

On the source of displacement: Two meanings of embedded CPs

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Abstract

This paper provides an argument for the view that the source of displacement in attitude and speech reports is within the embedded clause (Kratzer 2006, Moulton 2009, Bogal-Allbritten 2016, Kratzer 2013, Elliott 2020a). The main empirical observation comes from Korean clauses that combine with nouns like *opinion* (content nouns, Cont-NPs) and clauses that combine with nouns like *situation* (situation nouns, Sit-NPs). I argue that embedded CPs that combine with these nouns (i) are nominal modifiers, and (ii) have distinct meanings. Taken together, these properties imply that displacement in sentences with Cont-NPs like *opinion* is introduced in the embedded CP. I argue that Korean has an overt exponent of the syntactic head, which I call Cont, that introduces displacement.

Based on data from Buryat, English and Russian, I argue that the two meanings of embedded CPs that we observe in Korean exist in other languages too, and suggest that the cross-linguistic variation in these constructions is morphological in nature. While the syntax and semantics of constructions with Cont-NPs and Sit-NPs are uniform, languages vary in whether they have overt morphology for the Cont head inside the embedded clause. Finally, I propose an extension of my analysis to embedded clauses that combine with verbs, arguing that such clauses also vary in whether they contribute displacement.

Keywords: complementation, attitude reports, intensionality, Korean, Russian, Buryat

1 Introduction

This paper is concerned with the question of how meanings of sentences with embedded finite clauses are built compositionally: what is the division of labor between the embedding predicate and the embedded clause—what is their respective semantic contribution? Meanings of many sentences with embedded clauses involve *displacement* (Hockett 1960, von Stechow and Heim 1997-2020): the embedded proposition is not evaluated at the same situation as the predicates in the matrix clause, but its evaluation is “shifted” to the situations/worlds determined by the embedding

predicate. For example, in (1) the proposition contributed by the embedded clause is evaluated in situations *reflective of Mitya’s beliefs*.

- (1) Mitya’s **belief** [that the squirrel ate the nuts] is mistaken.
According to what Mitya believes, the squirrel ate the nuts.

A compositional question arises: which element in sentences like (1) contributes displacement? A common view is that displacement is contributed by the embedding predicate: by verbs in sentences with verbs (e.g., Hintikka 1969, a.o.), and by nouns in constructions like (1) (e.g., Djärv 2019, a.o.). An alternative view proposed in the literature is that the embedded clause contains the source of displacement (Kratzer 2006, 2016, Moulton 2009, 2015, Bogal-Allbritten 2016, 2017, Elliott 2020a, Bondarenko 2022 a.o.). Below I sketch how the two approaches would analyze the noun and the CP in (1), under the assumption that displacement involves quantification over situations.

- (2) *The noun as the source of displacement*
 a. $\llbracket \text{belief} \rrbracket = \lambda p. \lambda x. \text{belief}(x) \wedge \forall s' [s' \text{ is compatible with the content of } x \rightarrow p(s')=1]$
 b. $\llbracket \text{that the squirrel ate the nuts} \rrbracket = \lambda s. \text{the squirrel ate the nuts in } s.$
- (3) *The CP as the source of displacement*
 a. $\llbracket \text{belief} \rrbracket = \lambda x. \text{belief}(x)$
 b. $\llbracket \text{that the squirrel ate the nuts} \rrbracket = \lambda x. \forall s' [s' \text{ is compatible with the content of } x \rightarrow \text{the squirrel ate the nuts in } s']$

In (2) *belief* takes a proposition and returns a predicate of individuals such that in all situations compatible with their content the proposition is true. In (3) on the other hand *belief* simply denotes a predicate of individuals that are beliefs, and it is the embedded clause that “connects” belief-individuals to the proposition *The squirrel ate the nuts*. One consequence of viewing the embedded CP as the source of displacement is that the embedded clause does not have to be a semantic argument of the noun that it combines with: the CP and the noun in (3) will compose by Predicate Modification.

The goal of this paper is to provide an argument for the general approach in (3), and to make a proposal about the semantic contribution of elements at the left periphery of embedded CPs. The main focus of the paper are Korean embedded clauses that combine with two kinds of nouns: nouns like *uykyen* ‘opinion’ or *cwucang* ‘claim’, which denote predicates of entities with propositional content (henceforth, content nouns or Cont-NPs), and nouns like *sanghwang* ‘situation’ or *kyengwu* ‘case’, which denote predicates of truth-supporting circumstances (henceforth, situation nouns or Sit-NPs). I argue that clauses that combine with content nouns (Cont-CPs) and clauses that combine with situation nouns (Sit-CPs) are both nominal modifiers, but they differ in both their syntactic structure, and in their meaning. These properties make it difficult to maintain the view that the noun itself is the source of displacement. I propose that the differences between the two kinds of CPs follow from the fact that the structure of Cont-CPs includes a functional head, which I call Cont, which introduces displacement, and Sit-CPs lack this syntactic head. Thus, the analysis of two kinds of Korean

clauses supports the view that, when displacement is present in sentences with clausal embedding, it is the functional material within the embedded CP that introduces it.

Furthermore, I argue that the distinction between Cont-CPs and Sit-CPs extends beyond the constructions with nouns in Korean. First, based on data from Buryat, English and Russian, I show that clauses with these two meanings exist in other languages as well. I argue that my proposal about Korean can be extended to them if we assume that the cross-linguistic variation is morphological in nature. I argue that while the Cont head is overt in Korean and Buryat, it has null morphological exponence in languages like English and Russian, making clauses ambiguous between Cont-CP and Sit-CP structures. Second, I extend my proposal to embedded clauses that combine with verbs. I suggest that verbs too can combine with Cont-CPs and Sit-CPs, and discuss how these two kinds of clauses can be integrated with the verb.

The paper is structured as follows. In section 2 I discuss Korean clauses that combine with Cont-NPs and Sit-NPs. I show that Cont-CPs are structurally more complex than Sit-CPs (section 2.1), and that sentences with them, unlike sentences with Sit-CPs, involve displacement (section 2.2). I show that both types of CPs seem to be modifiers of respective nouns (section 2.3), which makes it difficult to maintain the view that the noun is the source of displacement. In section 3 I present my proposal for the structures and meanings of Cont-CPs and Sit-CPs, and discuss how this proposal accounts for the observed empirical differences. I also situate my proposal in the previous literature on Korean embedded clauses (M.-J. Kim 2009, S.-S. Kim 2011, Shim and Ihsane 2015, Bogal-Allbritten and Moulton 2018, Bogal-Allbritten, Moulton, and Shimoyama 2024). Section 4 provides a cross-linguistic extension of my proposal. I show that Buryat, English and Russian make the same distinction between Cont-CPs and Sit-CPs that Korean does, and discuss how my proposal can be extended to account for the constructions in these languages. Section 5 argues that Cont-CP vs. Sit-CP distinction is relevant for clauses that combine with verbs too, and sketches how the clauses of the two types would combine with verbal predicates. Section 6 concludes the paper.

2 Two kinds of CPs: Sit-CPs and Cont-CPs

This section presents the main empirical observations about Korean clauses that combine with nouns, and builds the argument for the embedded clause being the source of displacement. In 2.1 I discuss the morphosyntax of the clauses that combine with Cont-NPs and Sit-NPs, observing that the former are structurally more complex than the latter. In 2.2 I examine the semantic differences between the two CPs, arguing that only sentences with Cont-CPs involve displacement. Section 2.3 argues that both Cont-CPs and Sit-CPs are modifiers to nouns they combine with, and that this necessitates the view that the embedded clauses are the source of displacement.

2.1 Morphosyntax of Korean clauses

Korean clauses that combine with content nouns (Cont-CPs) consist of the following morphemes: the verbal root, tense marking (e.g. past tense suffix *-ess*), and the so-called “declarative” (*-ta*) and “adnominal” (*-nun*) markers. This is illustrated in (4)

with nouns *uykyen* ‘opinion’ and *mitum* ‘belief’, which describe attitudes, and nouns *cwucang* ‘claim’ and *somwun* ‘rumor’, which describe speech events.¹

- (4) a. [Swuna-ka mwuncey-lul phwul-ess-ta-nun] mitum-i
 Swuna-NOM problem-ACC solve-PST-DECL-ADN belief-NOM
 /uykyen-i olh-ta.
 /opinion-NOM correct.PRS-DECL
 ‘The belief/opinion that Swuna solved the problem is correct.’
 b. [Swuna-ka mwuncey-lul phwul-ess-ta-nun] cwucang-i
 Swuna-NOM problem-ACC solve-PST-DECL-ADN claim-NOM
 /somwun-i sasil-i-ta.
 /rumor-NOM fact-COP-DECL
 ‘The claim/rumor that Swuna solved the problem is a fact.’

Korean clauses that combine with nouns like *sanghwang* ‘situation’ and *kyengwu* ‘case’ (Sit-CPs) contain just the verbal root and the adnominal marker, (5).

- (5) [Swuna-ka mwuncey-lul phwul-un] sanghwang-i /kyengwu-ka
 Swuna-NOM problem-ACC solve-ADN situation-NOM /case-NOM
 hungmilop-ta.
 interesting-DECL
 ‘The situation/case that Swuna solved the problem is interesting.’

The distinction between the two types of clauses that combine with lexical nouns has been previously discussed in (S.-S. Kim, 2011). A number of works also have examined these two types of clauses when they modify the abstract noun *kes* ‘thing’, (6) (M.-J. Kim 2009, Shim and Ihsane 2015, Yoon 2017, Bogal-Allbritten and Moulton 2018). In this paper I will focus on clauses combining with lexical nouns, but see section 3.3 for comparison of my account to proposals about CPs with *kes* in the literature.

- (6) a. Kibo-nun [Dana-ka i chayk-ul ilk-ess-ta-nun kes-ul]
 Kibo-TOP Dana-NOM this book-ACC read-PST-DECL-ADN thing-ACC
 yukamsulewehay-ss-ta /mit-ess-ta.
 regret-PST-DECL /believe-PST-DECL
 ‘Kibo regretted/believed that Dana read this book.’
 b. Kibo-nun [Dana-ka i chayk-ul ilk-un kes-ul]
 Kibo-TOP Dana-NOM this book-ACC read-ADN thing-ACC
 yukamsulewehay-ss-ta /mit-ess-ta.
 regret-PST-DECL /believe-PST-DECL
 ‘Kibo regretted/believed that Dana read this book.’
 (Shim & Ihsane, 2015, 131, ex. (4))

Let us now discuss the adnominal marker that we see in both constructions. This is a marker that we see on some nominal modifiers, for example on relative clauses,

¹Korean data in this paper come from elicitations with 5 native speakers of Korean in 2021-2024. All of them at the time of elicitation were linguistics PhD students living in the US.

(7). This morpheme has several allomorphs—*-(u)n/-nun/-(u)l*, the choice of which usually depends on the temporal characterization of the clause. For example, in (7) we see that *-(u)n* is used for past tense, *-nun* for present tense, and *-(u)l* for future tense.

- (7) a. [nay-ka mek-**un**] sakwa
 I-NOM eat-**PST.ADN** apple
 ‘the apple that I ate’
 b. [nay-ka mek-**nun**] sakwa
 I-NOM eat-**PRS.ADN** apple
 ‘the apple that I’m eating’
 c. [nay-ka mek-**ul**] sakwa
 I-NOM eat-**FUT.ADN** apple
 ‘the apple that I will eat’

All three allomorphs of the adnominal marker are used in Sit-CPs, and they are semantically interpreted in the same way as in relative clauses: e.g., the embedded proposition in (8) receives a past tense interpretation relative to the matrix time, in (9)—a present tense interpretation², and in (10)—a future tense interpretation.

- (8) Mina-ka [Swuna-ka mwuncey-lul phwul-**un**] sanghwang-ul
 Mina-NOM Swuna-NOM problem-ACC solve-**PST.ADN** situation-ACC
 kiekha-n-ta
 remember-PRS-DECL
 ‘Mina remembers the situation that Swuna solved the problem.’
 (*solve* < **remember**, **solve* ~ *remember*, **remember* < *solve*)
- (9) Mina-ka [Swuna-ka mwuncey-lul phwul-**nun**] sanghwang-ul
 Mina-NOM Swuna-NOM problem-ACC solve-**PRS.ADN** situation-ACC
 kiekha-n-ta
 remember-PRS-DECL
 ‘Mina remembers the situation that Swuna solves the problem.’
 (?*solve* < *remember*, ***solve*** ~ ***remember***, **remember* < *solve*)
- (10) Mina-ka [Swuna-ka mwuncey-lul phwul-**ul**] sanghwang-ul
 Mina-NOM Swuna-NOM problem-ACC solve-**FUT.ADN** situation-ACC
 kiekha-n-ta
 remember-PRS-DECL
 ‘Mina remembers the situation that Swuna will solve the problem.’
 (**solve* < *remember*, **solve* ~ *remember*, ***remember*** < ***solve***)

This suggests that tense is present in Sit-CPs. This hypothesis is corroborated by the data from conjunctions inside Sit-CPs. In (11) we see that when two clauses are conjoined under a single adnominal marker, the first conjunct can contain the past

²My consultants were uncertain about the possibility of using this form in contexts where the situation described by the embedded clause precedes the matrix time.

tense marker *-ess*, which I assume is in T. If the conjuncts must be of the same size, then (11) involves TP conjunction inside a Sit-CP, and thus Sit-CPs contain TPs.³

- (11) Na-nun [_{TP} Swuna-ka mwuncey-lul phul-**ess**]-**ko**
 I-TOP Swuna-NOM problem-ACC solve-**PST-CONJ**
 [_{TP} sensayngnim-kkeyse sungca-ka iss-ta-ko
 teacher-HON.NOM winner-NOM exist-DECL-COMP
 malssumha-si-ci.anh-(∅)]-un sanghwang-i silh-ta.
 say.HON-HON-NEG-(T)-**PST.ADN** situation-NOM dislike-DECL
 ‘I dislike the situation that Swuna solved the problem and the teacher didn’t
 tell us that there is a winner.’

In Cont-CPs the adnominal marker exhibits a different behavior. Only two allomorphs are available in these clauses: *-(u)n* and *-nun*, and they seem to be in free variation and not semantically interpreted—the tense of the embedded clause is always determined by the tense morphemes that occur before the declarative marker. For example, in (12) we see that a Cont-CP with the past tense marker *-ess* will be interpreted as occurring in the past irrespective of whether *-(u)n* or *-nun* allomorph is selected. Similarly, the clause in (13) receives present tense interpretation irrespective of the form of the adnominal marker that is chosen.

- (12) Mina-ka [Swuna-ka mwuncey-lul phwul-**ess-ta-nun**
 Mina-NOM Swuna-NOM problem-ACC solve-**PST-DECL-PRS.ADN**
 /phwul-**ess-ta-n** /*phwul-**ess-ta-l**] cwucang-ul
 /solve-**PST-DECL-PST.ADN** /solve-**PST-DECL-FUT.ADN** claim-ACC
 kiekha-n-ta.
 remember-PRS-DECL
 ‘Mina remembers the claim that Swuna solved the problem.’
 (*solve* < *remember*, **solve* ~ *remember*, **remember* < *solve*)
- (13) Mina-ka [Swuna-ka mwuncey-lul phwul-**n-ta-nun**
 Mina-NOM Swuna-NOM problem-ACC solve-**PRS-DECL-PRS.ADN**
 /phwul-**n-ta-n** /*phwul-**n-ta-l**] cwucang-ul
 /solve-**PRS-DECL-PST.ADN** /solve-**PRS-DECL-FUT.ADN** claim-ACC
 kiekha-n-ta.
 remember-PRS-DECL

³The tenses in the two conjuncts can generally mismatch, as is illustrated in (i), where the first conjunct is interpreted in the past with respect to the matrix time and the second is interpreted as co-temporal with it. There are however restrictions on possible combinations that require further research: e.g., the combination of the first conjunct being in the future and the second being in the past was not permitted by my consultants. The issue of what leads to such restrictions requires further research.

