

An Introduction of New Syntactic Elements: A Predicate-based Sentence Analysis*

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I. Introduction

This study discusses the grammatical framework of Korean school grammar from a critical point of view and suggests a new alternative framework based on generative grammar. The framework of Korean school grammar is based Onions (1911)'s sentence analysis.

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(1) Sentence patterns of Korean school grammar

- | | |
|----------------------------|-----------------|
| a. S + V + (Mod) | sentence type 1 |
| b. S + V + SC + (Mod) | sentence type 2 |
| c. S + V + O + (Mod) | sentence type 3 |
| d. S + V + IO + DO + (Mod) | sentence type 4 |
| e. S + V + O + OC + (Mod) | sentence type 5 |

The five sentence patterns above contain a nominative case subject and a tensed verb as common sentence constituents. A sentence comprised of a nominative case subject and a tensed complete intransitive verb such as (1a) is a type 1 sentence. A sentence comprised of a nominative case subject, a tensed incomplete intransitive verb, and a subject complement such as (1b) is a type 2 sentence. A sentence comprised of a nominative case subject, a tensed transitive verb, and an accusative case object such as (1c) is a type 3 sentence. A sentence comprised of a nominative case subject, a tensed dative verb, an accusative case indirect object, and an accusative case direct object such as (1d) is a type 4 sentence. A sentence comprised of a nominative case subject, a tensed verb, an accusative case object, and an object complement such as (1e) is a type 5 sentence.¹⁾ Each of the five sentence patterns may contain optional modifiers which do not affect the sentence type.²⁾

Within the grammatical framework of Korean school grammar, a verb

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- 1) (i) John had his hair cut.
(ii) John told him to leave.

Both sentences (i) and (ii) are type 5 sentences. Sentence (i) is comprised of nominative case subject, tensed causative verb, accusative case object, and object complement. Sentence (ii) is comprised of nominative case subject, tensed verb, accusative case object, and object complement. In both sentences (i) and (ii) subject has a nominative case and object has an accusative case.

- 2) The five sentence patterns of Korean school grammar is not officially dealt with in the textbooks. But they are dealt with in most of the reference books on English grammar.

needs tense to be analyzed as a verb. An NP needs nominative case to be analyzed as a subject and accusative case to be analyzed as an object. This framework of sentence analysis of Korean school grammar is problematic in six significant respects. First, the sentence analysis is based on tensed verbs. In the tensed verb-based framework, changing the part of speech of the tensed verbs to adjective alters the sentence type even though the semantic interpretations are the same. Besides, when the tensed verbs are changed to aspectual verbs such as progressive verbs or perfective verbs, the sentence types are difficult to define.

Second, sentence analysis in Korean school grammar is based on case. In the case-based framework, there is a mismatch between the grammatical analysis and semantic aspects of the sentence constituents.

Third, the types of sentence constituents are limited to six elements: subject, verb, object, subject complement, object complement, and modifier. With these six sentence constituents alone, we cannot account for sentences that contain elements other than these six.

Fourth, tensed clauses and their infinitive counterparts, which are open to the same semantic interpretations, are analyzed as different types of syntactic constructions.

Fifth, to-infinitive constructions and NP-to-infinitive constructions are analyzed in a different fashion even when they are both objects of two-place predicates.

Six, NP-to-infinitive constructions are uniformly analyzed as an object and an object complement. This causes a serious mismatch between the grammatical analysis and the semantic aspects of the constituents. Here we will show that a predicate-based sentence analysis and an introduction of the six new syntactic entities of proposition, location, cause, goal, source, and substance are able to solve all these problems.

(2) A new paradigm of English grammar

- a. Sub + (Tense) + (Asp) + 1-Place Predicate
- b. Expl + (Tense) + (Asp) + 1-Place Predicate + Proposition
- c. Sub + (Tense) + (Asp) + 2-place Predicate + SC
- d. Sub + (Tense) + (Asp) + 1 2-place Predicate + Manner
- e. Sub + (Tense) + (Asp) + 2-place predicate + Obj
- f. Sub + (Tense) + (Asp) + 2-place predicate + Loc
- g. Sub + (Tense) + (Asp) + 2-place predicate + Cause
- h. Sub + (Tense) + (Asp) + 2-place predicate + Goal
- i. Sub + (Tense) + (Asp) + 2-place predicate + Source
- j. Sub + (Tense) + (Asp) + 2-place predicate + Substance
- k. Sub + (Tense) + (Asp) + 3-place predicate + DO + IO
- l. Sub + (Tense) + (Asp) + 3-place predicate + IO + DO
- m. Sub + (Tense) + (Asp) + 3-place predicate + O + OC
- n. Sub + (Tense) + (Asp) + 3-place predicate + O + Loc
- o. Sub + (Tense) + (Asp) + 3-place predicate + O + Cause
- p. Sub + (Tense) + (Asp) + 3-place predicate + O + Substance

II. Tensed Verb-based Sentence Analysis in Korean School Grammar

2.1 Changing the part of speech of the tensed verbs to adjective alters sentence types

Korean school grammar classifies English sentences into five types. The sentence analysis in Korean school grammar is based on tensed verbs. Let us consider the following sentences.

