledge of which collocations are normal in which environments is part of a native speaker's communicative competence as defined by Hymes (1971). In the following, attempts will be made to discover the differences in syntactic behavior between the two causal connectives in terms of collocates. Focus will be placed on finding out what types of verbs co-occur with the two causal connectives as well as the status of subjects of the sentences in which the connectives occur.

3.2.1 Collocates for *-nula(ko)* and the Status of the Agent of its Sentence.

Using MonoConc Pro's Advanced Collocation function, we can find the frequency of the immediately preceding verb of *-nula(ko)* connective in each corpus. Out of 191 tokens of the *-nula(ko)* causal connective in the SSO corpus, the most frequent element preceding *-nula(ko)* connective is a verb, *ha-* 'do', occurring 19 times. It is followed by *chac-* 'look for' (12 times). In both the ASW corpus (210 tokens)

⁵ As we will learn from the discussion of semantic prosody, *-nun palamey* is readily used in a context of reporting accidents or incidents because of its [+incidental happening] feature.

⁶ In many Korean textbooks, it is a usual practice that *-nula(ko)* is presented in earlier chapters than *-nun palamey*, and it is presumed that this results from textbook authors' intuition that the former is in more demand than the latter in Korean.

⁷ In this paper, the terms collocation and colligation ("the interrelation of grammatical categories in syntactic structure" (in Tognini-Bonelli 2001: 5)) are not strictly distinguished and only the term collocation is used to refer to either of them.

⁸ Often, linguists use collocation to loosely refer to pre-constructed phrases but in this study we want to look at collocation simply to look for the syntactic behavior of the two causal connectives.

and the ASS corpus (148 tokens), the verb, *ha-* 'do' is also consistently the most frequent preceding element, occurring 27 times and 10 times respectively.

The following table shows all the collocates immediately preceding the *-nula(ko)* connective and their frequencies in the SSO corpus.

Frequency	First-left co-occurring verbs
19 times	하 ⁹
12 times	찾
5 times	오, 참
4 times	먹, 보충하, 주, 쳐다보
3 times	꾸미, 놓, 다녀오, 달래, 시달리, 준비하,
2 times	공부하, 대, 돌아가, 돌아오, 돕, 부정하, 상대하, 설명하, 왔다갔다하, 키우, 파
1 time	감추, 갓, 걷, 검사받, 겪어내, 견디, 경영하, 계속하, 고르, 구경하, 구하, 기다리, 깎, 꼬, 꾸며대, 끌려다니, 끌어당기, 꿩이, 나누, 내리, 넘, 넣, 다듬, 담, 답하, 당기, 대어오, 대하, 도망치, 보도하, 돌아다니, 들여다 보, 따지, 떠드, 뛰, 뛰어다, 마시, 만들, 말아내, 맛떡뜨, 매달리, 모내기하, 몰두하, 물리치, 반응하, 발가벗, 밥먹, 배웅하, 번역하, 부르, 사, 사들, 살아오, 살피, 서성이, 설치, 수리하, 수습하, 시청하, 실천하, 싸우, 쓰, 억누르, 얻어내, 연습하, 오고가, 우, 우회하, 운영하, 위로하, 이어가, 일어서, 읽, 입, 서있, 잠겨있, 집착하, 안고있, 자, 자리잡, 잡, 재촉하, 적응하, 제하, 조심하, 주고받, 주워담, 쫓, 쫓아가, 쫓아다, 차리, 참석하, 치, 치료하, 치르, 퍼마시, 포진하, 피우, 해대, 해명하, 확인하
Types of V	Verbs: Active Forms; [+ volitional] (= transitive, causative; unergative type verbs)

[Table 3] Immediately Preceding collocates (=verbs) of *-nula(ko)* in the SSO corpus

This is a complete list of elements preceding the *-nula(ko)* in the SSO corpus. As shown here, only verbs are allowed to precede the *-nula(ko)* suffix. This is an important idiosyncrasy of this causal suffix because all the other causal connectives (except for *-nun palamey*) such as *-(e)se*, *-(u)nikka*, *-ki ttaymuney*, *-(u)mulo* can co-occur with both verbs and adjectives (stative verbs). As we see here, the most frequently co-occurring verb in this corpus is *ha-* 'do' (19), which is followed by *chac-* 'look for' (12), *o-* 'come' (5), and *cham-* 'bear' (5) and others such as *mek-* 'eat' (4), *pochungha-* 'supplement' (4), *cuwu-* 'give' (4). Some of concordance sample data are shown in (4).