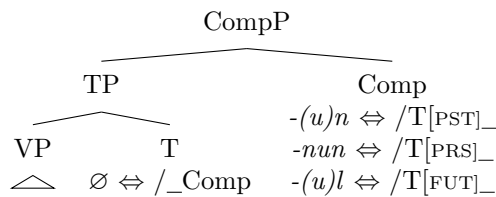
- (i) Na-nun [Swuna-ka tto kenning-ul ha-**yess**]-ko [sensayngnim-kkeyse kunye-uy
 I-TOP Swuna-NOM again cheating-ACC do-**PST-CONJ** teacher-HON.NOM 3SG-GEN
 pwumonim-kkey malha-ci.anh-ko.iss]-**nun** sanghwang-i silh-ta.
 parent-HON.DAT say-NEG-PROG-**PRS.ADN** situation-NOM dislike-DECL
 ‘I dislike the situation that Swuna cheated again (in the past) and the teacher (right now) is not
 telling her parents.’

‘Mina remembers the claim that Swuna solves the problem.’
 (**solve* < *remember*, *solve* ~ *remember*, **remember* < *solve*)

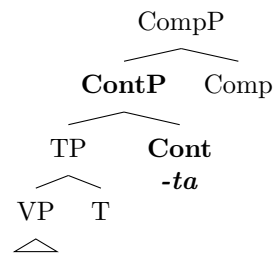
To sum up, we see that there is a connection between the absence/presence of overt tense morphemes and the allomorphs of the adnominal marker. In Sit-CPs overt tense morphemes are usually absent, but the adnominal marker takes different shapes depending on the temporal interpretation of the clause. In Cont-CPs, overt tense morphemes are present, and the adnominal marker does not carry temporal meanings—the two available forms *-(u)n* and *-nun* are in free variation.

I propose that the observed difference between the two kinds of clauses stems from the difference in syntactic structure, which affects the application of allomorphy rules for temporal and adnominal morphemes. I assume that overt temporal markers like *-ess* expone the T head, the adnominal markers expone a Comp(lementizer) head, and that the declarative marker *-ta* that we see in Cont-CPs expones a Cont(ent) head. The structures of Sit-CPs and Cont-CPs are thus in (14) and (15) respectively.

(14) The structure of Sit-CPs



(15) The structure of Cont-CPs



The syntactic difference between the two clauses is that only Cont-CPs have the Cont projection in their structure. In (4)-(5) we have seen that the marker *-ta* expone the Cont head appears in Cont-CPs but not Sit-CPs. It is not possible to omit this morpheme in Cont-CPs, (16), irrespective of the form of the adnominal marker and the presence of overt tense, and it is not possible to include it in Sit-CPs, (17).⁴

- (16) a. *[Swuna-ka mwuncey-lul phwul-un/phwul-ess-un/phwul-ess-nun]
 Swuna-NOM problem-ACC solve-ADN/solve-PST-ADN/solve-PST-ADN
 mitum-i /uykyen-i olh-ta.
 belief-NOM /opinion-NOM correct.PRS-DECL
 ‘Intended: ‘The belief/opinion that Swuna solved the problem is correct.’

⁴I assume that the same syntactic head Cont also hosts the interrogative marker *-nya* when the propositional content associated with the noun is interrogative, as for example with the noun *mwuncey* ‘question, problem’ in (i). This morpheme in addition to encoding the presence of displacement signals that the propositional content associated with the noun is a set with multiple propositions (see e.g. Elliott 2020a).

- (i) [Enu haksayng-tul-i sihem-ul thongkwaha-yess-**nya**-nun] mwuncey-ka Mina-eykey
 which student-PL-NOM exam-ACC pass-PST-Q-ADN question-NOM Mina-DAT
 hungmilop-ta.
 interesting.PRS-DECL
 ‘The question of which students passed the exam is interesting to Mina.’

- b. *[Swuna-ka mwuncey-lul phwul-un/phwul-ess-un/phwul-ess-nun]
 Swuna-NOM problem-ACC solve-ADN/solve-PST-ADN/solve-PST-ADN
 cwucang-i /somwun-i sasil-i-ta.
 claim-NOM /rumor-NOM fact-COP-DECL
 Intended: ‘The claim/rumor that Swuna solved the problem is a fact.’
- (17) a. *[Swuna-ka mwuncey-lul phwul-ess-**ta**-nun] sanghwang-i
 Swuna-NOM problem-ACC solve-PST-**DECL**-ADN situation-NOM
 /kyengwu-ka hungmilop-ta.
 /case-NOM interesting-DECL
 Intended: ‘The situation/case that Sw. solved the problem is interesting.’

I propose that the forms of T and Comp are subject to contextual allomorphy: T becomes null (\emptyset) in the context of Comp, and the choice of the allomorph for Comp is dependent on the features of tense when it occurs next to it. This is why in Sit-CPs we don’t see overt tense morphemes but see that the choice of allomorphs for the adnominal marker is dependent on tense. The presence of the Cont head (*-ta*) in the structure of Cont-CPs disrupts the environment for the application of these allomorphy rules. Thus, we will see overt exponents of T in Cont-CPs, and the choice of an exponent for Comp won’t be sensitive to temporal features of T.⁵

To sum up, clauses that modify content nouns in Korean are more structurally complex compared to clauses that modify situation nouns: they contain an additional projection at the left periphery of the clause, which I call ContP, that is sandwiched between T(ense) and Comp(lementizer) phrases.⁶ In section 4 we will see that in Buryat, which also makes a morphological distinction between the two types of clauses, it is also Cont-CPs that are more complex, and the added morphology occupies the same position. In the next section we will see that this structural complexity correlates with a semantic distinction: only sentences with Cont-CPs involve displacement.

2.2 Semantics: presence vs. absence of displacement

Things like *ideas* (*rumors*, *claims*, *beliefs*, etc.) and things like *situations* (*events*, *cases*, *states of affairs*, etc.) differ in at least two important ways, encoded in (18) as presuppositions: (i) the former are abstract individuals, and the latter are situations; (ii) the former have propositional content associated with them, and the latter do not.

- (18) a. $\llbracket \text{idea} \rrbracket^{s,g,t} = \lambda x: x \notin D_v \wedge x \in D_{Cont}. \text{idea}(x)_{s,t}$
 b. $\llbracket \text{situation} \rrbracket^{s,g,t} = \lambda x: x \in D_v \wedge x \notin D_{Cont}. \text{situation}(x)_{s,t}$

where D_e — domain of individuals, D_v — domain of situations, where

⁵There is a question of how in this case the choice between the three allomorphs is made, and why the future allomorph is not possible in Cont-CPs. I hypothesize that it might be the case that the future allomorph is featurally more complex: e.g., it contains both [PRS] and [FUT] features in its specification. This is perhaps why it “loses” to the featurally more simple present ([PRS]) and past ([PST]) exponents, which are equally optimal candidates for Vocabulary Insertion and thus remain in free variation.

⁶The declarative marker *-ta* also occurs in root clauses, as can be seen in most of the examples above. While the analysis of such uses of *-ta* is beyond the scope of this paper, I would like to suggest that it might be playing the same role in matrix contexts as it does in embedded contexts: a matrix ContP introduces the speech event of the utterance (whose Agent is the speaker) and links the matrix proposition to it. Such an analysis requires a framework where events of uttering sentences are directly represented in syntax.

$D_v \subset D_e$, and D_{Cont} — the subdomain of D_e that contains entities with propositional content⁷

These two differences are reflected in the types of predicates that can combine with Cont-NPs and Sit-NPs. Predicates of occurrence like ‘happen’ or ‘occur’ can only combine with Sit-NPs, but not with Cont-CPs. This is illustrated in (19)-(20). I take this difference to suggest that Sit-NPs describe situations, which can be said to occur/happen, but Cont-NPs denote individuals that are not situations.

- (19) * $[Swuna\text{-}ka\ mwuncey\text{-}lul\ phwul\text{-}ess\text{-}ta\text{-}nun]$ $mitum\text{-}i$ / $uykyen\text{-}i$
 $Swuna\text{-}NOM$ $problem\text{-}ACC$ $solve\text{-}PST\text{-}DECL\text{-}ADN$ $belief\text{-}NOM$ / $opinion\text{-}NOM$
 / $cwucang\text{-}i$ $ilena\text{-}ss\text{-}ta$
 / $claim\text{-}NOM$ $occur\text{-}PST\text{-}DECL$
 Intended: ‘A belief/opinion/claim that Swuna solved the problem occurred.’
- (20) $[Swuna\text{-}ka\ mwuncey\text{-}lul\ phwul\text{-}un]$ $sanghwang\text{-}i$ $ilena\text{-}ss\text{-}ta$
 $Swuna\text{-}NOM$ $problem\text{-}ACC$ $solve\text{-}ADN$ $situation\text{-}NOM$ $occur\text{-}PST\text{-}DECL$
 ‘A situation that Swuna solved the problem occurred.’

The second difference manifests itself in compatibility with predicates like ‘true/correct’, ‘false/mistaken’. While it is a characteristic feature of content nouns like *idea* that they can combine with such predicates (Moltmann 1989, Kratzer 2006, Moulton 2009, Elliott 2020a, Moltmann 2020), Sit-NPs are incompatible with them, (21)-(22).⁸

- (21) a. $[Swuna\text{-}ka\ mwuncey\text{-}lul\ phwul\text{-}ess\text{-}ta\text{-}nun]$ $mitum\text{-}i$
 $Swuna\text{-}NOM$ $problem\text{-}ACC$ $solve\text{-}PST\text{-}DECL\text{-}ADN$ $belief\text{-}NOM$
 / $uykyen\text{-}i$ $olh\text{-}ta$ / $thulli\text{-}ta$.
 / $opinion\text{-}NOM$ $correct.PRS\text{-}DECL$ / $incorrect.PRS\text{-}DECL$
 ‘The belief/opinion that Swuna solved the problem is correct/incorrect.’
- b. $[Swuna\text{-}ka\ mwuncey\text{-}lul\ phwul\text{-}ess\text{-}ta\text{-}nun]$ $cwucang\text{-}i$
 $Swuna\text{-}NOM$ $problem\text{-}ACC$ $solve\text{-}PST\text{-}DECL\text{-}ADN$ $claim\text{-}NOM$
 $kecis\text{-}i\text{-}ta$ / $cham\text{-}i\text{-}ta$.
 $falsehood\text{-}COP\text{-}DECL$ / $truth\text{-}COP\text{-}DECL$
 ‘The claim that Swuna solved the problem is false/true.’
- (22) * $[Swuna\text{-}ka\ mwuncey\text{-}lul\ phwul\text{-}un]$ $sanghwang\text{-}i$ $kecis\text{-}i\text{-}ta$
 $Swuna\text{-}NOM$ $problem\text{-}ACC$ $solve\text{-}ADN$ $situation\text{-}NOM$ $falsehood\text{-}COP\text{-}DECL$
 / $cham\text{-}i\text{-}ta$ / $olh\text{-}ta$ / $thulli\text{-}ta$.
 / $truth\text{-}COP\text{-}DECL$ / $correct.PRS\text{-}DECL$ / $incorrect.PRS\text{-}DECL$
 Intended:
 ‘The situation that Swuna solved the problem is false/true/correct/incorrect.’

⁷I assume that all expressions are evaluated with respect to some situation s , some assignment function g and some time t . Notation ‘ $predicate(x)_{s,t}$ ’ is an abbreviation for ‘the predicate is true of x in s at time t ’.

⁸The sentence in (22) can be used with *olhta* under an irrelevant meaning of the predicate that the situation is “right” from the moral perspective—a situation that the speaker thinks should have happened.

The difference in whether a noun describes an individual with propositional content or not goes hand in hand with the key difference in semantics of sentences with Cont-CPs vs. Sit-CPs: meanings of the former involve displacement, whereas meanings of the latter do not.⁹ In sentences with Cont-CPs, the embedded proposition is evaluated not at the matrix situation, but at some distinct set of situations determined by the content noun. In sentences with Sit-CPs, the embedded proposition describes the situation denoted by the Sit-NP, and thus it is evaluated at the matrix situation.¹⁰

This difference in meaning manifests itself in the following way. Cont-CPs constitute a referentially opaque domain, which does not support substitution of extensional equivalents without altering the truth of the statement, whereas Sit-CPs are referentially transparent and thus support such substitution (see Frege 1892, Quine 1956, Barwise 1981, Perry and Barwise 1983, a.m.o.). Consider the Korean sentences in (23) with the Cont-NP *mitum* ‘belief’. The premises (23a) and (23b) are not sufficient to justify the conclusion in (23c): one can truthfully assert (23a) and (23b) and negate (23c). This is so because we can interpret NPs inside of the Cont-CP as being evaluated not with respect to the actual world/situation, but with respect to the the worlds/situations in which things are according to the belief. Thus, it is possible to understand (23c) as saying that Mina remembered a belief that a person who is *the tallest girl in the class according to the belief* solved the problem. And this does not follow from the premises in (23a)-(23b).

- (23) *Opacity with Cont-CPs: from {(a), (b)} \nRightarrow (c)*
- a. Mina-ka [Swuna-ka mwuncey-lul phwul-ess-ta-nun] mitum-ul
Mina-NOM Swuna-NOM problem-ACC solve-PST-DECL-ADN belief-ACC
kiekhay-ss-ta.
remember-PST-DECL
‘Mina remembered a belief that Swuna solved the problem.’
 - b. Swuna-ka pan-eyse kacang khi-ga khu-ta.
Swuna-NOM class-LOC most height-NOM large-DECL
‘Swuna is the tallest in the class.’
 - c. Mina-ka [pan-eyse kacang khi-ga khun sonye-ka
Mina-NOM class-LOC most height-NOM large girl-NOM
mwuncey-lul phwul-ess-ta-nun] mitum-ul kiekhay-ss-ta.
problem-ACC solve-PST-DECL-ADN belief-ACC remember-PST-DECL
‘Mina remembered a belief that the tallest girl in the class solved the problem.’

In (24) on the other hand, where we see sentences with the Sit-NP *sanghwang* ‘situation’, the premises in (24a) and (24b) necessitate the truth of the conclusion in (24c): if Mina remembered a situation of Swuna solving a problem, and Swuna is the

⁹Of course, this is true only as long as no additional displacement-introducing operators are added into the structure.

¹⁰Compatibility with the two kinds of clauses is a consequence of the meaning of the noun, as diagnosed by the compatibility with predicates like ‘occur/happen’ and ‘(in)correct/true/false’. Content nouns are not compatible with Sit-CPs, as the latter describe situations, and individuals in the denotations of Cont-NPs are not situations. Situation nouns on the other hand cannot be modified by Cont-CPs, as these clauses describe propositional content, and individuals described by Sit-NPs lack propositional content.

tallest girl in the class, then it follows that she remembered a situation of the tallest girl in the class solving the problem (even if she's not aware of the fact that the Swuna is the tallest girl in the class). This is so because we have to interpret all noun phrases inside of Sit-CPs with respect to the same world/situation that the matrix verb is evaluated at. And since by (24b) *Swuna* and *the tallest girl in the class* describe the same person in that situation, the truth of (24a) makes (24c) true.

- (24) *Transparency with Sit-CPs*: from {(a), (b)} \Rightarrow (c)
- a. Mina-ka [Swuna-ka mwuncey-lul phwul-un] sanghwang-ul
 Mina-NOM Swuna-NOM problem-ACC solve-ADN situation-ACC
 kiekhay-ss-ta.
 remember-PST-DECL
 'Mina remembered the situation that Swuna solved the problem.'
- b. Swuna-ka pan-eyse kacang khi-ga khu-ta.
 Swuna-NOM class-LOC most height-NOM large-DECL
 'Swuna is the tallest girl in the class.'
- c. Mina-ka [pan-eyse kacang khi-ga khun sonye-ka
 Mina-NOM class-LOC most height-NOM large girl-NOM
 mwuncey-lul phwul-un] sanghwang-ul kiekhay-ss-ta.
 problem-ACC solve-ADN situation-ACC remember-PST-DECL
 'Mina remembered the situation that the tallest girl in the class solved
 the problem.'

Another way to observe the difference in referential opacity/transparency between Cont-CPs and Sit-CPs comes from sentences that force *de dicto* readings of predicates inside embedded clauses. Under the assumption that sheep and goats are two disjoint sets of individuals with no members in common, unembedded sentences like (25a) are semantically odd, as they can never be true. But once embedded under operators introducing displacement, sentences like (25a) become felicitous, as the two predicates can be evaluated at different situations then: e.g., in (25b) the predicate *sheep* is evaluated with respect to the actual world, whereas *goats* is evaluated at the situations that the conditional takes us to.