- (3) a. He smiles.
 S V
- b. She is gorgeous.
 S V SC
- c. Harry kissed his wife.
 S V O
- d. Sue gave him a book.
 S V IO DO
- e. Erik had his car repaired.
 S V O OC

Sentence (3a) is comprised of the nominative case subject *he* and the complete intransitive tensed verb *smiles*, and it is a type 1 sentence. Sentence (3b) is comprised of the nominative case subject *she*, the incomplete intransitive tensed verb *is*, and the subject complement *gorgeous*, and it is sentence type 2. Sentence (3c) is comprised of the nominative case subject *Harry*, the complete transitive tensed verb *kissed*, and the accusative case object *his wife*, and it is sentence type 3. Sentence (3d) is comprised of the nominative subject *Sue*, the tensed dative verb *gave*, the accusative case indirect object *him*, and the accusative case direct object *book*. It is sentence type 4. Sentence (3e) is comprised of the nominative case subject *Erik*, the tensed causative verb *had*, the accusative case object *his car*, and the object complement *repaired*. It is sentence type 5. In every type of sentence the tensed verb is the obligatory sentence constituent. This tensed verb-based sentence analysis of Korean school grammar is problematic in some significant respects. Consider the following sentences.

- (4) a. He hesitated at first.
 S V Mod
 b. He was hesitant at first.
 S V SC Mod
 c. She succeeded at last.
 S V Mod
 d. She was successful at last.
 S V SC Mod

Sentence (4a) is a type 1 sentence. However, if the complete tensed intransitive verb *hesitated* is changed to the adjective *hesitant*, which does not represent tense, as in sentence (4b), it is not regarded as a verb but a subject complement and the tense indicator *was* becomes a verb merely by virtue of the fact that it is a tensed element. This changes the sentence to a type 2 sentence. The same is true of sentences (4c) and (4d). In (4c), the tensed element *succeeded* is a verb and the sentence is a type 1 sentence. In sentence (4d), *successful*, which does not represent tense, is a subject complement and the tense indicator *was* becomes a verb simply because it has tense. Hence the sentence is a type 2 sentence.

In the tensed verb-based approach, changing the tensed verbs to other parts of speech does not change the semantic interpretations of the sentence, but it alters the sentence type. The tensed verb-based approach analyzes the tensed verb and the adjective derived from the tensed verb as different sentence constituents, and thus two sentences which are open to the same semantic interpretations are analyzed as two completely different types of sentences.

2.2 Changing the part of speech of the tensed verbs to aspectual verbs alters sentence types

The tensed verb-based approach analyzes tensed verbs and the adjectives derived from them as different sentence constituents. This tendency also applies to cases in which the tensed verbs are changed to aspectual verbs such as progressive participles or perfective verbs. Let us consider the following sentences.

(5) a. He is intelligent.

S V SC

b. He snores.

S V

c. He is snoring.

S V SC

d. He is snoring.

S V

Sentence (5a) is comprised of the nominative case subject *he* and the tensed incomplete intransitive verb *is*, and the subject complement *intelligent*. It is a type 2 sentence. Sentence (5b) is comprised of the nominative case subject *he* and the tensed complete intransitive verb *snores* and it is a type 1 sentence. If the tensed complete intransitive verb *snores* is changed to the progressive participle *snoring*, it is analyzed as a subject complement instead of a verb for the same reason that *hesitant* in (4b) is analyzed as a verb. And the tense indicator *is* becomes a verb. This changes the sentence to a type 2 sentence. This is not a good analysis since the sentence which contains a complete intransitive verb is a type 1 sentence in (5b) but a type 2 sentence in (5c).

As an alternative, we can analyze *is snoring* as a verb, as shown in sentence (5d). However, this is not a good solution either. In sentence (5a) the tensed element *is* and the tenseless adjective *intelligent* are a verb and a subject complement, respectively, whereas in sentence (5d) the tensed element *is* and the progressive participle *snoring* form a verb together. So, neither sentence (5c) nor sentence (5d) is a perfect analysis.

The tensed verb-based approach also analyzes tensed verbs and perfective participles as different types of sentence constituents. Consider the following sentences.

- (6) a. She is kind.
 S V SC
 b. She has been kind.
 S V ? SC
 c. She has been kind.
 S V SC
 d. She has been kind.
 S V SC
 e. She arrived.
 S V
 f. She has arrived.
 S V SC
 g. She has arrived.
 S V

Sentence (6a) is a type 2 sentence. It is comprised of a subject, a verb, and a subject complement. Sentence (6a) contains the perfective auxiliary verb *been* and the tensed verb *has*, and it is also a type 2 sentence. In sentence (6b), *has*, which contains tense, is a verb and the adjective *kind*

is a subject complement. The perfective verb *been* can be analyzed either as part of a verb, as in sentence (6c), or as part of subject complement, as in sentence (6d). In either analysis, the auxiliary verb *has*, which contains tense, is a verb or at least part of a verb. Sentence (6e) is comprised of a subject and a verb, and is a type 1 sentence. In sentence (6f), the tenseless perfective verb *arrived* is a subject complement and the tensed auxiliary *has* is a verb, so the sentence is a type 2 sentence. This is problematic since the sentence that contains a complete intransitive verb is a type 1 sentence in (6e) but a type 2 sentence in (6f). As an alternative, we can analyze *has* as part of a verb, as in sentence (6g). However, this is not a perfect analysis either since the tensed elements are analyzed in two different ways. The tensed auxiliary is analyzed as an independent verb in (6a) but as part of the verb in (6g).

III. Case-based Sentence Analysis in Korean School Grammar

3.1 Mismatch between the grammatical analysis and semantic aspects

As previously stated, Korean school grammar is based on tensed verbs and case. Within the case-based framework of Korean school grammar, there is a mismatch between the grammatical analysis and semantic aspects of the sentence constituents. Consider the following sentences.

- (7) a. His ideas represent those of other students.

S V O

- b. His ideas are representative of those of other students.