- (4) a. 내보낼 대형 사극의 오픈 세트 작업을 하느라고 분주했다. 무대 세트를 만
(SSO 1-23)
- b. 방보다. 그만큼 많은 옷을 사들이느라 엄청난 돈과 시간이 들었을 것이다.
(SSO 1-24)

⁹ For the technical reason of corpus analysis, the verb *ilha-* 'work' and the verb *il-ul ha-* 'do (the work)' are treated differently here. Thus *ha-* (하) 'do' in this grid refers to the latter usage.

- c. 아까 나도 그곳에 들렀지만 주미를 찾느라고 미처 보지 못했을 것이다.
“사..” (SSO 1-25)
- d. 또 오토바이를 몰고 대북으로 오느라 배가 너무 고팠던 철규는 오로지 먹
(SSO 1-26)

Close examination of all of these co-occurring verbs (including those from the other two corpora, ASW and ASS) reveals that they consist of unergative¹⁰ intransitive verbs (e.g. *o-* ‘come’), transitive (e.g., *ha-* ‘do’), or causative (e.g., *nayl-* ‘lower’) type verbs and all of these verbs are characterized as [+volitional]. Also, for the same reason, all transitive verbs take active forms (as opposed to passive forms). This means that passive forms and unaccusative¹¹ (intransitive) verbs are excluded from this group.

The second syntactic consideration of the *-nula(ko)* construction is the status of the agent (=subject) role in a sentence with the causal suffix. Concordance data from the three corpora shows that nearly 100% of the agents of the subordinate and the main clause of *-nula(ko)* have the same referent as in (5).

- (5) a. 내가_i 주민등록증을 갱신하러 가느라고 비탈길을 [내가]_i 내려 가는데
(ASW 1.1)
- b. [어머니는]_i 무국을 끓이느라고 식전에 어머니는_i 부산하셨다.
(ASW 1.5)
- c. [이모는]_i 어린 지영이를 달래느라고 [이모는]_i 사흘 동안 고생하셨다.
(ASW 1.10)

As shown here, the agent of the subordinate clause (either implicit or explicit on the surface) and that of the main clause in each sentence are the same referent. This observation leads to a generalization that both agents in a sentence containing *-nula(ko)* should be co-indexed. It is interesting to note that the few concordance examples comprising exceptions to this same-agent condition (e.g. three out of 210 tokens in the ASW corpus; two out of 191 tokens in the SSO corpus) are unnatural (i.e., ungrammatical) sentences with misused or erred usage of the *-nula(ko)* suffix.¹² It is also notable that all these agents have a [+animate] feature.

With this analysis, the syntactic properties of the *-nula(ko)* construction can be summarized as: i) Only verbs [as verb stem forms] are allowed to use the *-nula(ko)* causal connective. ii) Of verbs, only verbs which can have [+volitional] feature are

¹⁰ Unergative verbs refer to intransitive verbs which describe *willed* or *volitional* acts such as *run*, *play*, *shout*, *study*, *bark*, etc.

¹¹ Unaccusative verbs refer to intransitive verbs whose subject *undergoes* the action or process such as *fall*, *reduce*, *dry up*, *sink*, *melt*, etc.