- (25) a. #These sheep_s are goats_s.
 b. If these sheep_s were goats_{s'}, they would have had horns_{s'}.

Clauses that combine with content nouns can contain mutually incompatible predicates: this is illustrated for Korean in (26)¹¹.

- (26) Na-nun [san-uy yang-i yemso-la-nun] (calmottoy-n)
 I-TOP mountain-GEN sheep-NOM goat-COP.DECL-ADN be.mistaken-ADN
 uykyen-ul po-ass-ta
 opinion-ACC see-PST-DECL
 'I saw a (mistaken) opinion that the sheep on this mountain are goats.'

¹¹ In Korean (26) we see the morpheme *-la* preceding the adnominal marker. This is a portmanteau for the copula *i* together with the declarative marker *-ta*.

CPs that combine with Sit-NPs on the other hand cannot contain such predicates, (27). In the sentence in (27) the form containing the declarative morpheme (as part of the portmanteau *-la*, see ft. 11) is ungrammatical, and the form without it observes the same infelicity as English (25a).

- (27) Na-nun [san-uy yang-i #yemso-i-n /*yemso-la-nun]
 I-TOP mountain-GEN sheep-NOM goat-COP-ADN /goat-COP.DECL-ADN
 sanghwang-ul po-ass-ta
 situation-ACC see-PST-DECL
 ‘I saw a situation that the sheep on this mountain are goats.’

The fact that propositions like (25a) can be embedded in Cont-CPs, but not in Sit-CPs, corroborates that that only the semantics of the former involves displacement.¹²

2.3 Syntax: clauses are modifiers

The fact that presence of displacement correlates with the presence of a special morpheme within the embedded clause raises a question: is the declarative marker *-ta* itself the source of displacement, or is it merely a reflex of the fact that semantics of the noun involves displacement? Let us assume that displacement occurs due to the presence of the function CONT (Kratzer 2006, Moulton 2009, Elliott 2020a, a.o.) that takes us from an individual or event to a set of worlds compatible with its content (see section 3.2 for further discussion). The hypothesis that the content noun is the source of displacement commits us to the view that the embedded proposition is an argument of the noun. This is because if “CONT(x)=p” is part of the meaning of the noun, the noun has to take a propositional argument, (28).

- (28) $\llbracket \text{idea} \rrbracket^{s,g,t} =$
 $\lambda \mathbf{p}: \mathbf{p} \in \mathbf{D}_{vt}. \lambda x: x \notin D_v \wedge x \in D_{Cont}. \text{idea}(x)_{s,t} \wedge \text{CONT}(x)=\mathbf{p}$

If however displacement is part of the meaning of the embedded clause—if it is introduced by an element in the left periphery like Korean *-ta*, then the noun does not need to take any arguments except for its individual argument:

- (29) a. $\llbracket \text{idea} \rrbracket^{s,g,t} = \lambda x: x \notin D_v \wedge x \in D_{Cont}. \text{idea}(x)_{s,t}$
 b. $\llbracket -ta \rrbracket^{s,g,t} = \lambda \mathbf{p}: \mathbf{p} \in \mathbf{D}_{vt}. \lambda x: x \in D_{Cont}. \text{CONT}(x)=\mathbf{p}$
 c. $\llbracket \text{that the squirrel ate the nuts} \rrbracket^{s,g,t} =$
 $\lambda x: x \in D_{Cont}. \text{CONT}(x)=\lambda s': \text{the squirrel ate the nuts in } s'$

In (29b) we see that *-ta* takes the embedded proposition and returns a predicate of individuals such that their propositional content equals this proposition, (29c). This

¹²Deniz Özyıldız raises a question of whether the presence of displacement *forces* evaluation at situations that are not the matrix situation. As we will see in section 3.2, the semantics of displacement that I propose will always technically mean that the embedded proposition is evaluated at the set of situations determined by the embedding predicate, i.e., it will never directly make reference to the matrix situation. However, it could be that the set of situations determined by the predicate are actual situations in the world of evaluation: e.g. for a noun *fact* we might assume that the situations in the propositional content of a fact are actual situations in the matrix world. Thus, such inherent factivity of some embedding predicates will make the shift to other situations introduced by displacement in the meaning of the embedded clause vacuous.

meaning of the clause can combine with the noun, (29a), as a modifier, by a principle like Predicate Modification (Heim & Kratzer, 1998, 105), (30).

(30) **Predicate Modification (PM)**

If α is a branching node and $\{\beta, \gamma\}$ the set of its daughters, then, for any assignment a , α is in the domain $\llbracket \cdot \rrbracket^a$ if both β and γ are, and $\llbracket \beta \rrbracket^a$ and $\llbracket \gamma \rrbracket^a$ are both of type $\langle e, t \rangle$. In this case, $\llbracket \alpha \rrbracket^a = \lambda x : x \in D$ and x is in the domain of $\llbracket \beta \rrbracket^a$ and $\llbracket \gamma \rrbracket^a$. $\llbracket \beta \rrbracket^a(x) = \llbracket \gamma \rrbracket^a(x) = 1$.

Thus, the two views on the source of displacement have different expectations about the status of the embedded clause in the argument structure of the noun: if the noun is the source of displacement, we expect the clause to behave like its argument, but if the source of displacement is in the embedded clause, then the clause could behave like a modifier. That is not a necessity: we could still write a semantics where the embedded clause is an argument—e.g., the content noun could take a property of individuals as its first argument. But this view opens up a possibility of CPs being modifiers.

I would like to argue that from the argument/modifier heuristics available to us (see Jackendoff 1977, Pollard and Sag 1987, Grimshaw 1990, Schütze 1995, Ackema 2015, a.o.), all point out to the conclusion that both Sit-CPs and Cont-CPs that combine with nouns are their modifiers. For Cont-CPs, this is not a new conclusion: modificational analysis of such clauses has been extensively argued for in the literature (Higgins 1973, Stowell 1981, Moltmann 1989, Kratzer 2006, Kayne 2008, Arsenijević 2009, Moulton 2009, Kayne 2010, Haegeman and Ürögdi 2010, Haegeman 2012, Moulton 2015, Kratzer 2016, Elliott 2020a).¹³ If this conclusion is right, it supports the view that the embedded clause is the source of displacement. I will discuss five heuristics that tend to correlate with the argument vs. modifier distinction: morphosyntactic marking, obligatoriness, interpretation, ordering and distribution.¹⁴ We will see that in all of them we find evidence that Korean Cont-CPs and Sit-CPs are modifiers to nouns.

2.3.1 Morphosyntactic marking

This heuristic is based on the idea that morphosyntactic form might reflect the type of the semantic object that a constituent denotes.¹⁵ If this idea is on the right track, it suggests that both Cont-CPs and Sit-CPs in Korean combine with nouns are their modifiers, as they occur with the same morphology as other nominal modifiers—just as relative clauses, (31), and adjectives, (32), they occur with the adnominal marker.

¹³However, see Djärv (2019) and Hankamer and Mikkelsen (2021) for opposing views.

¹⁴Most of the argument/modifier diagnostics available in the literature seem to be better thought of as heuristics rather than guaranteed indicators of the status of the constituent (see Schütze (1995) for discussion). But if the majority of such heuristics agree on the status of a certain constituent, I think we are justified to draw the conclusion about its status.

¹⁵As an anonymous reviewer notes, this is a rather weak argument, as the morphosyntactic marking might be reflective of the syntactic category and not the semantic type. For Korean, this view would imply that adjectives, relative clauses and embedded clauses all have the same syntactic category—as they all occur with adnominal markers. On the other hand the view that this argument assumes is that the reason all of these constituents bear the adnominal marker is that all of them are semantically predicates—i.e., what unites all the different meanings of this morpheme is that they are all $\langle e, t \rangle$ -type functions.

- (31) [nay-ka mek-**nun**] sakwa (32) sulphu-**n** sanghwang
 I-NOM eat-ADN apple sad-ADN situation
 ‘the apple that I’m eating’ ‘sad situation’

Korean also provides us with evidence that Cont-CPs and Sit-CPs that combine with nouns are not nominalized, as in this language nominalization receives an overt realization. In Korean the CP with the adnominal marker combines with a bleached noun *kes* ‘thing’ when it undergoes nominalization (see (6) in section 2.1). As we see in (33), content nouns and situation nouns are unable to combine with nominalized clauses, suggesting that they don’t take individual-denoting arguments.¹⁶

- (33) a. *[[Swuna-ka mwuncey-lul phwul-ess-ta-nun] **kes** /**kes-i**
 Swuna-NOM problem-ACC solve-PST-DECL-ADN **thing** /**thing-NOM**
 /**kes-(n)un**] cwucang-i sasil-i-ta.
 /**thing-ADN** claim-NOM fact-COP-DECL
 Intended: ‘The claim that Swuna solved the problem is a fact.’
 b. *[[Swuna-ka mwuncey-lul phwul-un] **kes** /**kes-i**
 Swuna-NOM problem-ACC solve-ADN **thing** /**thing-NOM**
 /**kes-(n)un**] sanghwang-i hungmilop-ta.
 /**thing-ADN** situation-NOM interesting-DECL
 Intended: ‘The situation that Swuna solved the problem is interesting.’

Thus, this heuristic suggests that both Cont-CPs and Sit-CPs that combine with nouns are their modifiers—they are predicates of individuals, just like relative clauses.

2.3.2 Obligatoriness

This heuristic says that arguments are obligatory, whereas modifiers are optional. This automatically follows if arguments combine via Functional Application (FA), and modifiers combine via Predicate Modification (PM): if a function has an argument, the derivation will not compose if it is not saturated, whereas nothing forces the intersection of two predicates by PM. The presence of an embedded clause is always optional with Cont-NPs and Sit-NPs, (34). This suggests that these nouns do not take Cont-CPs and Sit-CPs as their semantic arguments.

- (34) a. Mina-ka ku mitum-ul /uykyen-ul /cwucang-ul
 Mina-NOM that belief-ACC /opinion-ACC /claim-ACC
 kiekhay-ss-ta.
 remember-PST-DECL
 ‘Mina remembered that belief/opinion/claim.’
 b. Mina-ka ku sanghwang-ul kiekhay-ss-ta.
 Mina-NOM that situation-ACC remember-PST-DECL
 ‘Mina remembered that situation.’

¹⁶The inability to compose with nominalized arguments of course still leaves open the possibility that nouns take arguments of a different semantic type.

While this heuristic agrees with others when it comes to complements of nouns, it is worth pointing out that it does not seem to be overall very reliable, as there exist both optional arguments and obligatory modifiers (Jackendoff, 1977; Levin, 1993), (35)-(36).

- | | | | |
|------|--------------------------|------|--------------------------------------|
| (35) | <i>Optional argument</i> | (36) | <i>Obligatory modifier</i> |
| | a. Helen ate an apple. | | a. They worded the letter carefully. |
| | b. Helen ate. | | b. *They worded the letter. |

2.3.3 Interpretation

Interpretations of arguments tend to heavily depend on the head that they combine with, whereas modifiers usually have constant semantic interpretation across their uses (Pollard & Sag, 1987; Schütze, 1995). For example, consider PPs with the preposition *on* in (37). The phrase *on Sunday* in (37a)-(37b) can be interpreted without any reference to the rest of the sentence, and its meaning is the same with the verb *meditate* and with the “semantically empty” verb *be*. This is not the case for the PP *on Sandy* in (37c)-(37d): this phrase can only be interpreted in these sentences with reference to the main verb, and its meanings will differ from the sentence with the “semantically empty” verb *be*, (37e), suggesting that in these cases the PP is an argument.

- (37) *On-PPs as adjuncts vs. arguments* (Schütze, 1995, 100)
- a. Kim camps/jogs/meditates on Sunday.
 - b. The meeting is on Sunday.
 - c. Kim depended/decided on Sandy.
 - d. The authorities blamed/pinned the arson on Sandy.
 - e. The spider is on Sandy.

Both Cont-CPs and Sit-CPs seem to have a constant interpretation independent of the identity of the noun that they occur with. Cont-CPs describe propositional content associated with content nouns. For example, in (38), no matter which noun the CP combines with, it bears the same semantic relationship—it describes the content of the individual denoted by the noun (content of the *claim*, of the *lie*, or of the *opinion*).

- (38) *claim/lie/opinion that Mitya is getting married, attested:*
- a. $\lambda x. \text{claim}(x) \wedge \text{Content}(x) = \text{“Mitya is getting married”}$
 - b. $\lambda x. \text{lie}(x) \wedge \text{Content}(x) = \text{“Mitya is getting married”}$
 - c. $\lambda x. \text{opinion}(x) \wedge \text{Content}(x) = \text{“Mitya is getting married”}$

If Cont-CPs were arguments, we could have found a lot more variability in how such clauses would be interpreted with different nouns. In (39) I sketch some logically feasible meanings that do not seem to be attested.

- (39) *claim/lie/opinion that Mitya is getting married, non-attested:*
- a. $\lambda x. \text{claim}(x) \wedge \text{Response}(x) = \text{“Mitya is getting married”}$
 - b. $\lambda x. \text{lie}(x) \wedge \text{Corrected}(x) = \text{“Mitya is getting married”}$
 - c. $\lambda x. \text{opinion}(x) \wedge \text{About}(x) = \text{“Mitya is getting married”}$

A CP combining with ‘claim’ could have described the proposition that this claim is in response to, or a proposition that was a response to this claim. With ‘lie’, a CP could have described a corrected proposition—a proposition we would get if we corrected the lie described by the noun. With ‘opinion’, a CP could have described the proposition that his opinion is about. We do not find such interpretations.

The same is true of Sit-CPs: they always describe the eventuality that the noun denotes, (40), and don’t have other imaginable interpretations, (41): these clauses don’t describe causing events of the situation at hand, or events preceding the event under consideration, or events that this circumstance has been created for.

- (40) *situation/event/circumstance that squirrels ate the nuts, **attested**:*
- a. $\lambda s. \text{situation}(s) \wedge \text{eating-the-nuts-by-squirrels}(s)$
 - b. $\lambda s. \text{event}(s) \wedge \text{eating-the-nuts-by-squirrels}(s)$
 - c. $\lambda s. \text{circumstance}(s) \wedge \text{eating-the-nuts-by-squirrels}(s)$
- (41) *situation/event/circumstance that squirrels ate the nuts, **non-attested**:*
- a. $\lambda s. \text{situation}(s) \wedge \exists s' [\text{CAUSE}(s)(s') \wedge \text{eating-the-nuts-by-squirrels}(s')]$
 - b. $\lambda s. \text{event}(s) \wedge \exists s' [\text{BEFORE}(s)(s') \wedge \text{eating-the-nuts-by-squirrels}(s')]$
 - c. $\lambda s. \text{circumstance}(s) \wedge \exists s' [\text{PURPOSE}(s)(s') \wedge \text{eating-the-nuts-by-squirrels}(s')]$

The fact that we do not find variability in how Cont-CPs and Sit-CPs are interpreted in Korean and cross-linguistically (see section 4) suggests that they are modifiers of NPs.

2.3.4 Ordering

According to the ordering heuristic, arguments have to combine with heads before modifiers, and thus we expect modifiers to not be able to occur closer to heads than arguments. However, both with Cont-CPs and Sit-CPs in Korean nominal modifiers like adjectives have to occur between the noun and the embedded clause, suggesting that they combine with the noun before the CP, (42)-(42b).

- (42) a. Mina-ka [Swuna-ka tayhwoy-lul wusunghay-ss-ta-nun]
 Mina-NOM Swuna-NOM competition-ACC win-PST-DECL-ADN
 kimyoha-n mitum-ul /uykyen-ul kiekha-ss-ta.
 curious-ADN belief-ACC /opinion-ACC remember-PST-DECL
 ‘M. remembered a curious belief/opinion that Sw. won the competition.’
- b. *Mina-ka kimyoha-n [Swuna-ka tayhwoy-lul
 Mina-NOM curious-ADN Swuna-NOM competition-ACC
 wusunghay-ss-ta-nun] mitum-ul /uykyen-ul kiekha-ss-ta.
 win-PST-DECL-ADN belief-ACC /opinion-ACC remember-PST-DECL
 Intended:
 ‘M. remembered a curious belief/opinion that Sw. won the competition.’