S V SC Mod

c. His ideas are representative of those of other students.

S V SC O

d. The Egyptians respected black cats.

S V O

e. The Egyptians were respectful of black cats.

S V SC Mod

f. The Egyptians were respectful of black cats.

S V SC O

In (7a), *represent* is a tensed complete transitive verb, *those of other students*, which receives its accusative case from the transitive verb *represent*, is an object, and the sentence is type 3. In (7b), *representative*, which is not a tensed verb but an adjective, is a subject complement and *of those of other students*, which does not receive its accusative case from the adjective *representative*, is a modifier. So the sentence is type 2. The case-based sentence analysis of Korean school grammar is problematic in that there is a mismatch between the grammatical analysis and semantic aspects of the sentence constituents. In (7a), *those of other students* receives a semantic role and an accusative case from the verb *represent*, so it is both a semantic and a grammatical object. However, in (7b), the prepositional phrase *of those of other students* is a semantic object because it receives a semantic role from the adjective *representative*. However, it is not an object but a modifier because it does not receive accusative case from the adjective *representative*. So, there is a mismatch between the syntactic analysis and the semantic aspects of the prepositional phrase *those of other students*.³⁾ For a tentative solution, we can analyze *of those of other students* as an object, as shown in sentence (7c). However, this is not a workable solution in two respects. First, the

3) More serious mismatch between the grammatical analysis and semantic aspect of the sentence constituents are discussed in 3.3.

subject complement that does not subcategorize for any category is followed by the object.⁴⁾ Second, the construction of a subject, a verb, a subject complement, and an object does not belong to any of the five sentence types, and we have to postulate a new sentence type.

The same problems are true of sentences (7d), (7e), and (7f). In (7d), the object *black cats*, receives accusative case and the sentence is type 3. In (7e), the prepositional phrase *of black cats* that does not receive accusative case from the adjective *respectful* is a modifier, and the sentence is type 2. In sentences (7d) and (7e), both *black cats* and *of black cats* are semantic objects. In (7d), *black cats* receives its semantic role from the verb predicate *respected* and in (7e) *of black cats* receives semantic roles from the adjective predicate *respectful*. However, only in (7d) is the semantic object a grammatical object, and in (7f) the semantic object is not a grammatical object but a modifier simply because it is a prepositional phrase that does not receive accusative case from the verb. Again, the case-based sentence analysis results in a mismatch between the syntactic analysis and semantic aspects of the sentence constituents. Analyzing the prepositional phrase *of black cats* as an object, as in sentence (7f), is an ad hoc solution for reasons already mentioned.

The mismatch between the grammatical analysis and semantic aspects is not limited to the prepositional phrases. Let us consider the following sentences.

4) Prepositions and two place predicates such as transitive verbs subcategorize for an NP and can select an NP object. Hence the object can be followed by the prepositions or by the transitive verbs. This, however, is not possible for the subject complement.

- (8) a. Sue is intelligent.
 S V SC
- b. Harry is cruel to beat his wife.
 S V SC Mod
- c. Harry is cruel because (*that) he beats his wife.
 S V SC Mod
- d. Joe is happy to get a promotion this time.
 S V SC Mod
- e. Joe is happy because (that) he got a promotion.
 S V SC Mod
- f. Jim was anxious to make a lot of money.
 S V SC Mod
- g. Jim was anxious that he should make a lot of money.
 S V SC Mod
- h. Jim desires to make a lot of money.
 S V O
- i. Jim was anxious to make a lot of money.
 S V SC O

Sentence (8a) is comprised of a nominative case subject, a tensed incomplete intransitive verb, and a subject complement. It is a type 2 sentence. The same is true of sentences (8b), (8c), (8d), (8f), and (8g), which are each comprised of a nominative case subject, a tensed verb, a subject complement, and a modifier. This is a problematic analysis for two reasons. First, a syntactic distinction is not made between three different types of infinitive constructions. The first one is shown in (8b), which is the infinitive counterpart for the tensed clause headed by *because* as shown in (8c). Another example is shown in (8d), which is the infinitive counterpart for the tensed clause headed by *because* or *that* shown in (8e). The third one is shown in (8f), which is the infinitive counterpart for the

tensed clause headed by *that* shown in (8g). In the tensed verb-based sentence analysis of Korean school grammar, the three different types of infinitive constructions are all analyzed as modifiers.

Second, there is a mismatch between the grammatical analysis and the semantic aspects of the sentence constituents. For example, in sentence (8f) the embedded infinitive clause is analyzed as a modifier. In fact, however, the embedded infinitive clause in (8f) is not a modifier but an object for two reasons. First, it is not an optional but an obligatory element. Second, it is open to the same semantic interpretation as the infinitive object in sentence (8h). Analyzing the infinitive *to make a lot of money* as an object as in (8i) is not a genuine solution either. The construction of a subject, a verb, a subject complement, and an object does not belong to any of the five sentence types and thus we have to introduce a new sentence type. The mismatch between the grammatical analysis and semantic aspects of the sentence constituents is the second problem found in the case-based analysis of Korean school grammar.

3.2 The limited number of sentence constituents

In Korean school grammar, the types of sentence constituents are limited to subject, verb, object, subject complement, object complement, and modifier. However, there are sentences that we cannot analyze with this limited number of sentence constituents. Let us consider the following sentences.