¹² Three concordances of exception in ASW follow:

- a. 일이 이상하게 돌아가느라고 개의 꼬리는 보통 길이보다 매우 짧은 것. (ASW 1-18)
- b. 고기 볶이 터지느라고 하루에도 서너번 나온 적이 있었다. (ASW 1-45)
- c. 막차가 들어오느라고 저편 산 밑 철교를 울리고는 점점 소리가 가깝게 들려온다. (ASW 1-66)

All of the above sentences sound awkward due to the violation of the same agent condition.

allowed. These include transitive, causative verbs and unergative verbs, excluding passive verbs and unaccusative type of verbs iii) a *-nula(ko)* construction is subject to the same-agent condition and the agent should be [+animate].¹³

3.2.2 Collocates of *-nun palamey* and Status of the Agent of its Sentence.

Analysis of the collocates immediately preceding *-nun palamey* shows a very different picture, revealing that it has different syntactic properties from those of *-nula(ko)*. First, let's take a look at collocate frequencies of *-nula(ko)* in the SSO corpus as shown in the Table 4.

Frequency	First co-occurring verbs
7 times	하
4 times	지르
3 times	주, 불어오, 들어오
2 times	내려가, 넘어뜨리, 대, 넘어지, 쓰러지, 나오, 덩벼들, 가버리, 취소하, 굶, 누르, 반환되, 외치, 버리, 놓치, 놓, 도, 푸드득거리, 내, 막
1 time	흔들어대, 치, 찢어져나가, 터지, 물러나, 일어나, 앉, 올라가, 소리치, 멈추, 쫓기, 이루, 돌아오, 발전되, 넘치, 걸리, 부탁하, 안겨주, 당기, 들러오, 돌아가, 내려놓, 꼬집, 때, 특치, <u>빠지</u> , 돌아보, 보내지, 달리, 위협하, 굴, 짚, 헛짚
	i) Verbs: both active and passive forms. Both unergative and unaccusative [intransitive] possible. ii) Those underline (=passive) and italicized (=unaccusative) verbs cannot co-occur with <i>-nula(ko)</i>

[Table 4] Immediately preceding verbs of *-nun palamey* in the SSO corpus

As we see here, only verbs [with verb stem forms] are allowed to co-occur with the *-nun palamey* connective excluding adjectives (=stative verbs). This also comprises an idiosyncratic feature of this connective, which is similar to that of *-nula(ko)*.

The most frequent verb preceding *-nun palamey* is *ha-* 'do', which is followed by *cilu-* 'shout'(7), *cwu-* 'give' (3), *bwuleo-* '[wind] blow [towards]' (3), *tuleo-* 'enter' (3) and so on. Sample concordance data is as follows:

- (6) a. 이 대목을 밑줄을 긋고 나보다 먼저 소개하는 바람에 당황했다. 당시
(ASW 2-12)
- b. 17 살 때 여자 친구를 임신시키는 바람에 할 수 없이 그녀와 결혼했다.
(ASW 2-25)
- c. 큰 바람이 불어오고 번개가 치는 바람에 단테는 공포 때문에 졸도하고..
(ASW 2-31)
- d. 기사가 우연히 오염된 주사바늘에 찔리는 바람에 병에 걸리게 되었다고.
(ASW 2-57)

¹³ In this paper, the semantic features, [+vol] and [+animate] are used for the purpose of classifying syntactic categories, verbs and subjects (or agents).

Investigation of all the immediately preceding collocates of *-nun palamey* in the three corpora discloses differences from those of *-nula(ko)*. Both active verbs such as transitive and causative verbs and passive verbs are allowed before *-nun palamey*. Also, as for the intransitive verbs, both unergative (e.g., *puleo-* 'blow') and unaccusative types verbs (e.g., *theci-* 'explode') can co-occur with *-nun palamey*. The underlined and italicized verbs in Table 3 are passive or unaccusative type verbs respectively, which cannot co-occur with the *-nula(ko)* suffix because of its [+volitional] feature. Differently, *-nun palamey* has both [+volition] and [-volitional]. This is to say that *-nun palamey* is less restricted syntactically in terms of verb types compared to *-nula(ko)*.