- (43) a. Mina-ka [Swuna-ka tayhwoy-lul wusunghay-n] kimyoha-n
 Mina-NOM Swuna-NOM competition-ACC win-ADN curious-ADN
 sanghwang-ul kiekha-ss-ta.
 situation-ACC remember-PST-DECL
 ‘Mina remembered a curious situation that Swuna won the competition.’
 b. *Mina-ka kimyoha-n [Swuna-ka tayhwoy-lul wusunghay-n]
 Mina-NOM curious-ADN Swuna-NOM competition-ACC win-ADN
 sanghwang-ul kiekha-ss-ta.
 situation-ACC remember-PST-DECL
 Intended:
 ‘Mina remembered a curious situation that Swuna won the competition.’

This ordering is unexpected on the view that these clauses are arguments of nouns.¹⁷

2.3.5 Distribution

The distribution of complement clauses that combine with nouns has been used to argue for their status as modifiers (Kratzer 2006, Moulton 2009, Elliott 2020a, a.o.). The general expectation is that if complement clauses are <e,t>-type modifiers, they should have similar distribution to other modifiers of the same type. The key observation in the literature concerns English copular constructions. In these constructions, constituents of different syntactic categories can occur after the copula (Grimshaw, 1990), (44)-(45). What seems to be a shared property among them is that they are interpreted as predicates that hold of the subject of the copular sentence. Arguments, which can’t be interpreted as predicates, can’t occur in the post-copular position, (46).

- (44) a. the book by/about/on Chomsky
 b. The book was by/about/on Chomsky.
 (45) a. the interesting book
 b. The book was interesting.
 (46) a. the destruction of the city
 b. *The destruction was of the city.

Clauses that combine with nouns can occur in the post-copular position. This observation for content nouns is known as *Higgins-Stowell facts* (Higgins, 1973; Stowell, 1981), (47), but it holds for situation nouns as well, (48).

- (47) a. The belief is [that Edna was stealing].
 b. Andrea’s guess was [that Bill was lying].
 c. John’s claim was [that he would go].
 d. Paul’s explanation was [that he was temporarily insane].
 (Stowell, 1981, 199)

¹⁷An alternative hypothesis for the data in (42)-(42b) might be that we are in fact encountering conjunction-less coordination of the embedded clause and the adjective prior to them combining with the noun. Note that if this is the right analysis of syntactic constituency, then it also is an argument for CPs being modifiers: given that two conjoined elements have to be of the same semantic type, the embedded clauses must be a predicates of individuals just like the adjective.

- (48) The situation was [that in many districts the results of all the private schools were declared zero]. <Link>

This diagnostic then points to the conclusion that complement clauses are predicates, and thus likely nominal modifiers.

This argument relied on the assumption that copular constructions are always *predicational*: that the post-copular position is occupied by something that is a predicate. Potts (2002) and Djärv (2019) contested this view, arguing that examples like in (47) are *equatives*, in which a contentful entity is equated with a proposition that is type-shifted to denote an individual.¹⁸ Based on data from Turkish, Özyıldız (2023) argues that both predicational and equative structures are available for post-copular clauses.

I would like to argue that in Korean, an equative analysis of copular constructions is not tenable: the clause itself always denotes a predicate. Consider examples with embedded Cont-CPs and Sit-CPs in copular constructions in (49)-(50).

¹⁸Their evidence against the predicational view comes from small clauses: they are incompatible with two individuals being equated, (i) (cf. *I consider you attitude toward Jones absurd*), and complement CPs cannot occur in them, (ii), which they take as evidence in support of individual-denoting CPs.

- (i) *Two DPs cannot be equated in a small clause* (Heycock & Kroch, 1999)
 a. *I consider your attitude toward Jones my attitude toward Davies.
 b. *I consider my attitude toward Davies your attitude toward Jones.
- (ii) *Impossibility of Cont-CPs in small clauses* (adapted from Potts 2002, 68)
 a. *I consider the problem that she is bonkers.
 b. *I consider that they are bonkers the problem.
 c. *I consider it the problem that they are bonkers.

But I would like to suggest that this conclusion might be premature. There are other expressions that occur in copular constructions and seem to denote predicates but cannot appear in small clauses. For example, in English we have seen that PPs can occur in the post-copular position, (44), yet they cannot serve as predicates in small clauses, (iii). We do not want to conclude based on this that they are equated with individuals in examples like (44), as this is clearly not the meaning of such examples.

- (iii) a. *I consider this book by/about/on Chomsky. b. *I consider Mary in the park.

In Russian not only PPs can't appear as predicates under 'consider', but also not all adjectives can: nominative-marked adjectives, which tend to describe permanent properties, are allowed in copular constructions, but cannot occur under 'consider', (iv). This is however again not because they denote individuals: as (v) shows, nominative adjectives cannot be used to refer to individuals salient in the context.

- (iv) a. Moj deduška byl krasivym /krasivyj /v parke.
 my grandfather was handsome.INSTR /handsome.NOM /in park
 'My grandfather was handsome/in the park.'
 b. Ja sčitaju moego dedušku krasivym /*krasivyj /*v parke.
 I consider my grandfather.ACC handsome.INSTR /handsome.NOM /in park
 'I consider my grandfather handsome/to be in the park.'
- (v) **Context:** My friend and I are watching old family videotapes from the 60s. We see young students celebrating the day of their department. One of the students is visibly taller than the rest. After we stop watching, my friend asks me: who of them was your grandfather? I respond:
 a. Moj deduška byl tot vysokij paren'.
 my grandfather was that.NOM tall.NOM guy.NOM
 'My grandfather was that tall guy.'
 b. # Moj deduška byl vysokij.
 my grandfather was tall.NOM
 Intended: 'My grandfather was tall/the tall one.'

- (49) Ku mitum-un /uykyen-un /cwucang-un [Swuna-ka tayhwoy-lul
that belief-TOP /opinion-TOP /claim-TOP Swuna-NOM competition-ACC
wusunghay-ss-ta-nun] *(kes)-i-ess-ta
win-PST-DECL-ADN thing-COP-PST-DECL
‘That belief/opinion/claim was that Swuna won the competition.’
- (50) Ku sanghwang-un [Swuna-ka tayhwoy-lul wusungha-n]
that situation-TOP Swuna-NOM competition-ACC win-ADN
*(kes)-i-ess-ta.
thing-COP-PST-DECL
‘That situation was that Swuna won the competition.’

If it was possible to equate the clause with the noun directly, either before or after attachment of the determiner, then insertion of an abstract noun *kes* ‘thing’ nominalizing the clause would not be necessary. So what kind of structure is involved with the nominalized clause? We could imagine two possibilities. First, it could be that [CP *kes*] is a predicate in a predicational copular construction, which is predicated of a noun. Second, it could be that [CP *kes*] denotes an individual that is equated with the subject DP. I would like to suggest that there is evidence in favor of the first option.¹⁹

(Potts 2002, Özyıldız 2023) suggest that predicational constructions, but not equatives, allow quantified subjects, and embedded clauses being conjoined with adjectives. In (51) we see that quantified subjects are allowed in Korean copular constructions. (52) shows that the predicate of the copular construction can be formed by conjoining an adjective and a CP (though without an overt conjunction). These observation argue in favor of the predicational analysis for Korean, according to which [CP *kes*] is predicated of the subject DP in the copular construction.²⁰

- (51) Twu kay-uy poto-nun [Swuna-ka tayhwoy-lul
two CL-GEN report-TOP Swuna-NOM competition-ACC
wusunghay-ss-ta-nun] kes-i-yess-ta, panmyeney, sey kay-uy
win-PST-DECL-ADN thing-COP-PST-DECL, in.contrast three CL-GEN
poto-nun [Swuna-ka tayhwoy-lul ci-ess-ta-nun]
report-TOP Swuna-NOM competition-ACC lose-PST-DECL-ADN
kes-i-yess-ta.
thing-COP-PST-DECL

¹⁹I am grateful to Deniz Özyıldız for helpful discussion of some of these issues.

²⁰Another diagnostic discussed in (Özyıldız, 2023; Potts, 2002) involves appositive relative clauses. The constituent in predicate position of equative, but not predicative copular constructions can be modified by such relatives (Özyıldız, 2023, 14):

- (i) a. *Paul is president, who is very efficient.
b. The president is Paul, who is very efficient.

Unfortunately, I could not find a way to apply this diagnostic to Korean, as adnominal relative clauses that are used restrictively do not allow appositive uses, (ii).

- (ii) *Swuna-ka, [maywu ttoktokha-n], tayhwoy-lul wusungha-yess-ta.
Swuna-NOM very smart-ADN competition-ADN win-PST-DECL
Intended: ‘Swuna, who is very smart, won the competition.’

‘Two reports were that Swuna won the competition, and three reports were that Swuna lost the competition.’

- (52) Ku mitum-un /uykyen-un [Swuna-ka tayhwoy-lul
that belief-TOP /opinion-TOP Swuna-NOM competition-ACC
wusunghay-ss-ta-nun] [kimyoha-n] kes-i-ess-ta
win-PST-DECL-ADN curious-ADN thing-COP-PST-DECL
‘This belief/opinion is that Swuna won the competition and curious.’

Further support for embedded clauses being nominal modifiers comes from the fact that their distribution seems to pattern closely with distribution of adjectives: they seem to obey some of the same constraints as adjectives do. For example, whereas nouns in Korean can be scrambled to the left periphery of the clause, (53a), neither adjectives nor embedded clauses allow such movement, (53b)-(53c). While nouns can constitute fragment answers, neither adjectives nor embedded clauses can, (54). Such parallel distribution of adjectives and embedded clauses might be suggestive of them having the same semantic type—both being predicates of individuals.²¹

- (53) a. sakwa-lul₁ [John-i t₁ mek-ess-ta].
apple-ACC John-NOM eat-PST-DECL
‘John ate an apple.’ (Ko, 2018, (1b))
b. *kimyoha-n₁ [Mina-ka t₁ sanghwang-ul kiekha-ss-ta].
curious-ADN Mina-NOM situation-ACC remember-PST-DECL
Intended: ‘Mina remembered a curious situation.’
c. *[Swuna-ka tayhwoy-lul wusunghay-n]₁
Swuna-NOM competition-ACC win-ADN
[Mina-ka t₁ sanghwang-ul kiekha-ss-ta].
Mina-NOM situation-ACC remember-PST-DECL
Intended: ‘M. remembered a situation that Sw. won the competition.’
- (54) Q: Mina-ka ette-n uykyen-ul kiekhay?
Mina-NOM be.how-ADN opinion-ACC remember
‘What kind of opinion does Mina remember?’
A1: thull-in uykyen /thull-in kes/ *thull-in
false-ADN opinion /false-ADN thing /false-ADN
‘A false opinion/a false one.’
A2: Swuna-ka tayhoy-eyse ik-yess-ta-nun *(uykyen/kes)
Swuna-NOM competition-LOC win-PST-DECL-ADN (opinion/thing)
‘(The opinion) that Swuna won in the competition.’

To sum up, we have seen converging evidence from a number of heuristics (morphosyntactic marking, obligatoriness, interpretation, ordering, distribution) that suggests that Korean Cont-CPs and Sit-CPs that combine with nouns are their modifiers.²²

²¹Impossibility of scrambling of <e,t>-type constituents for example is expected if the only possible type of traces is e, as the semantic types then would not compose (see Heim and Kratzer 1998, 212 for discussion).

²²There is of course still a question whether embedded clauses are modifiers to nouns in all cases in all languages. See for example (Özyıldız, 2023) for arguments that Turkish *diğ*-clauses that combine with nouns are arguments. See also the discussion in section 6 about possible cases of clausal arguments with nouns.

This implies that the view where the noun is the source of displacement is not tenable: displacement must come from within the embedded CP. Given the fact that presence of displacement correlates with the presence of the marker *-ta* in the embedded clause, I propose that this marker itself is the element introducing the shift to other situations.

3 Proposal

As previewed in section 2.1, I propose that Cont-CPs and Sit-CPs differ in the structures of their left peripheries: Cont-CPs contain an additional projection ContP, located between T and Comp, which Sit-CPs lack. It is the head of this projection, exponed in Korean as the declarative marker *-ta*, that introduces displacement.

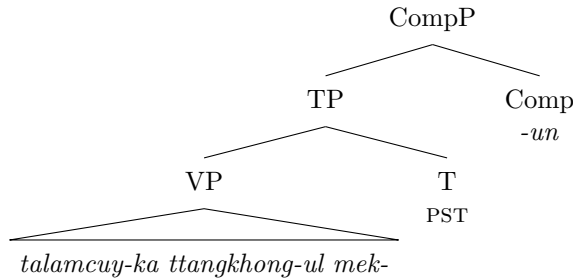
In this section I present a compositional account of how elements of the left periphery result in the observed meanings of sentences with Cont-CPs and Sit-CPs combining with nouns. In section 3.1 I present my analysis of clauses that combine with situation nouns, and in section 3.2 I make a proposal for clauses that combine with content nouns. Section 3.3 compares my account to the previous proposals in the literature.

3.1 Analysis of Sit-CPs

In Sit-CPs, Comp(lementizer), exponed by the adnominal marker, directly takes TP as its complement.²³ Thus, Sit-CPs in examples like (55) have the structure in (56).

- (55) [talamcuy-ka ttangkhong-ul mek-un] sanghwang-i
 squirrel-NOM peanut-ACC eat-PST.ADN situation-NOM
 ‘the situation that the squirrel ate the peanut’

- (56) The structure of the Korean embedded clause in (55)



I assume that the domain of situations is the subset of the domain of individuals ($D_v \subset D_e$), and that TPs denote truth-values. I propose that the Comp head introduces *exemplification*: it takes a predicate p , and returns a set of individuals in the situation of evaluation that exemplify p ,²⁴ where exemplification relation is defined as in (58)—it

²³I assume that the morphological rules of Korean guarantee that it is not possible to spell out T as *-ess* in this structure: allomorphy of Comp is followed by impoverishment on T (see section 2.1).

²⁴The requirement that the individual is part of the situation of evaluation is not doing any work if the CP combines with a nominal predicate: because nominal predicates are situation-dependent (e.g., “situation(x) _{\underline{s}} , t ”), when a CP combines with a noun, the individual it describes will already be “linked” to some situation. So to simplify formulas, I will omit relativization to a situation in the denotation of Comp in some of the examples. The inclusion of “ $x \sqsubseteq s$ ” in the full denotation of Comp is motivated by cases where the CP will combine directly with a determiner, without first combining with a noun (e.g., see

is a homogeneity requirement that either p is true of all proper parts of an individual, or of none of them. I will abbreviate “ x exemplifies p ” as $x \Vdash_e p$.

- (57) a. $\llbracket \text{Comp} \rrbracket^{s,g,t} = \lambda p: p \in D_{et}. \lambda x. x \sqsubseteq s \wedge x \Vdash_e p$
 b. *abbreviation*: $\lambda p. \lambda x. x \Vdash_e p$
- (58) **Exemplification** (based on Deigan 2020; Kratzer 1989, 2002)
 For any individual $x \in D_e$ and predicate $p \in D_{et}$:
 x exemplifies $p =_{def}$
 $x \in p \wedge (\forall x'[x' \sqsubset x \Rightarrow x' \in p] \vee \forall x'[x' \sqsubset x \Rightarrow x' \notin p])$

In Sit-CPs Comp will directly combine with the embedded proposition by Intensional Functional Application (IFA), giving us the denotation for the Sit-CP in (59a). Sit-CP denotes a set of individuals (which are situations) which exemplify the embedded proposition, and combines with a noun like *situation* by Predicate Modification, (59b).