- (9) a. Jina kissed her boyfriend in the office.
 S V O Mod
- b. Jina put her daughter on the table.
 S V O *Mod

- c. His office is located in New York.
 S V SC *Mod
- d. She is badly behaved.
 S V *Mod SC
- e. The classroom is full of students.
 S V SC *Mod
- f. The musician went to New York.
 S V *Mod
- g. The passage comes from the Bible.
 S V *Mod
- h. It is possible for John to pass the Bar Exam.
 DS V SC S
- i. It is likely for John to pass the Bar Exam.
 DS V SC S

In sentence (9a), the prepositional phrase *in the office* is a modifier and the sentence is type 3. In sentence (9b), the prepositional phrase *on the table* is also a modifier and the sentence is type 3. However, this is a flawed analysis. The prepositional phrase *on the table*, unlike the prepositional phrase *in the office*, is not an optional element but an obligatory constituent selected by the three-place predicate *put*. The same is true of sentences (9c) and (9d). In (9c) the prepositional phrase *in New York* is a modifier and the sentence is type 2. However, this is an incorrect analysis because the prepositional phrase *in New York* is an obligatory constituent that cannot be analyzed as a modifier. In (9d) the adverbial *badly* cannot be analyzed as a modifier for the same reason.

In sentence (9e), *the class room* is a subject, the tense indicator *is* is a verb, *full* is a subject complement, and the prepositional phrase *of students* is a modifier, so the sentence is a type 2 sentence. Analyzing the obligatory prepositional phrase *of students* as a modifier is not on the right

track either.

The same problems are true of sentences (9f) and (9g), which are type 2 sentences. In (9f), the obligatory prepositional phrase *to New York* is incorrectly analyzed as a modifier and so is the obligatory prepositional phrase *from the Bible* in (9g). The problem is that the framework of Korean school grammar has no syntactic notion other than modifier with which we can analyze the obligatory prepositional phrases. So, sentences (9f) and (9g) are incorrectly analyzed as type 2 sentences.

Sentence (9h) is comprised of a dummy subject, a tensed incomplete intransitive verb, a subject complement, and a subject. It is a type 2 sentence. Sentence (9i) has the same composition as sentence (9h). However, categorizing sentence (9i) as the same sentence type as sentence (9h) is a problem because it does not make a distinction between the embedded clause of sentence (9h), in which subject to subject raising cannot take place, and the embedded clause of sentence (9i), in which subject to subject raising can take place.⁵⁾ The problem is that the framework of Korean school grammar has no syntactic notions other than subjects with which we can analyze the embedded clause of sentence (9i).

3.3 Problematic analysis of *to*-infinitive constructions

The case-based sentence analysis of Korean school grammar also provides a problematic analysis of *to*-infinitive constructions. Let us consider the following sentences.

5) *(i) John is possible to pass the Bar Exam.
 (ii) John is likely to pass the Bar Exam.

- (10) a. The judge desires that he should make a fair judgement. (the judge = he)

S V O

- b. The judge desires to make a fair judgement.

S V O

- c. She desires that you should come at once.

S V O

- d. She desires you to come at once.

S V O OC

- e. He believes that Marina is a zillionaire.

S V O

- f. He believes Mariana to be a zillionaire.

S V O OC

Sentence (10a) is a type 3 sentence. Sentence (10b) is an infinitive counterpart of sentence (10a) and is also a type 3 sentence. This analysis shows that the tensed clause and its infinitive counterpart are analyzed as the same type of sentence.

Sentence (10c) is a type 3 sentence and sentence (10d) is its infinitive counterpart. However, sentences (10c) and (10d) are analyzed as different types of sentences. In sentence (10c) the embedded clause *that you should come at once* is an object and in sentence (10d) the *to*-infinitive counterpart *you to come at once* is not analyzed as one whole object. Instead it is split into the object *you* and the object complement *to come at once* simply because the semantic subject *you* does not have nominative case but accusative case. So, sentence (10c) is a type 3 sentence and sentence (10d) is a type 5 sentence. And the same is true of sentences (10e) and (10f). Sentence (10f) is an infinitive counterpart of sentence (10e), but they are different types of sentences. Sentence (10e) is type 3 and sentence (10f) is type 5. This analysis shows that

counterpart, which is open to the same semantic interpretations, and is also a type 5 sentence.

Sentence (11e) is a type 4 sentence while sentence (11f) is its infinitive counterpart, open to the same semantic interpretations, and is again a type 5 sentence. The same is true of sentences (11g) and (11h). Sentence (11g) is a type 4 sentence while sentence (11h) is its infinitive counterpart, open to the same semantic interpretations, and is again a type 5 sentence.

The shortcoming of this analysis is that the NP infinitive construction that corresponds to a single object clause and the NP infinitive construction that corresponds to a double object clause are uniformly analyzed as a construction consisting of a subject, a verb, an object, and an object complement.

Uniform analysis of the NP infinitive construction as object and object complement constructions may lead to serious problems in three-place predicate sentences. Consider the following sentences.

- (12) a. She persuaded her husband that he should stop smoking.
 S V IO DO
 b. She persuaded her husband to stop smoking.
 S V O OC
 c. He promised his wife that he would stop playing cards.
 S V IO DO
 d. He promised his wife to stop playing cards.
 S V O OC
 e. He promised his wife to stop playing cards.
 S V O SC

Sentence (12a) is comprised of a subject, a verb, an indirect object, and a direct object and is a type 4 sentence. Sentence (12b) is its infinitive

counterpart with the same argument structure. However, it is not analyzed as a type 4 sentence but a type 5 sentence. In other words, the verb *persuade* is a three-place predicate that selects an indirect object and a direct object in one construction and an object and an object complement in another paraphrase construction. The same is true of sentences (12c) and (12d). Sentence (12c) is a type 4 sentence and the infinitive counterpart sentence (12d) is a type 5 sentence. However, analyzing sentence (12d) as a subject, a verb, an object, and an object complement is problematic because the object complement *to stop playing cards* does not semantically refer to the object but to the subject. The uniform analysis of the NP infinitive construction as object and object complement leads to a serious mismatch between the grammatical analysis and semantic aspects of *to*-infinitive constructions.