Furthermore, *-nun palamey* does not have the same-agent constraint. The following examples illustrate this point:

- (7) a. 같은 날 또 다른 사건이_i 일어나는 바람에 기분이_i 완전히 찬물을 끼얹
(ASW 2-19)
- b. 차가운 기운이_i 몸에 도는 바람에 그는_i 별을 바라보면서 전율에 휩싸이
(ASW 2-45)
- c. 그는_i 파마하고 방송에 나가는 바람에 [그는_i] '사대'라는 별명을 얻었다.
(ASW 2-59)
- d. 아버님은_i 그 날 허리를 때는 바람에 [아버님은_i] 시름시름 앓다가
(ASW 2-76)

As shown here, the *-nun palamey* construction allows either same agent or different agents. In fact, 90% (114 tokens out of the total of 127) of *-nun palamey* tokens in the ASW corpus have separate agents, showing that separate subjects between the subordinate and the main clause are much more common than same subjects. The minimal occurrence of the same subject seems to have to do with the semantic constraints discussed later. In sum, unlike *-nula(ko)*, there is no [+volitional] condition for verbs preceding *-nun palamey*, allowing either active and passive verbs together with unergative and unaccusative verbs. Also, there is no same agent condition and the agent is [\pm animate].

3.3 Semantic Prosody of *-nula(ko)* and *-nun palamey*

The previous sections have been concerned with showing how token frequencies and collocate frequencies give insight into syntactic properties of the two causal connectives. However, analysis of structural distribution does not sufficiently describe the difference in behavior between the two Korean causal connectives. It will be useful to consider the context in which the two causal connectives habitually occur and what kind of connotation are most frequently associated with the two forms. Semantic prosody¹⁴ refers to a network of association which a linguistic item has. For example, in English, the word set has an unfavorable semantic prosody because it is habitually associated with unpleasant events. (Sinclair 1987: 155). This is exemplified with some of its associating vocabulary such as *decay*,

¹⁴ For the definition of semantic prosody, see Tognini-Bonelli, Elena (2001)

ill-will, decadence, bitterness, slump etc. The keeping of “bad company” is that the use of the word set is enough to signal that some undesirable process is being described. Understanding this negative prosody of this word is important part of its knowledge by the language user. In this sense, examining semantic prosody of the two causal connectives is important in determining the different usage of the two forms concerned.

3.3.1 Semantic Prosody of *-nula(ko)*. The context that we want to look at is semantic prosody of both preceding and following elements of the *-nula(ko)* causal suffix. Though it is not as straightforward as collocation, semantic prosody does exist when we look carefully at both the subordinate and the main clause.

Consider some selected sample data in the box below.

퇴근해서 손님들과 함께 식사를 하고 오느라 좀 늦어졌어요.” “자, 술이나 드시다. 면서 연시 바구니를 뺏으려 이리 뛰고 저리 뛰느라 정신이 하나도 없었다. ‘이리 내오, 했다. 과 사장은 부인에게 임진희의 일을 해명하느라 진땀을 뻘 모양이었다. 공장에 을 정의하고 모두가 만족하는 다른 말을 찾느라 많은 시간을 소비했다. 문장은 상세히 있는 버스 정류장 앞에서 나는 그녀를 달래느라 곤혹을 치러야만 했다. 솜씨가 부족한 내보낼 대형 사극의 오픈 세트 작업을 하느라고 분주했다. 세트를 만드는 공사장에서 아까 나도 그곳에 들렀지만 주미를 찾느라고 미처 보지 못했을 것이다. “사라반드도 먹지, 그동안 매일 소금에 절인 고기만 먹느라 고생했어. 하하하.” 행복한 얼굴로 고기 바싹고 또 오토바이를 몰로 대북으로 오느라 배가 너무 고평던 철규는 오로지 먹을 것 고양이 가 거리까지 따라나오는 것을 때어 놓느라 애를 먹곤 했었다. 나와 고양이와의 우

[Table 5] Semantic Prosody of *-nula(ko)* (selected from SSO corpus)