- (59) a. $\llbracket [\text{Comp the squirrel ate the peanut}] \rrbracket^{s,g,t} =$
 $\lambda x. x \Vdash_e \{s': \text{the squirrel ate the peanut in } s'\}$.
 b. $\llbracket \text{situation } [\text{Comp the squirrel ate the peanut}] \rrbracket^{s,g,t} =$
 $\lambda x. \text{situation}(x)_{s,t} \wedge x \Vdash_e \{s': \text{the squirrel ate the peanut in } s'\}$

(59b) denotes a predicates true of exemplifying situations in which the squirrel ate the peanut. Because situations of the squirrel eating the peanut are *quantized* (Krifka, 1998)—no part of a situation of the squirrel eating the peanut is a (complete) situation of the squirrel eating the peanut, (59b) denotes a predicate of minimal situations of the squirrel eating the peanut—situations in which the squirrel ate the peanut, but in no proper subparts of which the squirrel ate the peanut (second disjunct in (58)). If the embedded proposition was *cumulative* instead, e.g. it was a set of situations in which the sun is shining, the first conjunct of the homogeneity condition in (58) would apply: exemplification would give us a set of situations in which the sun is shining and in all parts of which the sun is shining (see Kratzer 1989, 2020 for discussion).

Let us see why we need the minimality introduced by the semantics of exemplification, (60). An alternative to this semantics would be (61), where situations of any size in which the squirrel ate the peanut are in the denotation of the clause.

- (60) *Minimal semantics for Sit-CPs*:
 $\llbracket [\text{Comp the squirrel ate the peanut}] \rrbracket^{s,g,t} =$
 $\lambda x. x \Vdash_e \{s': \text{the squirrel ate the peanut in } s'\}$.
- (61) *Non-minimal semantics for Sit-CPs*:
 $\llbracket [\text{Comp the squirrel ate the peanut}] \rrbracket^{s,g,t} =$
 $\lambda x. x \in \{s': \text{the squirrel ate the peanut in } s'\}$

One argument for exemplification comes from Sit-NPs occurring as CAUSERS of emotive states. Consider (62).

Bondarenko 2022, chapter 5). If determiners are treated as situation-independent (see, e.g. von Stechow and Heim 1997-2020), then relativization to a situation must be supplied by the predicate that the CP denotes.

- (62) **Context:** Swuni won an award and didn't thank anyone when receiving it. Mina was expecting Swuni to win the award, but was surprised that she didn't thank anyone.

[FALSE] [Swuni-ka sang-ul pat-un] sanghwang-i
 Swuni-NOM award-ACC win-ADN situation-NOM
 Mina-lul nollakey ha-yess-ta.
 Mina-ACC be.surprise do-PST-DECL

‘A situation that Swuni won an award surprised Mina.’

We can individuate at least three situations in the context in (62): a situation of Swuni winning an award, a situation of Swuni not thanking anyone, and a situation that is made up of these two situations, (63).

- (63) a. **situation₁:** **situation₁** \Vdash_e {s': Swuni won an award in s'}
 b. **situation₂:** **situation₂** \Vdash_e {s': Swuni didn't thank anyone in s'}
 c. **situation₃ = situation₁ \sqcup situation₂,**
situation₃ \Vdash_e {s': Swuni won an award and didn't thank anyone in s'}

Swuni is surprised by **situation₂**, and thus by **situation₃**, but not by **situation₁**. In this context the sentence in (62) is judged false. Let us see if the semantics in (60) and (61) predict this. In this paper I disregard tense for simplification, and adopt a neo-Davidsonian approach to argument structure (Castañeda 1967, a.o.), with the assumption that verbs denote predicates of exemplifying situations, (64). I will henceforth abbreviate the denotations as in (64) in the following way: $\lambda s'. \Vdash_e amuse_{s,t}(s')$.

- (64) $\llbracket amuse \rrbracket^{s,g,t} =$
 $\lambda s'. s' \in D_v. s' \sqsubseteq s \wedge s' \text{ is at } t \wedge s' \Vdash_e \{s'': \text{there is amusement in } s''\}$

With these assumptions, consider the predictions for the sentence in (62) that minimal and non-minimal semantics make, in (65) and (66) respectively.

- (65) **(62) according to minimal semantics**
 $\llbracket A \text{ situation that Swuni won an award surprised Mina} \rrbracket^{s,g,t} = 1$ iff
 $\exists s' [\Vdash_e surprise_{s,t}(s') \wedge \text{THEME}(s') = \text{Mina} \wedge \exists x [\text{CAUSER}(s') = x$
 $\wedge \text{situation}(x)_{s,t} \wedge x \Vdash_e \{s'': \text{Swuna got an award in } s''\}]$
- (66) **(62) according to non-minimal semantics**
 $\llbracket A \text{ situation that Swuni won an award surprised Mina} \rrbracket^{s,g,t} = 1$ iff
 $\exists s' [\Vdash_e surprise_{s,t}(s') \wedge \text{THEME}(s') = \text{Mina} \wedge \exists x [\text{CAUSER}(s') = x$
 $\wedge \text{situation}(x)_{s,t} \wedge x \in \{s'': \text{Swuna got an award in } s''\}]$

On the non-minimal semantics, **situation₃** satisfies the required description, as it contains Swuni winning the award, and so the sentence should be true, contra to the fact. The minimal semantics predicts (62) to be false, because **situation₃** does not exemplify {s': Swuna got an award in s'}. Thus, the fact that (62) is judged by the native speakers to be false in the given context argues in favor of exemplification.

Another argument for exemplification comes from the lack of stacking, (67).

- (67) *Mina-ka [Swuna-ka nolayha-nun] [Hani-ka chwumchwu-nun]
 Mina-NOM Swuna-NOM sing-ADN Hani-NOM dance-ADN
 sanghwang-ul kiekha-ss-ta.
 situation-ACC remember-PST-DECL
 Intended:
 ‘M. remembered the situation, in which S. sang and in which H. danced.’

If Sit-CPs describe exemplifying situations, then sentences like (67) should be always false, since no situation can exemplify Swuni singing and Hani dancing at the same time, (68). I propose that this leads to ungrammaticality of such sentences. Non-minimal semantics, (69), doesn’t expect such a restriction: we should be able to modify a noun with two Sit-CPs and get a situation in which Swuni sang and Hani danced.

- (68) **Minimal semantics: no stacking**
 $\llbracket \text{Mina remembered a situation that Swuni sang that Hani danced} \rrbracket^{s,g,t} = 1$ iff
 $\exists s' \llbracket \epsilon \text{remember}_{s,t}(s') \wedge \text{EXP}(s') = \text{Mina} \wedge \exists x [\text{THEME}(s') = x$
 $\wedge \text{situation}(x)_{s,t} \wedge x \llbracket_e \{s'' : \text{Swuni sang in } s''\}$
 $\wedge x \llbracket_e \{s'' : \text{Hani danced in } s''\} \rrbracket$ **always false**
- (69) **Non-minimal semantics: should allow stacking**
 $\llbracket \text{Mina remembered a situation that Swuni sang that Hani danced} \rrbracket^{s,g,t} = 1$ iff
 $\exists s' \llbracket \epsilon \text{remember}_{s,t}(s') \wedge \text{EXP}(s') = \text{Mina} \wedge \exists x [\text{THEME}(s') = x$
 $\wedge \text{situation}(x)_{s,t} \wedge x \in \{s'' : \text{Swuni sang in } s''\}$
 $\wedge x \in \{s'' : \text{Hani danced in } s''\} \rrbracket$

Now let us see how the proposed semantics accounts for the properties of Sit-CPs that we observed in sections 2.2-2.3. First, it straightforwardly captures the fact that Sit-CPs behave like modifiers of nouns that they combine with: according to (59a), Sit-CPs are predicates and combine with nouns by Predicate Modification. This semantics also correctly predicts that the adnominal marker cannot be omitted: Sit-NPs cannot combine with TPs (or VPs) directly, (70). This follows from my proposal, as it predicts a type mismatch in such cases due to nouns not taking propositional arguments.

- (70) *[talamcuy-ka ttangkhong-ul mek-(ess)] sanghwang-i
 squirrel-NOM peanut-ACC eat-(PST) situation-NOM
 Intended: ‘the situation that the squirrel ate the peanut’

Second, my proposal captures the lack of displacement in sentences with Sit-CPs, as according to it neither the noun nor the clause is contributing the shift to other situations. Thus, for example, in (65) the situation of Swuna getting the award is evaluated with respect to the matrix situation of evaluation. Due to the lack of displacement in the meanings of Sit-CPs, *de dicto* readings of predicates inside them are correctly predicted to not be possible. (71) illustrates this for the sentence in (72).

- (71) *Infelicitous result with Sit-CPs:*
 $\llbracket \text{I saw a situation that the sheep are goats} \rrbracket^{s,g} = 1$ iff
 $\exists s', x \llbracket \epsilon \text{see}_s(s') \wedge \text{THEME}(s') = x \wedge \text{EXP}(s') = \text{Speaker} \wedge \text{situation}(x)_s \wedge$

- $x \Vdash_e \{s'': \iota y(\text{sheep}(y)_s) \text{ is a goat in } s''\}$
 $\Rightarrow \#$ if sheep and goats are disjoint sets in s
- (72) #Na-nun [san-uy yang-i yemso-i-n] sanghwang-ul
 I-TOP mountain-GEN sheep-NOM goat-COP-ADN situation-ACC
 po-ass-ta.
 see-PST-DECL
 Intended: ‘I saw a situation that the sheep on this mountain are goats.’

By the definition of exemplification, (58), if x exemplifies p , then $x \in p$. This means that in (71) $x \in \{s'': \iota y(\text{sheep}(y)_s) \text{ is a goat in } s''\}$. In other words, for the sentence to be true it has to be that the sheep in s , the situation of evaluation, are goats in x . But we also know that x is part of s ($x \sqsubseteq s$): this is so because x is the THEME of the situation of seeing within s , and also because x is a situation in s . Thus, if the sheep in s are goats in x , they must be goats in s , a bigger situation that contains x , as well. This results in a contradiction under the assumption that sheep and goats are disjoint sets of individuals, hence the infelicity of examples like (72).

The lack of displacement also explains the results of the substitution test in (24). Let us make a simplifying assumption that proper names can be interpreted akin to definite descriptions. Then a sentence like *Swuna is the tallest girl in the class* will receive the truth-conditions in (73): when evaluated at s , it is true iff the person who is Swuna in s is the tallest girl in s .

- (73) $\llbracket \text{Swuna is the tallest girl in the class} \rrbracket^{s,g} = 1$ iff
 $\iota y(y \text{ is Swuna in } s) \text{ is the tallest girl in the class in } s$.

Now consider the truth-conditions that we get for Sit-CPs: (75a) for the sentence in (74a), and (75b) for the sentence in (74c).

- (74) *Transparency with Sit-CPs*: from $\{(a), (b)\} \Rightarrow (c)$
- a. Mina-ka [**Swuna-ka** mwuncey-lul phwul-un] sanghwang-ul
 Mina-NOM **Swuna-NOM** problem-ACC solve-ADN situation-ACC
 kiekhay-ss-ta.
 remember-PST-DECL
 ‘Mina remembered the situation that Swuna solved the problem.’
- b. Swuna-ka pan-eyse kacang khi-ga khu-ta.
 Swuna-NOM class-LOC most height-NOM large-DECL
 ‘Swuna is the tallest girl in the class.’
- c. Mina-ka [**pan-eyse kacang khi-ga khun sonye-ka**
 Mina-NOM **class-LOC most height-NOM large girl-NOM**
 mwuncey-lul phwul-un] sanghwang-ul kiekhay-ss-ta.
 problem-ACC solve-ADN situation-ACC remember-PST-DECL
 ‘Mina remembered the situation that the tallest girl in the class solved the problem.’

- (75) a. $\llbracket \text{Mina remembered the situation that Swuna solved the problem} \rrbracket^{s.g} = 1$ iff
 $\exists s' [\text{remember}_s(s') \wedge \text{EXP}(s') = \text{Mina} \wedge \exists x [\text{THEME}(s') = x \wedge \text{situation}(x)_s$
 $\wedge x \Vdash_e \{s'' : \iota y (y \text{ is Swuna in } s'')\} \text{ solved the problem in } s'']]$
- b. $\llbracket \text{Mina remembered the situation that the tallest girl in the class solved the problem} \rrbracket^{s.g} = 1$ iff $\exists s' [\text{remember}_s(s') \wedge \text{EXP}(s') = \text{Mina} \wedge$
 $\exists x [\text{THEME}(s') = x \wedge \text{situation}(x)_s \wedge x \Vdash_e \{s'' : \iota y (y \text{ is the tallest girl in the class in } s'')\} \text{ solved the problem in } s'']]$

Assume that (74a) and (74b) are both true when evaluated with respect to the actual world @. Then there exists a situation x which is part of the actual world @. By definition of exemplification, x is a situation of the individual who is Swuna in x solving the problem in x . Given that $x \sqsubseteq @$, this means that x is a situation of the individual who is Swuna in @ solving the problem.²⁵ But from (74b) being true it follows that the individual who is Swuna in @ is the tallest girl in @. Thus, x is a situation of the individual who is the tallest girl in @ solving the problem, and thereby a situation of the individual who is the tallest girl in x solving the problem. We also know that Mina remembers the situation x . This leads to the conclusion that (74c) must be true: it is the case that Mina remembers the situation of the tallest girl in the class solving the problem. Note that deriving the entailment in (74c) does not bear on what Mina's beliefs are: we derive it even if she does not know that Swuna is the tallest girl in the class. Everything in the description of the situation at hand has to be evaluated at @ due to the lack of displacement.

3.2 Analysis of Cont-CPs

I propose that in Cont-CPs, there is an additional projection—*ContP*—between TP and CompP. Thus, the structure of Cont-CPs in examples like (76) is in (77).

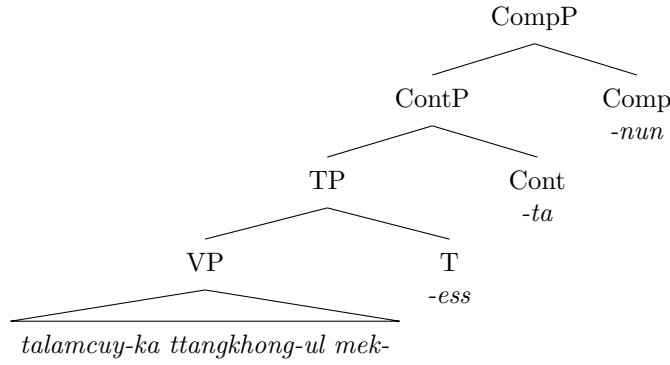
- (76) [talamcuy-ka ttangkhong-ul mek-ess-ta-nun] cwucang-i
 squirrel-NOM peanut-ACC eat-PST-DECL-ADN claim-NOM
 'the claim that the squirrel ate the peanut'

²⁵This step of argumentation relies on the assumption that for any individual y , the proposition $\{s: y \text{ is Swuna in } s\}$ is persistent:

- (i) *Persistence* (Kratzer, 1989, 618)
 A proposition $p \in \mathbb{P}(S)$ is persistent if and only if for all s and $s' \in S$ the following holds: Whenever $s \sqsubseteq s'$ and $s \in p$, then $s' \in p$.

Intuitively, this seems like a welcome assumption: if someone is Swuna in a situation s , someone is still Swuna in bigger situations containing s . Here I do not commit myself to the hypothesis that all propositions are persistent (see discussion in Kratzer 1989), but assume that propositions like the one under consideration are persistent.

(77) The structure of the Korean embedded clause in (76)



The Cont head introduces displacement, (78): it demands that the $\text{CONT}(\text{ENT})$ relation (see Moltmann 1989, Kratzer 2006, Moulton 2009, Moltmann 2013, 2014, Moulton 2015, Bogal-Allbritten 2016, 2017, Kratzer 2016, Elliott 2020a, Moltmann 2020) holds between an individual x and a proposition p , and in particular that the content of x equals p (Moulton 2009, Elliott 2020a, Bassi and Bondarenko 2021).²⁶

(78) $[[\text{Cont}]]^{s,g,t} = \lambda p \in D_{vt}.\lambda x. \text{CONT}(x) = p$

The meaning of Cont-CP is derived as follows. Combining Cont with TP gives us the denotation in (79): it is a set of individuals (which could be situations as well) whose propositional content equals the embedded proposition.

(79) $[[[\text{Cont the squirrel ate the peanut}]]^{s,g,t} = \lambda x. \text{CONT}(x) = \{s': \text{the squirrel ate the peanut in } s'\}$

While (79) is already a meaning that could compose with Cont-NPs, note that the adnominal marker (Comp) is nevertheless obligatory in Cont-CPs, (80). I will assume that Comp in Cont-CPs has the same semantic contribution as in Sit-CPs—that of exemplification, and so Cont-CPs have meanings as in (81a), abbreviated as in (81b).