The alternative analysis found in (12e) is an ad hoc solution in that there is no mismatch between the sentence constituent and the semantic interpretations of the sentence constituent. However, this is not a genuine solution because a construction consisting of a subject, a verb, an object, and a subject complement does not belong to any of the five sentence types, and thus we have to introduce a new sentence type.

IV. Predicate-based Analysis of Sentences in Generative Grammar

4.1 Parallel Analysis of Sentences Regardless of the Change of the Parts of Speech

In generative grammar, the category S is taken to belong to the

category TP in accordance with the assumption that the tense and verb are separate syntactic elements. The single VP is then reanalyzed as a double VP in accordance with Baker (1988)'s uniform theta role assignment hypothesis and Larson (1988)'s asymmetric c-command requirement between binder and bindee. This led Chomsky (2001) to propose the following syntactic structure.

$$(13) [_{CP} [_{TP} \text{ Subject } [_{VP} \text{ V } [VP \dots]]]]$$

In response to Chomsky (2001), who adopts the double verb phrase, Cho (2006) offers a contrast which postulates LinkP, AspP, and PredP in place of the double verb phrase structure.

$$(14) [_{CP} \text{ Comp } [_{TP} \text{ Subject Tense } [_{NegP} \text{ Neg } [_{LinkP} \text{ Link } [_{AspP} \text{ Asp } [_{PredP} \text{ Pred }]]]]]]$$

In syntactic structure (14), Comp, Tense, Neg, Link, and Asp are optional syntactic elements while Pred is an obligatory syntactic element. Comp expresses force and mood; Tense represents event structure; Neg negates affirmative sentences; Link plays a mediating role between words; Asp represents progressive aspect or perfective aspect; and Pred assigns external and internal semantic roles to arguments.⁶⁾ One of the syntactic structures created by the application of syntactic structure (14) is the following.

$$(15) [_{CP} \text{ Subject (Tense) (Asp) Pred}]$$

6) (i) He will not be being kind to children.

Sentences such as (i) can be one of possible sentence examples. The auxiliary will is Tense; not is Negative; be is Link; being is Aspect; and kind is Predicate.

Preds can be classified as one-place predicates, two-place predicates, or three-place predicates. One-place predicates select one obligatory sentence constituent, two-place predicates select two obligatory sentence constituents, and three-place predicates select three obligatory sentence constituents. The representation of the sentence constituents selected by the predicates is as follows.

- (16) a. Sub + (Tense) + (Asp) + 1-Place Predicate
 b. Expl + (Tense) + (Asp) + 1-Place Predicate + Proposition
 c. Sub + (Tense) + (Asp) + 2-place Predicate + SC
 d. Sub + (Tense) + (Asp) + 2-place Predicate + Manner
 e. Sub + (Tense) + (Asp) + 2-place predicate + Obj
 f. Sub + (Tense) + (Asp) + 2-place predicate + Loc
 g. Sub + (Tense) + (Asp) + 2-place predicate + Cause
 h. Sub + (Tense) + (Asp) + 2-place predicate + Goal
 i. Sub + (Tense) + (Asp) + 2-place predicate + Source
 j. Sub + (Tense) + (Asp) + 2-place predicate + Substance
 k. Sub + (Tense) + (Asp) + 3-place predicate + DO + IO
 l. Sub + (Tense) + (Asp) + 3-place predicate + IO + DO
 m. Sub + (Tense) + (Asp) + 3-place predicate + O + OC
 n. Sub + (Tense) + (Asp) + 3-place predicate + O + Loc
 o. Sub + (Tense) + (Asp) + 3-place predicate + O + Cause
 p. Sub + (Tense) + (Asp) + 3-place predicate + O + Substance

Both (16a) and (16b) are one-predicate sentences. One-place predicates select either a subject or a proposition. Two-place predicates select a subject and one more obligatory sentence constituent such as subject complement, object, location, cause, goal, source, or substance. A three-place predicate selects a subject and two more obligatory sentence constituents such as a direct object, indirect object, object complement,

location, cause, or substance. We will see how syntactic structures such as those shown in (16a) ~ (16o) can account for the sentences that Korean school grammar has difficulties dealing with.

- (17) a. He hesitated at first.
 S Pred-1 Mod
 b. He was hesitant at first.
 S Tense Pred-1 Mod
 c. She succeeded at last.
 S Pred-1 Mod
 d. She was successful at last.
 S V Pred-1 Mod

Sentence (17a) is a one-place predicate sentence. Sentence (17b) is also a one-place predicate sentence. In sentence (17a), the predicate is a verb and represents the past tense. In sentence (17b), the predicate is an adjective and cannot represent tense, and so we need the tense indicator *was*. Sentences (17a) and (17b) differ with regard to whether or not the predicate is able to represent tense, but they are the same type of sentence, each with a one-place predicate. In the same way, sentences (17c) and (17d) differ with regard to the category of the predicate, but they are both one place predicate sentences open to the same semantic interpretations. Regardless of changes in the parts of the speech of the tensed verbs, the predicated-based sentence analysis provides an identical analysis of the sentences open to the same semantic interpretations.