As we see here, there are some common semantic features among the elements preceding and following the *-nula(ko)* suffix. First of all, it is the preceding elements (not the following clauses) that indicate *triggering* events (e.g., ‘because of eating with guests’ ‘of jumping here and there’ ‘of looking for different words’ ‘of appeasing her’, etc.) and the following elements signify *consequential* events (e.g., ‘becoming late’, ‘becoming mindless’, ‘going through a sweating moment (=hard time)’, ‘wasted time’, ‘going through a perplexing moment’, ‘suffered from troubles’, ‘failed to see’, etc.). Second, the triggering event and the consequential event of *-nula(ko)* should take place at the same time. In other words, the two events should share the same temporal space and are hence subject to the *synchronic* condition. Third, the triggering event consists of a volitional action (e.g., 식사하고 오느라 ‘coming after having a meal’) that the agent takes. On the other hand, the semantic prosody of the following elements (i.e., the context in the main clause) tends to be an *unfavorable* consequence such as paying a cost, suffering from a physical or psychological pain or loss, failing at a task and so forth. This fact is well illustrated when we consider the verbal phrases [in the main clause] of the first thirty concordance data of the ASW corpus as shown in Table 5.

With these findings, the whole semantic picture of the *-nula(ko)* construction is something like this: “Because of an agent’s engaging a volitional action, this triggers a synchronically unfavorable, consequential situation where the [identical] agent fails to perform a certain task/ pays a cost/ suffers from a trouble/ undergoes

애를 먹다 정신이 없다 분주하다 못 하다 진땀을 빼는 중이다 고생하다 고심하다 정신을 팔다 눈코 뜰새 없다, 혼나다, 늦어지다, 허비하다, 힘들다, 숨 막히다, 급하다, 시간이 없다, 여념이 없다, (공간이) 모자라다, 신경 쓰다, 수고가 많다, 그치다, 열심이다, 살 빠지다, 밤새다, 숨을 죽이다, 죽을 뻔 하다, 고개가 아프다, 전쟁 중이다, 감기까지 걸리다, 킁킁대다

[Table 6] The verb phrases of *-nula(ko)* from the first 30 concordances of ASW corpus

physical or psychological pain or loss.”

3.3.2 Semantic Prosody of *-nun palamey*. The semantic prosody of *-nun palamey* has a different picture from that of *-nula(ko)* though there is one similar feature in that it has also a negative semantic prosody. Consider the two sets of sample data below:

너무 많은 돼지고기가 시장에 나오는 바람에 돼지고기의 가격이 폭락하여 1근에 100전으로
 속으로 가라앉아 버렸고, 홍수로 강물이 넘치는 바람에 세 곳의 창고도 파손되어 버렸으며
 이미 동북으로 시집을 갔는데 전쟁이 터지는 바람에 연락이 끊겼단다. 내가 대만으로
 돌아
 개 지역의 보궐선거에 지나친 의미부여가 되는 바람에 걱정을 많이 했었으나, 서갑지역의
 제의를 한 적이 있지만 천안문 사태가 발생하는 바람에 논의가 중단됐다. 일본 동경 전력
 주가가 용자금을 갚지 못할 정도로 폭락하는 바람에 증권사들이 용자금 회수불능에 빠졌
 안도하는 분위기입니다. 태영 문제만 부각되는 바람에 다른 문제는 덮여 버렸다는,
 반사적

[Table 7] Semantic prosody of *-nun palamey* 1

몰려 가서 텔레비전을 보고 돌아오는 바람에 아예 20분간은 영화 상영을 중단했다는 얘기
 버스 운전사가 벽력같이 소리치는 바람에 버스 안에 있던 모든 사람들의 시선이 우르르
 기자가 하도 간곡하게 부탁하는 바람에 허락했지만, 내키지 않는 길을 일 수밖에 없었다.
 총회 참석 노조원의 징계 문제를 들고 나오는 바람에 협상이 깨졌다. “계약 때에는 마
 바나나 수입이 허용되니 너도 나도 들여오는 바람에 배 한 척씩 가득 쌓인 채 썩어 가
 전화가 왔더구만... 하림이 녀석이 한사코 마다하는 바람에 아무런 도움도 줄 수가 없게
 찬성했는데, 유럽공동체·일본·한국이 반대하는 바람에 성공을 거두지 못했다고 힐스 대