(80) *[talamcuy-ka ttangkhong-ul mek-ess-(ta)] cwucang-i
 squirrel-NOM peanut-ACC eat-PST-(DECL) claim-NOM
 Intended: ‘the claim that the squirrel ate the peanut’

(81) a. $[[[\text{Comp Cont the squirrel ate the peanut}]]^{s,g,t} = \lambda x. x \Vdash_e \{x': \text{CONT}(x') = \{s': \text{the squirrel ate the peanut in } s'\}\}$
 b. *abbreviation:* $\lambda x. \Vdash_e \text{CONT}(x) = \{s': \text{the squirrel ate the peanut in } s'\}$

While empirically the existence of exemplification in meanings of Cont-CPs is difficult to test, it does not lead to any unwelcome consequences, as far as I can see. First, note that by the definition of exemplification, repeated again below in (82), this is a relation

²⁶The idea that the Korean declarative marker *-ta* has the meaning in (78) has been entertained in a presentation by Moulton, Bogal-Allbritten, and Shimoyama 2020, though this was not the focus of their discussion, and they did not commit to this idea in a later publication (Bogal-Allbritten et al., 2024), proposing that displacement was introduced in the meaning of the nominalized head *kes*.

that can hold between an individual and any predicate of individuals, whether they are situations or not. Thus, the meaning of the Cont-CP in (81a) is derived by Functional Application: Comp, (83), takes the meaning of the ContP in (79) as its argument.

(82) **Exemplification** (based on Deigan 2020; Kratzer 1989, 2002)

For any individual $x \in D_e$ and predicate $p \in D_{et}$:

x exemplifies $p =_{def}$

$x \in p \wedge (\forall x'[x' \sqsubset x \Rightarrow x' \in p] \vee \forall x'[x' \sqsubset x \Rightarrow x' \notin p])$

(83) $[[\text{Comp}]]^{s,g,t} = \lambda p: p \in D_{et}. \lambda x. x \Vdash_e p$

Introducing exemplification filters the set of individuals: we get rid of any individuals that contain something irrelevant to the truth of the predicate $\{x': \text{CONT}(x') = \{s': \text{the squirrel ate the peanut in } s'\}\}$. Here is a brief illustration of when such filtering might be non-vacuous. Let us consider an individual x made of two parts: $x = y \sqcup z$. Imagine that while y has propositional content associated with it (84c), z does not (84d), and that the rules of calculating propositional content of complex individuals tell us that if some subparts of a complex individual do not have propositional content associated with them, we ignore them in calculating the propositional content of the complex individual (of course, this is just one possible hypothesis about how we could deal with content-less parts of contentful individuals).

(84) *Example:* $\neg(x \Vdash_e \{x': \text{CONT}(x') = \{s': \text{the squirrel ate the peanut in } s'\}\})$

a. $x = y \sqcup z$

b. $\text{CONT}(x) = \{s': \text{the squirrel ate the peanut in } s'\}$

c. $\text{CONT}(y) = \{s': \text{the squirrel ate the peanut in } s'\}$

d. $\text{CONT}(z) = \#$

In this case, the propositional content associated with x will be the same as the propositional content associated with y , but by the definition of exemplification, x will not be an exemplifying individual for the predicate $\{x': \text{CONT}(x') = \{s': \text{the squirrel ate the nuts in } s'\}\}$, because it has a proper part y in which the predicate is true, but also a proper part z in which the predicate is not true (it is undefined). Thus, x does not exemplify this predicate even though it is a member of the predicate. The requirement that we will consider only exemplifying individuals will get rid of such individuals as x .

Cont-CP will then compose with the noun by Predicate Modification, (85).

(85) a. $[[\text{claim} [\text{Comp Cont the squirrel ate the peanut}]]^{s,g,t} = \lambda x. \text{claim}(x)_{s,t} \wedge x \Vdash_e \{x': \text{CONT}(x') = \{s': \text{the squirrel ate the peanut in } s'\}\}$

b. *abbreviation:*

$\lambda x. \text{claim}(x)_{s,t} \wedge \Vdash_e \text{CONT}(x) = \{s': \text{the squirrel ate the peanut in } s'\}$.

(85a) denotes a set of claims whose propositional content is the proposition “*The squirrel ate the peanut*”, such that either all of proper parts of these claims have the content “*The squirrel ate the peanut*”, or none of them do.

According to my proposal, CONT is a function, (86): it takes an individual and returns the propositional content associated with it. The Cont head demands that this content *equals* the embedded proposition (Bassi & Bondarenko, 2021; Elliott, 2020a;

(Moulton, 2009). A common alternative to the equality semantics of displacement is to assume that the content of an individual is a *subset* of the embedded proposition (see Bogal-Allbritten 2016; Kratzer 2006 a.o.), (87).

- (86) *Equality Semantics of Displacement*
 $\llbracket \text{Cont} \rrbracket^{s,g,t} = \lambda p \in D_{st} \cdot \lambda x. \text{CONT}(x) = p$
- (87) *Subset Semantics of Displacement*
 $\llbracket \text{Cont} \rrbracket^{s,g,t} = \lambda p \in D_{st} \cdot \lambda x. \text{CONT}(x) \subseteq p$

Arguments in favor of equality semantics in the literature include impossibility of clause stacking (Moulton, 2009), copular constructions (Djäv, 2019), obligatory wide scope of conjunction in ‘CP and CP’ strings (Bassi & Bondarenko, 2021), the use of the definite article with the noun *fact* (Elliott, 2020a, 2020b), and examination of NPI licensing in complements to nouns like *belief* (Bondarenko & Elliott, ms.). Here I would like to propose an additional argument in favor of the equality semantics.

Let us assume that a complex claim, **claim**₃, has been made: it consists of two sub-claims: “Swuna won an award” and “Swuna didn’t thank anyone”, (88a)-(88b).²⁷ Let us further assume, following (Elliott, 2020a), that the content of an entity consisting of two subparts is the conjunction of the propositional contents of the parts, (88c).

- (88) a. **claim**₁: $\text{CONT}(\mathbf{claim}_1) = \{s': \text{Swuna won an award in } s'\}$
 b. **claim**₂: $\text{CONT}(\mathbf{claim}_2) = \{s': \text{Swuna didn't thank anyone in } s'\}$
 c. **claim**₃ = **claim**₁ \sqcap **claim**₂,
 $\text{CONT}(\mathbf{claim}_3) = \{s': \text{S. won the award and didn't thank anyone in } s'\}$

In the provided context, the sentences in (89) is judged to be false.

- (89) **Context:** Someone claimed that Swuna won an award and that she didn’t thank anyone (= **claim**₃). Mina is not surprised by the claim that Swuna won an award (**claim**₁), but she is surprised by the claim (**claim**₂) that Swuna didn’t thank anyone when receiving it (she suspects it’s a lie).

[Swuni-ka sang-ul pat-ess-ta-nun]
 Swuni-NOM award-ACC win-PST-DECL-ADN
 cwucang-i Mina-lul nollakey ha-yess-ta. [FALSE]
 claim-NOM Mina-ACC be.surprised do-PST-DECL
 ‘A claim that Swuni won the award surprised Mina.’

The equality semantics predicts this:

- (90) **Truth-conditions under the equality semantics**
 $\llbracket A \text{ claim that Swuna won the award surprised Mina} \rrbracket^{s,g,t} = 1$ iff
 $\exists s' [\text{surprise}_{s,t}(s') \wedge \text{THEME}(s') = \text{Mina} \wedge \exists x \{ \text{CAUSER}(s') = x \wedge \text{claim}(x)_{s,t} \wedge \text{CONT}(x) = \{s'' : \text{Swuna got an award in } s'' \} \}]$

²⁷One might wonder what kinds of situations will be in the set $\{s' : \text{Swuna didn't thank anyone in } s'\}$. We could hypothesize that this set contains negative situations: we could think of them being similar to negative events (Bernard and Champollion 2018, a.o.) or falsifiers (Fine, 2017a, 2017b, 2017c).

In the provided context, there is no claim with the content “*Swuna got an award*” that surprised Mina. Under the truth-conditions that we get from the subset semantics, however, the prediction is that the sentence should be true, (91).

- (91) **Truth-conditions under the subset semantics**
 $\llbracket A \text{ claim that Swuna won the award surprised Mina} \rrbracket^{s,g,t} = 1$ iff
 $\exists s' [\text{surprise}_{s,t}(s') \wedge \text{THEME}(s') = \text{Mina} \wedge \exists x [\text{CAUSER}(s') = x \wedge \text{claim}(x)_{s,t} \wedge x \Vdash_e \{x' : \text{CONT}(x') \subseteq \{s' : \text{Swuna got an award in } s'\}\}]]$

All that (91) requires for the sentence to be true is that there be a claim that surprised Mina such that in all situations in its content Swuna got an award. Assuming that individuals whose parts are surprising are surprising themselves, **claim**₃, which has been made according to the context, will count as a claim that surprised Mina: all situations in the content of **claim**₃ are such that Swuna got an award in them.

If the equality semantics is on the right track, its logical properties require further study, as they are quite different from the more commonly assumed subset semantics. For example, note that while the subset semantics predicts closure under entailment, the equality semantics, in the absence of any additional assumptions, does not guarantee such a result, (92)-(93). See (Elliott, 2020a), (Bondarenko, 2022, 140–149; 423–434) and (Bondarenko & Elliott, ms.) for discussions of when/whether closure under entailment is a desirable property in structures with clausal embedding, and suggestions of how to model entailment by appealing to mereological properties in attitude reports.

- (92) *The subset semantics: closure under entailment*
a. $\exists x [\text{CONT}(x) \subseteq p]$
b. $p \subseteq q$
c. $\Rightarrow \exists x [\text{CONT}(x) \subseteq q]$
- (93) *The equality semantics: no closure under entailment*
a. $\exists x [\text{CONT}(x) = p]$
b. $p \subseteq q$
c. $\not\Rightarrow \exists x [\text{CONT}(x) = q]$

Now let us see how the my proposal about semantics of Cont-CPs captures their properties. As with Sit-CPs, it accounts for the fact that these clauses behave like modifiers (see section 2.3) by proposing that Cont-CPs are nominal modifiers composing by Predicate Modification, (85). This also correctly predicts that nouns will not be able to combine with TPs, which denote truth-values, as their arguments, (80).

According to my proposal, semantics of sentences with Cont-CPs will have displacement due to the presence of the Cont head in their structure. This explains why Cont-CPs allow predicates inside of them to be interpreted *de dicto*: ‘sheep’ and ‘goats’ can be evaluated with respect to distinct situations in examples like (94).

- (94) Na-nun [san-uy yang-i yemso-la-nun] (calmottoy-n)
I-TOP mountain-GEN sheep-NOM goat-COP.DECL-ADN be.mistaken-ADN
uykyen-ul po-ass-ta
opinion-ACC see-PST-DECL

‘I saw a (mistaken) opinion that the sheep on this mountain are goats.’

I hypothesize that, whatever the mechanism of achieving *de re* interpretation of ‘sheep’ in (94) is, it produces the truth-conditions in (95).

- (95) $\llbracket I \text{ saw an opinion that the sheep on this mountain are goats} \rrbracket^{s,g} = 1$ iff
 $\exists s', x [\text{I}^e \text{see}_s(s') \wedge \text{THEME}(s')=x \wedge \text{EXP}(s')=\text{Speaker} \wedge \text{opinion}(x)_s \wedge$
 $\text{I}^e \text{CONT}(x) = \{s'' : \iota y(\text{sheep}(y)_s) \text{ is a goat in } s''\}]$

In (95) the properties of being a sheep and being a goat do not have to be evaluated with respect to the same situation. Cont gives us a set of situations that represent the content of an opinion, and the situations in this set could differ from the evaluation situation s in the properties that different individuals have: e.g., goats in these situations might not be goats in the evaluation situation. Thus, if some mechanism allows us to interpret the property of being sheep *de re*, we will get a felicitous sentence according to which the individuals who are sheep in the evaluation situation are goats in the situations *according to the opinion*.

The presence of displacement in Cont-CPs also means that definite descriptions and proper names in these clauses will be able to be evaluated at a situation distinct from the evaluation situation. Thus, the sentence in (96a) can have the truth-conditions in (97a), and the sentence in (96c)—the truth-conditions in (97b).

- (96) *Opacity with Cont-CPs: from {(a), (b)} $\not\Rightarrow$ (c)*
- a. Mina-ka [Swuna-ka mwuncey-lul phwul-ess-ta-nun] mitum-ul
 Mina-NOM Swuna-NOM problem-ACC solve-PST-DECL-ADN belief-ACC
 kiekhay-ss-ta.
 remember-PST-DECL
 ‘Mina remembered a belief that Swuna solved the problem.’
- b. Swuna-ka pan-eyse kacang khi-ga khu-ta.
 Swuna-NOM class-LOC most height-NOM large-DECL
 ‘Swuna is the tallest in the class.’
- c. Mina-ka [pan-eyse kacang khi-ga khun sonye-ka
 Mina-NOM class-LOC most height-NOM large girl-NOM
 mwuncey-lul phwul-ess-ta-nun] mitum-ul kiekhay-ss-ta.
 problem-ACC solve-PST-DECL-ADN belief-ACC remember-PST-DECL
 ‘Mina remembered a belief that the tallest girl in the class solved the problem.’
- (97) a. $\llbracket \text{Mina remembered the belief that Swuna solved the problem} \rrbracket^{s,g} = 1$ iff
 $\exists s' [\text{I}^e \text{remember}_s(s') \wedge \text{EXP}(s')=\text{Mina} \wedge \exists x[\text{THEME}(s')=x \wedge \text{belief}(x)_s \wedge$
 $\text{I}^e \text{CONT}(x) = \{s'' : \iota y(y \text{ is Swuna in } s'') \text{ solved the problem in } s''\}]]$
- b. $\llbracket \text{Mina remembered the belief that the tallest girl in the class solved the problem} \rrbracket^{s,g} = 1$ iff $\exists s' [\text{I}^e \text{remember}_s(s') \wedge \text{EXP}(s')=\text{Mina} \wedge$
 $\exists x[\text{THEME}(s')=x \wedge \text{belief}(x)_s \wedge \text{I}^e \text{CONT}(x) = \{s'' : \iota y(y \text{ is the tallest girl in the class in } s'') \text{ solved the problem in } s''\}]]$

The CONT function provides a set of situations which is the content of the belief, and expressions like *being Swuna* and *being the tallest girl in the class* can be evaluated according to the situations in this set. Thus, one could truthfully believe (96a) and (96b) to be true of the actual world, but (96c) to be false. Mina could have remembered a belief that the individual who is *Swuna according to the belief* solved the problem, but not have remembered a belief that the individual who is *the tallest girl in the class according to the belief* solved the problem. The fact that Swuna and the tallest girl in the class pick out the same individual in the actual world is irrelevant. Of course, it is possible to interpret both *Swuna* and *the tallest girl in the class de re*—with respect to the evaluation situation, and the substitution test would then succeed. But crucially, we do not have to interpret these expressions *de re*: there is a reading on which (96a) and (96b) can be true whereas (96c) is false, and for that reading to exist, the meaning of the sentence has to involve displacement.

Now let us take stock and discuss how the current proposal captures the relationship between the two types of nouns (situation nouns and content nouns, (98a)-(98b)) and two types of embedded clauses (Sit-CPs and Cont-CPs, (99a)-(99b)). Recall in section 2.2 we discussed the difference between the two types of noun, which manifests itself in compatibility with different predicates: situation nouns are predicates of situations that do not have propositional content, (98a), and content nouns are predicates of non-situational individuals with propositional content, (98b). Neither selects for an embedded CP, and so both will combine with CPs via Predicate Modification, (30).