- (18) a. She is kind.
 S Tense Pred-1
- b. She has been kind.
 S Tense Asp Pred-1
- c. She smokes.
 S Pred-1
- d. She is smoking.
 S Tense Pred-1
- e. She has been smoking.
 S Tense Asp Pred-1
- f. She has smoked.
 S Tense Pred-1

The predicate-based sentence analysis can be applied to perfective constructions as well. Sentence (18a) is a one-place adjective predicate sentence and employs the auxiliary *is* as a tense indicator. Sentence (18b) is a perfective construction utilizing the perfective auxiliary verb *been*. The perfective sentence does not select *is* but *has* as a tense indicator. Sentence (18b) differs from sentence (18a) in that it has a perfective aspectual meaning apart from the present tense, but both sentences are one-place predicate sentences. Sentence (18c) is a one-place verb predicate sentence. The verb predicate represents tense. If the verb predicate represents the progressive aspect such as that shown in (18d), the independent tense indicator *is* is employed. If the sentence has a perfective aspectual meaning represented either by an independent word such as that shown in sentence (18e) or represented in the predicate as in sentence (18f), the auxiliary *has* is used as a tense indicator. The predicate-based sentence analysis is a better alternative to the verb-based sentence analysis in two respects. First, the change in part of speech of the predicates does not affect sentence types. Second, the

addition of aspectual elements in the sentences does not affect the sentence type. Third, the tensed auxiliaries *is* and *has* are syntactically analyzed in an identical fashion. Fourth, the sentence constituents are defined on the basis of their syntactic functions.

Parallel analyses of sentences that are open to the same semantic interpretation can be applied to two-place predicate sentences as well. Let us consider the following sentences.

- (19) a. Jina envies her friend.
 S Pred-2 O
- b. Jina is envious of her friend.
 S Tense Pred-2 O
- c. The Egyptians respected black cats.
 S Pred-2 O
- d. The Egyptians were respectful of black cats.
 S Tense Pred-2 O

Sentence (19a) is a two-place predicate sentence with a subject and an object. Sentence (19b) is also a two-place predicate sentence comprising the same argument structure. In sentence (19a), the predicate is a transitive verb that assigns accusative case to its object and represents the present tense. In sentence (19b) the predicate is an adjective. This adjective cannot assign accusative case to its object or represent the tense, so we need the tense indicator *is* to represent the tense and the preposition *of* to assign accusative case to the object. The same is true of sentences (19c) and (19d). Sentences (19a) and (19b) differ with regard to whether the predicate is able to represent tense and assign accusative case to its object, but they are the same type of sentence in that they are two-place predicate sentences open to the same semantic interpretations.

The predicate-based analysis of sentences can also solve the problem

of non-distinction between three different types of infinitive phrases. Let us consider the following sentences.

- (20) a. Sue is intelligent.
 S Tense Pred-1
- b. Harry is cruel to beat his wife.
 S Tense Pred-1 Mod
- c. Harry is cruel because (*that) he beats his wife.
 S Tense Pred-1 Mod
- d. It is cruel of Harry to beat his wife.
 Ex Tense Pred-1 S Mod
- e. Jim was anxious to make a lot of money.
 S Tense Pred-2 O
- f. Jim was anxious that he should make a lot of money.
 S Tense Pred-2 O
- g.*It was anxious of Jim to make a lot of money.
 Ex Tense Pred-2 S O
- h. Joe is happy to get a promotion this time.
 S Tense Pred-2 Cause
- i. Joe is happy that (because) he got a promotion.
 S Tense Pred-2 Cause
- j.*It is happy of Joe to get a promotion this time.
 Ex Tense Pred-2 S Cause

Sentence (20a) is a one-place predicate sentence. The adjective *intelligent* is a predicate that assigns the semantic role of theme to the subject *Sue*. The adjective predicate cannot represent tense, so the tense indicator *is* is placed in the tense position to represent the present tense.

In sentences (20b), (20e), and (20h), *cruel*, *anxious*, and *happy* are adjective predicates, respectively. In sentence (20b), *to beat his wife* is

the infinitive counterpart for the modifier tensed clause headed by *because*, which heads a reason adjunct clause, as shown in (20c). So, it is properly analyzed as a modifier that modifies the one-place predicate *cruel*. In sentence (20e), *to make a lot of money* is an infinitive counterpart for the object tensed clause headed by *that* as shown in (20f). So, it should be analyzed as an object selected by the two place predicate *anxious*. In sentence (20h), *to get a promotion this time* is an infinitive counterpart for the embedded tensed clause headed by *that* or *because* such as in (20i). The embedded tensed clause in (20i) differs from the embedded tensed modifier clauses of (20c) in that it can be headed by *that*. It also differs from the embedded tensed object clause in (20f) in that it can be headed by *because*. That is, it is neither a modifier nor an object and we need to postulate an intermediate syntactic concept such as cause for the embedded tensed clause of (20i). This provides us with empirical reasons to analyze *to get a promotion this time* as cause.

With regard to the NP subject extraposition, which is possible in a one-place predicate construction such as that shown in (20d) yet is impossible in a two-place predicate construction such as that shown in (20g), the adjective *happy* that selects a cause construction behaves just like two predicates, as shown in (20j). Therefore, the adjective *happy* in (20h) and (20i) should be analyzed as a two-place predicate that selects a subject and a cause.⁷⁾ The predicate-based framework of sentence analysis adopts the syntactic notion cause and makes a clear distinction

7) (i) John is happy that he gets a promotion.

(ii) John is happy.

(iii) Mary is anxious to please him.

(iv)*Mary is anxious.