[Table 8] Semantic prosody of *-nun palamey* 2

As shown here, *-nun palamey* constructions share some common semantic prosody. First, the subordinate clause (the first clause) always relates to a triggering event. This triggering event is either an *involuntary/incidental happening* as illustrated in the Table 6 or an *unexpected happening* as illustrated in the Table 7. The *involuntary/incidental happening* is represented by intransitive, unaccusative, or passive verbs such as *nao-* ‘come out’, *nemchi-* ‘overflow’, *theci-* ‘break out’

pholakha- 'plummet', *pukaktoy*- 'be highlighted' and so forth, whereas the *unexpected happening* is expressed by transitive or even volitional verbs such as *tolao*- 'return', *ulumcamnoh*- 'threat', *solichi*- 'shout', *puthakha*- 'ask (a favor)', *mataha*- 'reject', *pantayha*- 'oppose' and so forth. Here, the term [unexpected] *happening* is preferred (to [volitional] *event*). This is because the agents in the subordinate clauses and in the main clause are separate in most cases.¹⁵ This constitutes one important difference between *-nula(ko)* and *-nun palamey* because the former allows only the same agent, but the latter allows two separate agents. Second, the consequential event of the *-nun palamey* construction consists of either undesirable or unexpected situations such as 'stopping playing a movie', '(reluctantly) allowing', '[banana] being rotten', 'giving no help', 'not being able to succeed', and so on. In a few cases, the consequential event is a favorable situation, but in this case, the situation is a rather unexpected one.¹⁶

This negative semantic prosody is well represented by the verbal phrases in the main clause of the first 30 concordance data from the ASW corpus as shown in Table 9.

<p>소동을 빚다, 난리가 나다, 폐교하다, 일이 터지다, 못 하다, 깜짝 놀라다, 다치다, 망신 당하다, 끊어지다, 잠적하다, 무안을 당하다, 기가 죽다, 난처해 지다, 드러나다, 막막하다, 징계를 당하다, 들통나다, 이상을 일으키다, 못 들다, (카드가) 떨어지다, 도움을 못 주다, 야단나다, 위기에 몰리다, 화상을 입다, 일이 터지다, 파란이 일다, (전파 방해가) 일어나다, 미끄러지다, 바빠 뛰어다니다. (집이 모두) 타버리다</p>
--

[Table 9] The verb phrases of *-nun palamey* from the first 30 concordances of the ASW corpus

As shown here, all the verbal phrases can represent either undesirable or unfavorable consequences. The whole picture of the *-nun palamey* construction can be described as: "Because of/ as a result of an involuntary or unexpected *happening* taking place, an uncontrollable, undesirable, or unexpected consequence is triggered."

4. Summary of the Analysis of *-nula(ko)* and *-nun palamey*

An analysis based on concordance data reveals that the two causal connectives, *-nula(ko)* and *-nun palamey* have more differences than similarities in terms of syntactic and semantic constraints. One similar behavior of the two causal connectives is that both tend to have a negative prosody, but if we examine this prosody in detail we find that the network of associations is very different. While *-nula(ko)*

¹⁵ Since the agents in the subordinate clause and in the main clause are separate in most cases, the verbs with volitional meaning do not represent the main agent's action but rather the subordinate agent's volitional action. This subordinate agent's volition becomes part of an unexpected happening.