- (98) a. $\llbracket \text{situation} \rrbracket^{s,g,t} = \lambda x: x \in D_v \wedge x \notin D_{Cont}. \text{situation}(x)_{s,t}$
 b. $\llbracket \text{belief} \rrbracket^{s,g,t} = \lambda x: x \notin D_v \wedge x \in D_{Cont}. \text{belief}(x)_{s,t}$
- (99) a. $\llbracket [\text{Comp the squirrel ate the peanut}] \rrbracket^{s,g,t} =$
 $\lambda x. x \Vdash_e \{s': \text{the squirrel ate the peanut in } s'\}.$
 b. $\llbracket [\text{Comp Cont the squirrel ate the peanut}] \rrbracket^{s,g,t} =$
 $\lambda x. \Vdash_e \text{CONT}(x) = \{s': \text{the squirrel ate the peanut in } s'\}$

In previous sections we have seen that Sit-NPs can be modified by Sit-CPs, and Cont-NPs can be modified by Cont-CPs. Now consider what will happen if we try to combine a “wrong” embedded clause with a noun. Both modifying a Sit-NP by a Cont-CP and modifying a Cont-NP by a Sit-CP will result in a predicate that is not defined for any individual. If an individual is the domain of a noun like *situation*, it won’t be in the domain of a Cont-CP, because it will lack propositional content. If an individual is in the domain of a noun like *belief*, it will not be in the domain of a Sit-CP, as it is not a situation. Thus, specification of domains for the partial functions denoted by the two kinds of nouns and two kinds of clauses ensures the observed (in)compatibility.

3.3 Comparison to alternative approaches

Most of the literature on Korean adnominal embedded clauses has to do with the cases where these clauses combine with an abstract noun *kes* ‘thing’ (M.-J. Kim 2009, Shim and Ihsane 2015, Yoon 2017, Bogal-Allbritten and Moulton 2018; Bogal-Allbritten et al. 2024). An exception to this is (S.-S. Kim, 2011), which discusses embedded clauses with lexical nouns in Korean. Their key observation aligns very well with the present

findings. They observe that there are two morphological types of clauses that we find—“simpler” ones with nouns like *kwangkyeng* ‘scene’ and more complex ones with nouns like *cwucang* ‘claim’, and conclude that “the simple modifying clause denotes a fact or event, an object in the world, while the complex form denotes a proposition, an object that is a description of a possibility” (S.-S. Kim, 2011, p. 4). The present proposal could be seen as fleshing out a formal analysis for this intuition which identifies what the different pieces in the structures of these clauses contribute to their meanings.

Clauses that combine with *kes* are nominalized embedded clauses with no features of root clauses (Yoon, 2017). There have been different proposals for what the contributions of different elements within these clauses are. Shim and Ihsane (2015) argue that the declarative marker *-ta* is located in ForceP, and that Force also exists in Sit-CPs, although with null exponence—an assumption they make due to their view of nominative case assignment. The idea that a null equivalent of *-ta* is present in Sit-CPs is incompatible with the observations made in this paper: I have argued that we do not want to have the same semantic contribution that *-ta* makes be present in Sit-CPs.

M.-J. Kim (2009) proposes that *-ta* is an indicative mood marker occurring in embedded clauses with assertoric force, the adnominal marker serves as a conjunction for the contents of the embedded and embedding clauses, and *kes* is an E-type pronoun that combines with a definite determiner. A similar proposal is advocated for in (Bogal-Allbritten & Moulton, 2018), where the semantics of *-ta* is provided with the denotation in (100a) (p. 225, ex. (23)), and *kes* is treated as an element that takes a proposition as its argument and returns back a definite description, (100b).

- (100) *Denotations of -ta and kes from (Bogal-Allbritten & Moulton, 2018)*
- a. $\llbracket ta_{embedded} \rrbracket = \lambda p. \lambda e. e$ is an event of asserting p .
 - b. $\llbracket kes \rrbracket^C = \lambda p. \lambda x. R(p)(x)$,
 where x is in the domain of ordinary individuals or situations, R is a suitable relation defined iff x is familiar in C

The denotation for *-ta* in (100a) cannot apply across the board to all the cases of clauses combining with nouns: not all of them imply existence of an assertion event. For example, consider (101).

- (101) **Context:** No one has asserted that the squirrel ate the peanut.
- Mina-ka talamcuy-ka ttangkhong-ul mek-ess-ta-nun mitum-ul
 Mina-NOM squirrel-NOM peanut-ACC eat-PST-DECL-ADN belief-ACC
 /uykyen-ul kaci-ess-ta.
 /opinion-ACC have-PST-DECL
 ‘Mina had a belief/opinion that the squirrel ate the nuts.’

This sentence can be uttered even if Mina is not asserting her belief/opinion, and there is generally no requirement that someone asserted or even thought the embedded proposition before. (101) just seems to describe the belief/opinion that Mina had.

The semantics proposed for the abstract noun *kes* in (100b) also cannot be generalized to lexical nouns. Note that in the denotation in (100b) *kes* takes a proposition as its semantic argument, whereas in section 2.3 I argued that embedded clauses that

combine with situation and content nouns are their modifiers. The same issue arises for the denotation of *kes* proposed in (Bogal-Allbritten et al., 2024), where it is argued to be an element that turns the embedded proposition into an anaphoric definite description of individuals bearing the propositional content of that clause, (102).

$$(102) \quad \llbracket kes \rrbracket = \lambda p.\lambda x.\lambda w : \exists!x[\text{CONT}(x)(w) = p \wedge x = y].\iota x[\text{CONT}(x)(w) = p \wedge x = y],$$

where y is saturated by a free variable whose value is determined by the context via an assignment function g

I would like to suggest however that my proposal is very much compatible with the ideas about *kes*-nominalization expressed in the literature. In fact, an earlier version of the proposal in (Bogal-Allbritten et al., 2024), presented in a talk (Moulton et al., 2020), entertained the same semantics for the declarative marker that I argue for in this paper, (103). The fact that they opted for encoding displacement in *kes* in Bogal-Allbritten et al. (2024) seems to just reflect the fact that the source of displacement was tangential to the goals of their paper on anaphoricity in clausal embedding.

$$(103) \quad \llbracket -ta \rrbracket = \lambda p.\lambda x.\lambda w. [\text{CONT}(x)(w) = p] \quad (\text{Moulton et al., 2020, ex. (33)})$$

To sum up, my proposal largely agrees with the intuitions about the meanings of Korean embedded clauses expressed in the literature. But its focus on the two kinds of lexical nouns and comparison between Cont-CPs and Sit-CPs allows us to examine the contribution of different pieces to the overall meaning in more detail and provide an argument for the declarative marker *-ta* encoding displacement.

4 Cross-linguistic extensions

This section discusses the question of whether my proposal can be extended to other languages. I discuss data from Buryat, English and Russian, and argue that in all of them we can distinguish Sit-CPs and Cont-CPs among the clauses that combine with nouns. My analysis developed for Korean can be extended to all three languages under the assumption that not all languages have an overt morphological exponent for Cont.

In Buryat both Cont-CPs and Sit-CPs that combine with nouns occur with participial (PART) morphemes (past tense participle *-A:šA*²⁸ in (104)-(105)), which seem to have similar functions as Korean adnominal markers.²⁹ The two types of CPs differ in whether there is an additional morpheme before the participial marker: Cont-CPs must occur with *g(ə)*-, a functional element which is a grammaticalized root of the verb ‘say’ (see e.g. Ozyildiz 2017 and Major 2021 for discussion of *say*-complementation), (104), whereas Sit-CPs cannot contain this morpheme, (105).

²⁸Capital letters represent vowels before harmony rules have applied to them.

²⁹Most Buryat examples present in this paper have been collected by the author during the 2018 field-trip to the village Baraghan located in Kurumkansky District, Buryatia, Russia. The data come from 3 native speakers of the Barguzin dialect of Buryat. Some additional examples have been elicited via virtual elicitations with one of these speakers in 2019-2024.

- (104) a. [[Badma tərgə əmdəl-ə: g-ə:šə] hana:n] Sajana-da
 Badma.NOM cart break-PST SAY-PART thought.NOM Sajana-DAT
 tołgoi-do-n' ər-ə:.
 head-DAT-3SG arrive-PST
 'The thought that Badma broke the cart occurred to Sajana (lit. 'arrived in Sajana's head).'
- b. *[[Badma/Badm-i:n tərgə əmdəl-ə:šə] hana:n]
 Badma.NOM/Badma-GEN cart break-PART thought.NOM
 Sajana-da tołgoi-do-n' ər-ə:.
 Sajana-DAT head-DAT-3SG arrive-PST
 Intended: 'The thought that Badma broke the cart occurred to Sajana (lit. 'arrived in Sajana's head).'
- (105) a. *Sajana [Badm-i:n tərgə əmdəl-ə: g-ə:šə] ušar hana-na.
 Sajana.NOM Badma-GEN cart break-PST SAY-PART event think-PRS
 Intended: 'Sajana remembers an event that Badma broke the cart.'
- b. Sajana [Badm-i:n tərgə əmdəl-ə:šə] ušar hana-na.
 Sajana.NOM Badma-GEN cart break-PART event think-PRS
 'Sajana remembers an event that Badma broke the cart.'

In English and Russian embedded clauses that combine with content nouns and situation nouns do not differ in their morphosyntactic appearance. In English *that*-clauses are used in both cases, (106)-(108). *That*-CPs with content nouns have received a lot of attention in the literature (Arsenijević, 2009; Elliott, 2020a; Higgins, 1973; Kratzer, 2006, 2016; Moltmann, 1989, 2013, 2014, 2020; Moulton, 2009, 2015; Potts, 2002; Roberts, 2020; Stowell, 1993), and have often been used to argue for the view that embedded clauses are modifiers. *That*-clauses seem to be less commonly used with Sit-NPs in English, and have barely been discussed in the literature (with the notable exception of Moltmann 2021, (107)), but they can be found naturally occurring with a variety of situation nouns, as examples from (108) found on the Internet show.

- (106) I don't believe the **idea/story/theory/scoop/myth/notion** [that Fred didn't report his income.] (Moulton, 2009, 21)
- (107) It was twice the **case** [that John made a mistake]. (Moltmann, 2021, 180)
- (108) a. It is [a curious **situation** [_{CP} that the sea, from which life first arose should now be threatened by the activities of one form of that life]].
 b. In [the **event** [_{CP} that an event is canceled due to inclement weather]], they will immediately update the website...
 c. In [the **case** [_{CP} that the President should be unable to perform their duties]], the Vice-President becomes the President.

³⁰While the subjects of participial clauses with *g(ə)-* can be nominative (in addition to genitive, and sometimes accusative), participial clauses without this morpheme usually cannot have nominative marking (only genitive and sometimes accusative). Here we see that the sentence without *g(ə)-* is not acceptable irrespective of the case with which the subject is marked.

- d. It was now proposed that he should be accredited as Bavarian ambassador in London; but [the **circumstance** [_{CP} that he was a British subject]] presented an insurmountable obstacle.
- e. It's [a sad **state of affairs** [_{CP} that we've needed to soften our language to debate hard issues]].

In Russian, both Cont-NPs and Sit-NPs combine with clauses with the complementizer *čto*—the most common strategy of clausal embedding in the language.³¹

- (109) a. Mne prišla v golovu [**mysl'** [_{CP} čto belki s"eli vse orexi]].
to.me arrived in head **thought** COMP squirrels ate all nuts
'I had a thought that squirrels ate all the nuts.'
- b. Ja slyšala [**slux**, [_{CP} čto universitet rešil dobrovol'no
I heard **rumor** COMP university decided voluntarily
priznat' profsojuz]].
recognize.INF union
'I heard a rumor that the university decided to recognize the union voluntarily.'
- (110) a. Na prošloj nedele byl [**slučaj**, [_{CP} čto belki s"eli vse orexi]].
on last week was **event** COMP squirrels ate all nuts.
'Last week there was an event of squirrels eating all the nuts.'
- b. Predstav' sebe [**situaciju**, [_{CP} čto universitet rešil
imagine.IMP self.DAT **situation** COMP university decided
dobrovol'no priznat' profsojuz]].
voluntarily recognize.INF union
'Imagine a situation that the university decided to recognize the union voluntarily.'

Thus, if we consider Cont-CPs and Sit-CPs across the four languages, we see the pattern summarized in table 1: in some languages these clauses look identical—finite tensed clauses with a complementizer (English, Russian), whereas in others these clauses have additional overt morphology inside of them (Buryat, Korean). I am aware of no language that would employ the third logical possibility: have Sit-CPs that are morphosyntactically more complex than Cont-CPs. This gap might not be accidental: if my hypothesis that in all languages displacement is introduced in embedded clauses by the Cont head is correct, then we will not be able to find a language in which Sit-CPs have an additional head in their structure that Cont-CPs lack.

Morphosyntactic appearance	Languages
Cont-CPs and Sit-CPs look identical	English, Russian
Cont-CPs have additional structure	Buryat (<i>gə</i>), Korean (<i>-ta</i>)
Sit-CPs have additional structure	—

Table 1: Morphosyntax of Cont-CPs and Sit-CPs

³¹Unless indicated otherwise, the Russian data present in this paper have been collected in elicitation sessions with 8 native speakers of Russian, all of which lived most of their lives in Moscow, during 2020-2022. The author of the paper is also a native speaker of Russian.

Crucially, the semantics of Cont-CPs and Sit-CPs seems to be uniform across the languages: sentences with Cont-CPs involve displacement and thus constitute a referentially opaque environment, whereas Sit-CPs do not involve displacement and are referentially transparent. For example, we can see that in Russian (111) the substitution test fails with the CP modifying the noun *slux* ‘rumor’ but succeeds with the CP modifying the noun *slučaj* ‘event’, even though both contain *čto*-clauses.

- (111) *Opacity with Cont-CPs*: from {(a), (b)} $\not\Rightarrow$ (c)
Transparency with Sit-CPs: from {(a), (b)} \Rightarrow (c)
- a. Lena zametila slux /slučaj [čto **èta ženščina** priexala na kone].
 Lena noticed rumor /event COMP **this woman** arrived on horse
 ‘Lena noticed a rumor/an event that this woman arrived on a horse.’
- b. Èta ženščina — [koroleva Velikobitanii].
 this woman queen Great.Britain
 ‘This woman is the queen of Great Britain.’
- c. Lena zametila slux /slučaj [čto [koroleva Velikobitanii]
 Lena noticed rumor /event COMP **queen Great.Britain**
 priexala na kone].
 arrived on horse
 ‘Lena noticed a rumor/an event that the queen of Great Britain arrived on a horse.’

Examples (112) and (113) show that in both Buryat and Russian, despite the differences in morphology, *de dicto* predicates can occur in Cont-CPs but not in Sit-CPs.

- (112) a. [xada dɛ:rɛ ɛnɛ xoni-d jama:-nu:d bai-ga: g-ɔ:šɔ] buru:
 mountain on this sheep-PL goat-PL be-PST SAY-PART wrong
 zuga: Badma han-a:
 talk Badma think-PST
 ‘Badma recalled a mistaken opinion that the sheep on this mountain were goats.’
- b. #[xada dɛ:rɛ ɛnɛ xoni-d-oi jama:-nu:d bai-g-a:ša] ušar Badma
 mountain on this sheep-PL-GEN goat-PL be-PART event Badma
 han-a:
 think-PST
 Intended: ‘Badma recalled an event that the sheep on this mountain were goats.’
- (113) a. Andreja pozabavilo (ošibočnoe) mnenie, [čto [ovcy na ètoj
 Andrej amused (mistaken) opinion COMP sheep on this
 gore] — èto kozy].
 mountain COP goats
 ‘A (mistaken) opinion that the sheep on this mountain are goats amused Andrej.’

- b. #Andreja pozabavila situacija, [čto [ovcy na ètoj gore] — èto
 Andrej amused situation COMP sheep on this mountain COP
 kozy].
 goats
 Intended: ‘A situation that the sheep on this mountain are goats amused
 Andrej.’

Thus, the same differences in meaning that we observed in Korean are found in other languages as well. Moreover, there is evidence that in other languages embedded clauses that combine with nouns are their modifiers as well. They are also optional in Buryat, English, and Russian, their interpretation is the same across different environments, and we observe distributional and ordering effects suggestive of their status as modifiers. For example, Russian has a noun *aspekt* ‘aspect’, which does take an individual whose aspect is talked about as an argument expressed by a genitive DP, and thus allows us to apply the ordering heuristic, (114)-(115).