The adjectives *happy* and *anxious* are both two place predicates. However, the valency of *happy* differs from the valency of *anxious* in that it can be used as a one-place predicate as well as a two-place predicate. So in case of *happy* both (i) and (ii) are acceptable while in case of *anxious* only (iii) is acceptable.

between three different types of infinitive phrases.

4.2 Introduction of various sentence constituents

Within the framework of Korean school grammar, the types of sentence constituents are limited to subject, verb, object, subject complement, object complement, and modifier. However, we need more sentence constituents to explain various sentences. Let us consider the following sentences.

- (21) a. It is possible that she will pass the Bar Exam.

Ex Tense Pred-1 S

- b. It is likely that she will pass the Bar Exam.

Ex Tense Pred-1 Proposition

- c. He became a plastic surgeon.

S Pred-2 SC

- d. Jina kissed her boyfriend in the office.

S Pred-2 O Mod

- e. His office is located in New York.

S Tense Pred-2 Loc

- f. She is badly behaved.

S Tense Manner Pred-2

- g. The musician went to New York.

S Pred-2 Goal

- h. The passage comes from the Bible.

S Pred-2 Source

- i. The class room is full of students.

S Tense Pred-2 Substance

- j. Jina put her daughter on the table.

S Pred-3 O Loc

k. He gave a book to Sue.

S Pred-3 DO IO

l. He reminds me of my dad.

S Pred-3 IO DO

m. She had her hair cut.

S Pred-3 O OC

n. The boy filled the bottle with water.

S Pred-3 O Substance

o. They blamed the guy for the mistake.

S Pred-3 O Cause

Sentence (21a) is a one-place predicate sentence. The one-place predicate *possible* selects the embedded clause as a subject. Sentence (21b) is also a one-place predicate sentence. The one-place predicate *likely* selects the embedded clause as a proposition. The difference between the extraposed clausal subject and the proposition is that subject-to-subject raising is impossible in the former and possible in the latter.

Sentence (21c) is a two-place predicate sentence comprised of a subject and a subject complement. Sentence (21d) is also a two-place predicate sentence. The two-place predicate *kissed* selects *Jina* as a subject and *her boyfriend* as an object. The prepositional phrase *in the office* is an optional modifier. In sentence (21e), the prepositional phrase *in New York* is an obligatory prepositional phrase selected by the two-place predicate *located*. The two-place predicate *located* selects *his office* as a subject and *in New York* as a location. In sentence (21f), the adverbial *badly* is an obligatory prepositional phrase selected by the two-place predicate *behaved*. The two-place predicate *behaved* selects *she* and *badly* as a subject and manner, respectively.

In sentence (21g), the two-place predicate *went* selects *the musician*

as a subject and *to New York* as a goal. The goal is an obligatory sentence constituent, as is the subject. The goal differs from the location in that it is the place that one is trying to reach. In sentence (21h) the predicate *comes from* selects *the passage* as a subject and *the Bible* as a source. The source is an obligatory sentence constituent and is the opposite counterpart of the goal. The former differs from the latter in that it is the place that one is coming from.

Sentence (21i) is another two-place predicate sentence. The two-place predicate *full of* selects *the classroom* as a subject and *students* as a substance. The substance is an obligatory sentence constituent, as is the object. The substance differs from the object in that it is a kind of material that a physical entity is comprised of. Sentence (21j) is a three-place predicate sentence. The three-place predicate *put* selects a subject, an object, and a location, all of which are obligatory sentence constituents. Sentence (21k) is also a three-place predicate sentence. The three-place predicate *gave* selects *he* as a subject, *a book* as a direct object, and *to Sue* as an indirect object. Sentence (21l) is another three-place predicate sentence. The three-place predicate *reminds* selects *he* as a subject, *me* as an indirect object, and *of my dad* as a direct object.

In sentence (21m) the causative verb *had* is a three-place predicate. It selects *she* as a subject, *her hair* as an object, and *cut* as an object complement. In sentence (21n) the verb *filled* is a three-place predicate. *The boy* is a subject and *the bottle* is an object. The prepositional phrase *with water* performs the same syntactic function as *students* in (21i) and thus is rightfully analyzed as a substance.

In sentence (21o) the verb *blamed* is used as three-place predicate. It selects *they* as a subject, *the guy* as an object, and *for the mistake* as a cause. The cause *for the mistake* differs from the modifier *in the office* in (21d) in that it is semantically required by the predicate.

4.3 Parallel analysis of tensed clauses and infinitive clauses

The predicate-based analysis provides a parallel analysis of tensed and tenseless constructions not only for to-infinitive constructions but also for NP *to*-infinitive constructions. Let us consider the following sentences.

- (22) a. Bill expects that he will pass the exam.
 S Pred-2 O
- b. Bill expects to pass the exam.
 S Pred-2 O
- c. Maria expects that her son will score well on the exam.
 S Pred-2 O
- d. Maria expects her son to score well on the exam.
 S Pred-2 O
- e. He believes that Marina is a zillionaire.
 S Pred-2 O
- f. He believes Marina to be a zillionaire.
 S Pred-2 O

Sentence (22a) is a two-place predicate sentence. Sentence (22b), which is its infinitive counterpart with the same predicate, is also a two-place predicate sentence. Sentence (22c) is a two-place predicate sentence. Sentence (22d), which is its infinitive counterpart with the same predicate, is also a two-place predicate sentence. And, for the same reason, sentences (22e) and (22f), which contain the same two-place predicates, are two-place predicate sentences. The predicate-based analysis of sentences provides a parallel analysis of tensed clauses and their infinitive counterpart clauses.