¹⁶ Some examples of a more favorable but unexpected situation are:

- a. 대회 참석자들이 예약을 취소하는 바람에 별 고생 없이 방을 하나 얻을 수가 있었다.
- b. 누군가가 노래를 따라 부르며 춤을 추는 바람에 온 방안에는 웃음소리가 넘쳤다.

associates with a volitional action as a triggering event, *-nun palamey* involves an incidental or involuntary happening. Also, the former always associates with a negative prosody in the consequential event, which is not the case for the latter because it sometimes involves a favorable (though unexpected) prosody. Moreover, there is always synchronicity involved between the triggering event and the consequential event for *-nula(ko)* but *-nun palamey* does not have this. Furthermore, *-nula(ko)* always associates with a single, identical animate agent whereas *-nun palamey* is free from this type of association. Syntactically, both are similar in that only verbs are allowed but the syntactic behavior is almost always different: *-nula(ko)* requires the same subject in the two clauses, however *-nun palamey* does not have this constraint. Only [+volitional] verbs such as transitive, causative, unergative verbs are allowed for *-nula(ko)* whereas *-nun palamey* does not have the [+volitional] verb condition, so the connective allows all the different types of verbs such as active (transitive and causative), passive, both types (unergative and unaccusative) of intransitive verbs. Finally, *-nula(ko)* is used much more frequently in spite of its more constrained structure. This is because speakers have more pragmatic and cognitive needs for the use of *-nula(ko)*.

These findings can be summarized in the following table:

	<i>-nula(ko)</i>	<i>-nun palamey</i>
Syntactic Constraints	Subi V1 -nula(ko) Subi V2 a) The same subject in S1 and S2 [same subject condition] b) Only verbs [as stem form] are allowed to occur. V1: [+volitional] verbs : Only transitive, causative, unergative verbs [NO passive and unaccusative verbs] allowed.	Subi V1 -nun palamey Subi V2 a) Either the same subject or separate subjects [no same subj. condition] b) Only verbs [as stem form] are allowed, c) V1: [±volitional] verbs : Active and passive form; transitive, causative, unergative, unaccusative, all are allowed.
Semantic/Contextual Constraints	a) The subject has an animate, identical agent condition b) Time constraint: Synchronicity condition c) The semantic prosody: i) S1: triggering event : a volitional action or process ii) S2: consequential event : an unfavorable consequence	a) No animate/ identical agent constraint b) No synchronicity condition c) The semantic prosody: i) S1: triggering event : an unexpected, involuntary happening ii) S2: consequential event : an unexpected or undesirable consequence

[Table 10] Structure of the two causal connectives

5. Concluding Remarks

This research contains two important and relevant points.

The first is that the syntactic and semantic properties of the two causals *-nula(ko)* and *-nun palamey*, noted in terms of constraints and shown in Table 10, illustrate the idiosyncratic structures of the two causals. Because of these idiosyncratic structures, the two causals have very restricted usage. This contrasts with

the other four causals *-(e)se*, *-(u)nikka*, *-ki ttaymuney*, *-mulo*, which are used frequently, as shown in Table 1 in Section 3.2. This point is important because we can assume that the challenges of learning the two causal connectives (particularly by second / foreign language learners) derive from these idiosyncratic syntactic and semantic structures of the two connectives, which cannot be found in other languages, including English. Since foreign learners of Korean tend to have a hard time acquiring these two particular causal connectives, it is hoped that this research result will help them to understand their unique structures and eventually master their use. (See S. Oh 2004 for the pedagogical application of these two causals, based on the current research result.)

Second, this study demonstrates a showcase in which a data-driven analysis can provide a realistic description of a linguistic phenomenon by investigating naturally occurring linguistic data. That is, as noted in Section 1, most existing linguistic accounts, including pedagogical grammar references dealing with the two causals, fail to give a realistic account. As shown in Table 1, these accounts tend to be either incomplete or misleading. It is presumed that this arises because they were based on an analysis of fabricated linguistic data, which has limitations because it relies on the intuition of a single linguist. In contrast, corpus analysis as shown in this paper can overcome this limitation by examining real usage, based on a large number of (naturally occurring) linguistic data.

Tools

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SSO corpus. (A corpus compiled by the author using 49 different texts of written genres. This corpus comprises 2,123,579 words.)

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