- (114) Tot aspekt [ètoj gipotezy], [čto trivial’nost’ možet privodit’ k
 this aspect this hypothesis.GEN COMP triviality can lead to
 negrammaticnosti], mne očen’ nravilsja.
 ungrammaticality I.DAT very liked
 ‘I liked a lot the aspect of this hypothesis, which was that triviality can lead
 to ungrammaticality.’
- (115) *Tot aspekt, [čto trivial’nost’ možet privodit’ k negrammaticnosti],
 this aspect COMP triviality can lead to ungrammaticality
 [ètoj gipotezy] mne očen’ nravilsja.
 this hypothesis.GEN I.DAT very liked
 Intended: ‘I liked a lot the aspect of this hypothesis, which was that triviality
 can lead to ungrammaticality.’

Note that in (114)-(115) the *čto*-clause can be understood as modifying the noun *aspekt* ‘aspect’ in addition to the irrelevant parse where it describes the content of the whole hypothesis. And we see that this CP must combine with this noun *after* it has composed with the genitive DP, suggesting that the *čto*-clause is a modifier of this noun.

If Cont-CPs and Sit-CPs are modifiers of nouns, and sentence with them differ in the presence vs. absence of displacement, then we again arrive at the conclusion that displacement must be contributed by the embedded clause even in these languages where these CPs look alike. This forces us to postulate some morphological process that would account for the identical appearance of Cont-CPs and Sit-CPs. One option is to say that the Cont head in these languages has null exponence. An alternative solution could say that elements like *that* and *čto* lexicalize *spans* (Ramchand, 2018; Svenonius, 2012, 2016) <Comp, Cont>, and so they will be able to expone Comp in the structure of Sit-CPs and both Comp and Cont at once in the structure of Cont-CPs.

5 Beyond nouns: Sit-CPs and Cont-CPs with verbs

The distinction between Cont-CPs and Sit-CPs that we observed with nouns leads to the question of whether we find the same two kinds of clauses combining with verbs. I would like to suggest a positive answer to this question.

It has been argued that with verbs, clauses can combine both as arguments, as well as modifiers (Bondarenko 2020, Özyıldız 2020, Roberts 2020, Bochnak and Hanink 2021, Bondarenko 2021, Özyıldız and Uegaki ms.). When clauses are arguments they often occur with overt nominalization and fulfill the same role in the argument structure as DPs do when they combine with the verb, clauses that behave like modifiers with verbs always seem to describe the propositional content associated with the eventuality described by the verb (see chapter 4 in Bondarenko 2022).

Following previous literature (Bogal-Allbritten and Moulton 2018; M.-J. Kim 2019; S.-S. Kim 2011; Shim and Ihsane 2015), I take Korean *kes*-clauses to be nominalized clauses that are arguments of verbs. If *kes* is considered to be an actual noun (as opposed to e.g. a determiner), then this case is just another case of complementation to nouns. But even if we treat *kes* as a determiner (see Bogal-Allbritten et al. 2024), what is important is that we see the same phenomenon of the presence of *-ta* in the embedded clause correlating with the presence of displacement: cf. (116) and (117). Consider the simplified truth-conditions for the sentences in (116a) and (117a) in (118), where I disregard the definiteness that *kes* introduces (see M.-J. Kim 2019, Bogal-Allbritten and Moulton 2018, Bogal-Allbritten et al. 2024 for discussion) and use existential quantification instead.

- (116) *Opacity with Cont-CPs*: from {(a), (b)} \nRightarrow (c)
- a. Swuna-ka [hoysa-ka hyepsang-ul ha-l
Swuna-NOM **company-NOM** negotiation-ACC do-FUT.ADN
cwunpi-ka toy-ess-**ta**-nun kes-ul] kuncengcek-ulo
preparation-NOM become-PST-**DECL**-ADN thing-ACC positive-as
haysekha-yess-ta.
interpret-PST-DECL
'S. interpreted that the company is ready for negotiations as good.'
- b. I hoysa-ka kacang khun sekyuhoysa-i-ta.
this company-NOM most large oil.company-COP-DECL
'This company is the biggest oil company.'
- c. Swuna-ka [kacang khun sekyuhoysa-ka hyepsang-ul
Swuna-NOM **most large oil.company-NOM** negotiation-ACC
ha-l cwunpi-ka toy-ess-**ta**-nun
do-FUT.ADN preparation-NOM become-PST-**DECL**-ADN
kes-ul] kuncengcek-ulo haysekha-yess-ta.
thing-ACC positive-as interpret-PST-DECL
'Swuna interpreted that the largest oil company is ready for negotiations
as good.'

- (117) *Transparency with Sit-CPs: from {(a), (b)} ⇒ (c)*
- a. Swuna-ka [hoysa-ka hyepsang-ul ha-l
Swuna-NOM **company-NOM** negotiation-ACC do-FUT.ADN
cwunpi-ka toy-nun kes-ul] kuncengcek-ulo
preparation-NOM become-ADN thing-ACC positive-as
haysekha-yess-ta.
interpret-PST-DECL
'Swuna interpreted that the company is ready for negotiations as a good thing.'
- b. I hoysa-ka kacang khun sekyuhoysa-i-ta.
this company-NOM most large oil.company-COP-DECL
'This company is the biggest oil company.'
- c. Swuna-ka [kacang khun sekyuhoysa-ka hyepsang-ul
Swuna-NOM **most large oil.company-NOM** negotiation-ACC
ha-l cwunpi-ka toy-nun kes-ul] kuncengcek-ulo
do-FUT.ADN preparation-NOM become-ADN thing-ACC positive-as
haysekha-yess-ta.
interpret-PST-DECL
'Swuna interpreted that the largest oil company is ready for negotiations as a good thing.'
- (118) a. $\llbracket \text{Swuna interpreted that the company is ready for negotiations as good} \rrbracket^{s,g}$
in (116a) (Cont-CP) = 1 iff
 $\exists s' \Vdash_e \text{interpret}_s(s') \wedge \text{AGENT}(s') = \text{Swuna} \wedge \exists x[\text{THEME}(s') = x \wedge x \sqsubseteq s$
 $\wedge \Vdash_e \text{CONT}(x) = \{s'' : \iota y(y \text{ is the unique company in } s'') \text{ is ready for}$
 $\text{negotiations in } s''\} \wedge \text{EVAL}(s')(x) = \text{positive}]$
- b. $\llbracket \text{Swuna interpreted that the company is ready for negotiations as good} \rrbracket^{s,g}$
in (116a) (Sit-CP) = 1 iff
 $\exists s' \Vdash_e \text{interpret}_s(s') \wedge \text{AGENT}(s') = \text{Swuna} \wedge \exists x[\text{THEME}(s') = x \wedge$
 $x \sqsubseteq s \wedge x \Vdash_e \{s'' : \iota y(y \text{ is the unique company in } s'') \text{ is ready for}$
 $\text{negotiations in } s''\} \wedge \text{EVAL}(s')(x) = \text{positive}]$

Both sentences state that Swuna interpreted some individual x which is part of the situation of evaluation. In the case of Cont-CPs, x is an individual in s with propositional content (like a *claim*, *opinion*) and its content is a set of situations such that the unique company in them is ready for negotiations. Notice that *the company* in this case is not interpreted with respect to the situation of evaluation s . In the case of Sit-CPs, x is an individual in s that is an exemplifying situation of the unique company being ready for negotiations. The fact that x is part of s means that *the company* will also be interpreted with respect to s , resulting in the transparent reading.

I propose that the other complementation strategy available in Korean—clauses with the complementizer *ko*, represent the modificational path of composing with verbs. These clauses seem to always describe propositional content and never play the same role in the argument structure as DP and nominalized arguments of verbs. For example, consider the contrast between (119) and (120).

- (119) Mina-nun [talamcuy-ka ttangkhong-ul mek-ess-ta-**ko**]
 Mina-TOP squirrel-NOM peanut-ACC eat-PST-DECL-COMP
 sayngkakha-n-ta.
 think-PRS-DECL
 ✓ ‘Mina thinks that the squirrel ate the peanuts.’
 ✗ ‘Mina thinks about the fact that the squirrel ate the peanuts.’
- (120) ?Mina-nun [talamcuy-ka ttangkhong-ul mek-ess-ta-nun /mek-un
 Mina-TOP squirrel-NOM peanut-ACC eat-PST-DECL-ADN /eat-ADN
kes-ul] sayngkakha-n-ta.
thing-ACC think-PRS-DECL
 ✓ ‘Mina thinks about the fact that the squirrel ate the peanuts.’
 (*the sentence doesn’t tell us what Mina’s thoughts on the matter are*)
 ✗ ‘Mina thinks that the squirrel ate the peanuts.’
 (*Mina’s thoughts are “The squirrel ate the peanuts”*)

We see that when *sayngkakha*- ‘think’ combines with a bare CP with the complementizer *-ko*, the clause must describe the content of Mina’s thoughts. When the same verb combines with a nominalized clause, the result is slightly degraded, but the interpretation is clearly different: the clause describes *what Mina thought about*, not the content of her thoughts. Since modifier-type CPs cannot function as ABOUT-arguments of verbs in other languages too (see section 4.4.3 in Bondarenko 2022), it seems like a plausible hypothesis that *ko*-clauses are verbal modifiers.³²

With verbs like *sayngkakha* ‘think’ that describe events with propositional content, the presence of the declarative marker *-ta* is obligatory in *ko*-clauses, (121). This follows from my analysis of Cont-CPs and Sit-CPs. Consider the denotations in (122a)-(122b), in which the previously proposed meanings for Cont-CPs and Sit-CPs combine as modifiers of the eventuality argument of *think*.

- (121) Mina-nun [talamcuy-ka ttangkhong-ul mek-ess-*(ta)-ko]
 Mina-TOP squirrel-NOM peanut-ACC eat-PST-DECL-COMP
 sayngkakha-n-ta.
 think-PRS-DECL
 ‘Mina thinks that the squirrel ate the peanut.’
- (122) a. $\llbracket \text{Mina thinks that the squirrel ate the peanuts} \rrbracket^{s,g}$ (*Cont-CP, possible*)
 = 1 iff $\exists s' [\llbracket_e \text{think}_s(s') \rrbracket \wedge \text{EXP}(s') = \text{Mina} \wedge \llbracket_e \text{CONT}(s') \rrbracket = \{s'' : \text{the squirrel ate the peanut in } s''\}]$
- b. $\llbracket \text{Mina thinks that the squirrel ate the peanuts} \rrbracket^{s,g}$ (*Sit-CP, impossible*)
 = 1 iff $\exists s' [\llbracket_e \text{think}_s(s') \rrbracket \wedge \text{EXP}(s') = \text{Mina} \wedge s' \Vdash_e \{s'' : \text{the squirrel ate the peanut in } s''\}]$

What (122a) says about the thinking situation *s* is that it exemplifies an individual with content “*The squirrel ate the peanut*”. This seems like an overall plausible meaning, and one in which the embedded clause is a referentially opaque context. The exemplification relation will add the restriction on the proper subparts of the thinking

³²See also discussion of root properties of *ko*-clauses in Yoon 2017.

eventuality: either all of them must also have the content “*The squirrel ate the peanut*” or none of them. On the other hand the meaning we would get if the embedded clause was a Sit-CP is deviant: (122b) says that the situation of thinking that Mina is in exemplifies the proposition “*The squirrel ate the peanut*”. This can never be true: if some situation contains the squirrel eating the peanut and nothing else, then it will not include Mina and her thinking. Thus, I suggest that omitting the *-ta* marker in (121) is ungrammatical because the meaning without the ContP will always be false.

While the impossibility of *-ko* clauses without *-ta* under verbs like ‘think’ is expected under my proposal, as they describe eventualities with propositional content, we might wonder if there are verbs that are counterparts of situation nouns—verbs that describe situations/events/occurrences, and whether Sit-CPs would be possible verbal modifiers with such verbs. I have not been able to find such verbs in Korean³³, but there are verbs in Russian which might fall into this class. Russian verbs *byvat* ‘happen’, *slučat’sja* ‘occur’, *proisxodit* ‘take place’ seem to be able to combine with clauses as modifiers: evidence for this comes from the possibility of an adverbial expression *tak* ‘so’ occurring on top of the CP, which also can be used as a proform for clauses occurring with these verbs, (123), but cannot be a proform for nominalized clauses.

- (123) a. Byvalo **tak**, [čto my podolgu drug druga smešili]. <Link>
 happened **so** COMP we long.time each other made.laugh
 ‘It used to happen so that we made each other laugh for a long time.’
 b. Byvalo (i) **tak**.
 happened (also) **so**
 ‘This used to happen (also).’ (lit. ‘happened in this way also’)
- (124) # Byvaet /slučilos’ /proizošlo (tak) čto ovcy èto kozy.
 happens /occured /took.place (so) COMP sheep COP goats
 Intended: ‘It happens/occurred/took place that sheep are goats.’

So it seems that in addition to Sit-CPs and Cont-CPs as arguments to verbs and Cont-CPs as verbal modifiers, there might be some lexically “light” verbs like ‘occur’ that permit Sit-CPs as modifiers, though this issue requires some further investigation.

6 Conclusions

Focusing on the data from Korean embedded clauses that combine with nouns, in this paper I argued that the source of displacement in semantics of clausal embedding is within the embedded clause. I proposed two meanings for CPs: some clauses introduce displacement and describe propositional content associated with individuals (Cont-CPs), whereas others describe situations (Sit-CPs). I suggested that this distinction is found in other languages too, and that it is relevant for clauses that combine with verbs as well. Here are few of the many questions that remain open.

First, there is an empirical question of whether the predictions about the exemplification relation in the meaning of Cont-CPs that my proposal makes are borne out.

³³For example, the verb *ilena* ‘occur’ indeed does not take *-ta-ko* clauses, but it also doesn’t take *-ko* clauses without the declarative marker—it seems that it requires a nominal argument.

Recall that it puts a restriction on how the content of an individual is related to the content of its proper parts—requires that they either all have the same content as this individual or all differ from the content of the individual. It would be interesting to see if we can empirically test this, and what other conditions on the mereological relations between contentful individuals and their parts we might want to impose (see [Özyıldız 2021](#) and [Bondarenko and Elliott ms.](#) for some discussion).

Second, while we have seen that clauses describing propositional content and clauses describing situations are modifiers of content and situation nouns respectively, there is still a question of whether some clauses can be true arguments of nouns, what kinds of meanings they can have, and whether the nouns they combine with are derived from verbs and thus inherit their argument structure. These questions are also relevant for understanding of question embedding. For example, consider Korean noun *kiek* ‘memory’: only declarative clauses are possible as modifiers of the noun describing the content of the memory, (125a)-(125b), but interrogative clauses seem to be able to combine as nominalized genitive arguments describing the thing being remembered, (125c). Does this noun preserve the argument structure from the verb *kiekhay* ‘remember’, or project its own argument? What are the restrictions on such argument CPs?

- (125) a. [Juni-ka sihem-ul thongkwaha-yess-**ta**-nun] kiek-i
 Juni-NOM exam-ACC pass-PST-**DECL**-ADN memory-NOM
 Mina-eykey hungmilop-ta.
 Mina-DAT interesting-DECL
 ‘The memory with content “Juni passed the exam” is interesting to Mina.’
- b. *[Enu haksayng-tul-i sihem-ul thongkwaha-yess-**nya**-nun]
 which student-PL-NOM exam-ACC pass-PST-**Q**-ADN
 kiek-i Mina-eykey hungmilop-ta.
 memory-NOM Mina-DAT interesting-DECL
 Intended: ‘The memory of which students passed the exam is interesting to Mina.’ (*not possible under any interpretation*)
- c. [[Enu haksayng-tul-i sihem-ul thongkwaha-yess-**nya**-nun]
 which student-PL-NOM exam-ACC pass-PST-**Q**-ADN
kes-uy] kiek-i Mina-eykey hungmilop-ta.
thing-GEN memory-NOM Mina-DAT interesting-DECL
 ‘The memory of which students passed the exam is interesting to Mina.’

Finally, I argued that the semantic difference between Sit-CPs and Cont-CPs is related to a difference in their syntax: presence of ContP. This raises questions about whether there are observable syntactic effects stemming from this difference: e.g., does ContP affect extraction out of CPs? A recent presentation by [Wang \(2024\)](#) suggests that in English availability of QR depends on whether *that*-clause denotes a predicate of events (QR is possible) or predicates of contentful individuals (QR is banned). It would be interesting to see if there are other effects of this sort cross-linguistically.

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