The parallel analysis of tensed clauses and their infinitive counterpart clauses also applies to three-place predicate constructions. Let us

consider the following sentences.

- (23) a. She persuaded her husband that he should stop smoking.
 S Pred-3 IO DO
 b. She persuaded her husband to stop smoking.
 S Pred-3 IO DO
 c. He promised his wife that he would stop playing cards.
 S Pred-3 IO DO
 d. He promised his wife to stop playing cards.
 S Pred-3 IO DO

Sentence (23a) is a three-place predicate sentence with a subject, an indirect object, and a direct object. Sentence (23b), which is its infinitive counterpart with the same predicate, is also a three-place predicate sentence. In other words, *her husband* and *to stop smoking* are an indirect object and a direct object, as are *her husband* and *that he should stop drinking*. The same is true of sentences (23c) and (23d). Sentence (23c) is a three-place predicate sentence and sentence (23d) is its infinitive counterpart sentence. Therefore *his wife* and *to stop playing cards* are indirect object and direct object, as are *his wife* and *that he would stop playing cards*. Such a parallel analysis of tensed clauses and their infinitive counterpart clauses eliminates the mismatch between the grammatical analysis and semantic aspects of the sentence constituents.

V. Conclusion

This study provides a critical discussion of sentence analysis in Korean school grammar and points out six problems. First, since sentence analysis

in Koran school grammar is based on tensed verbs, sentences that are open to the same semantic interpretations are analyzed as different types of sentences when the part of speech of the tensed verb is changed to adjective. In addition, the types of sentences are difficult to define when tensed verbs are changed to aspectual verbs such as progressive participles or perfective participles.

Second, since sentence analysis in Korean school grammar is based on case, the grammatical analysis does not necessarily reflect the semantic aspects of the constituents, and thus there is a clear mismatch between the grammatical analysis and semantic aspects of the same constituents. Furthermore, a distinction is not made between three different types of infinitive constructions.

Third, the types of sentence constituents are limited to six elements including subject, verb, object, subject complement, object complement, and modifier. Grammar analysis using these six sentence constituents alone does not account for sentences whose sentence constituents do not match any of these constituents.

Fourth, tensed clauses and their infinitive counterparts are analyzed as completely different types of constructions even though they are open to the same semantic interpretation. Fifth, to-infinitive constructions and NP-to-infinitive constructions are not analyzed in the same fashion even when they are both objects of two-place predicates.

Sixth, NP-to-infinitive constructions are uniformly analyzed as object and object complement regardless of whether the predicate selects a single object or double objects. This causes a serious mismatch between the grammatical analysis and the semantic aspects of the constituents.

For a solution of all these problems, we offered a predicate-based sentence analysis and introduced six new syntactic concepts: proposition, location, cause, goal, source, and substance. The predicate-based

framework is a better alternative than the tensed verb-based framework in six respects. First, sentences that are open to the same semantic interpretations are analyzed as the same types of sentences regardless of parts of speech of the tensed verbs. Furthermore, the types of sentences do not change even when the tensed verbs are changed to progressive participles or perfective participles.

Second, the grammatical analysis of the constituents reflects the semantic aspects of the same constituents, and there is no mismatch between the grammatical aspects and semantic aspects of the same constituents.

Third, introduction of six new syntactic concepts enable us to syntactically deal with almost all types of sentences. In particular, the adoption of a new syntactic notion of cause made it possible to make a clear syntactic distinction between three different types of infinitive constructions.

Fourth, tensed clauses and their infinitive counterparts are rightfully analyzed in an identical fashion.

Fifth, to-infinitive constructions and NP-to-infinitive constructions are both analyzed as one object construction when they are selected by two-place predicates.

Sixth, NP-to-infinitive constructions are not uniformly analyzed as an object and an object complement. They are analyzed in accordance with the valency of the predicates. If the predicate is a two-place predicate, NP-to-infinitive constructions are analyzed as a single object of the predicate. If the predicate is a three-place predicate, NP-to-infinitive constructions are split into an indirect object and a direct object.

As a solution to all these problems, we offer a predicate-based sentence analysis and introduce six new syntactic concepts: proposition, location, cause, goal, source, and substance. This predicate-based

framework is a better alternative in that it is able to solve each of the six problems of the tensed verb-based framework.

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Abstract

An Introduction of New Syntactic Elements: A Predicate-based Sentence Analysis

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The purpose of this paper is to discuss the grammatical framework of English grammar as taught prescriptively in Korean schools (henceforth Korean School Grammar) from a critical point of view and to suggest an alternative framework based on generative grammar. The framework of Korean school grammar is based on tensed verbs and case, and is problematic in six respects. First, changing the part of speech of a tensed verb to an adjective alters the sentence type even though the semantic interpretations are the same. Second, there is a mismatch between grammatical analysis and semantic aspects of the sentence constituents. Third, the types of sentence constituents are limited to subject, verb, object, subject complement, object complement, and modifier. With these six sentence constituents alone, we cannot account for sentences that contain elements other than these six. Fourth, tensed clauses and infinitive counterparts are analyzed as different types of constructions. Fifth, to-infinitive constructions and NP-to-infinitive constructions are analyzed as different types of constructions even when they are both objects of two-place predicates. Six, NP-to-infinitive constructions are uniformly analyzed as object and object complement. This study shows that a predicate-based sentence analysis and an adoption of six new syntactic entities of proposition, location, cause, goal, source, and substance are able to solve all these problems.

Key words: cause, substance, goal, source, location, proposition, manner
원인, 소재, 목적지, 출발점, 명제, 양태

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