

Three Types of *Kes*-Nominalization in Korean*

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1 Introduction

In Korean, the Internally Headed Relative Clause Construction (IHRC), illustrated in (1), the Direct Perception Construction (DPC), illustrated in (2), and the factive Propositional Attitude Construction (PAC), illustrated in (3), appear to have an identical syntactic structure: the complements of the verbs consist of clausal material and the grammatical element *kes* (Kim 1984, Jhang 1994, Chung 1999, Chung and Kim 2003).

(1) John-un [totwuk-i tomangka-nun kes]-ul **cap-ess-ta**
J.-TOP [thief-NOM run.away-REL.IMPRF kes]-ACC **catch-PST-DECL**
'John caught the thief running away.'

(2) John-un [totwuk-i tomangka-nun kes]-ul **po-ess-ta**
J.-TOP [thief-NOM run.away-REL.IMPRF kes]-ACC **see-PST-DECL**
'John saw the event of the thief running away.'

(3) John-un [totwuk-i tomangka-nun kes]-ul **al-ess-ta**
J.-TOP [thief-NOM run.away-REL.IMPRF kes]-ACC **know-PST-DECL**
'John knew that the thief was running away.'

Though these constructions look alike, they differ fundamentally in their interpretations. In the IHRC, the complement denotes an entity, in the DPC it denotes an eventuality, and in the factive PAC it denotes a fact. These differences trace back to the semantics of the embedding predicates, which we can therefore isolate as a defining property of each construction.

In this paper, I investigate how these three constructions are similar and how they are dissimilar. I seek to establish that the factive PAC differs sharply from the other two *kes*-constructions and that there is also a subtle difference between the two constructions as well.

I propose that the three constructions behave differently because they describe different semantic relations: the factive PAC describes a part-whole relation between two sets of worlds, whereas the IHRC and the DPC describe relations between two sets of eventualities. But the IHRC and the DPC also differ in that

while the former describes an intersection relation, the latter describes a part-whole relation between two sets of eventualities.

This paper proceeds as follows: Section 2 discusses how the three constructions differ from each other. Section 3 develops an account of these differences. Section 4 summarizes and concludes the paper.

2. Comparison of the three *kes*-constructions

In this section, I show that the factive PAC differs from the IHRC and the DPC in at least two aspects. In addition, I show that although the IHRC and the DPC seem to pattern together, they are not exactly alike.

2.1 Presuppositionality

The factive PAC differs from the other two constructions in that it presupposes that the complement clause denotes a fact, i.e., a proposition that is believed to be true in the actual world by the speaker (Peterson 1997: 68-74).¹

2.1.1 The factivity of the PAC

Support for the factivity of the PAC comes from the fact that the presuppositions triggered by the complement clause are inherited through the presupposition ‘holes’ in the sense of Karttunen (1973): even in negative, interrogative or counterfactual contexts, the denotation of a factive complement is presupposed to be true in the actual world. To illustrate, consider (4-6).

- (4) John-un [Mary-ka o-n kes]-ul **molu-n-ta**
 J.-TOP [M.-NOM come-REL.PRF kes]-ACC **not.know-IMPRF-DECL**
 ‘John doesn’t know that Mary came.’
- (5) John-un [Mary-ka o-n kes]-ul **a-ni**
 J.-TOP [M.-NOM come-REL.PRF kes]-ACC **know-Q**
 ‘Does John know that Mary came?’
- (6) Manil John_i-i ku cenhwa-lul **pat-ess-ta-meyn,**
 if J.-NOM the phone.call-ACC **receive-PST-IND-COND,**
 pro_i [Mary-ka o-n kes]-ul **al-then-tey**
 [M.-NOM come-REL.PRF kes]-ACC **know-MOD-DECL**
 ‘If John had received the phone call, he would know that Mary came.’

These sentences entail that Mary actually came and the speaker knows that, though the subject may not.

It seems that the factive nature of the PAC stems from the semantics of the verbs that occur in this construction; they are intrinsically factive with respect to direct object position (e.g., *hwuhoyha-* ‘regret’, *nukki-* ‘feel/sense’, *nwunchichay-* ‘notice’, *kkaytat-* ‘realize’, *palkyenha-* ‘discover’, *alkess-* ‘come to realize’). This is illustrated in (7-8).

(7) John_i-un [yeca-ka Bill-ul salangha-nun kes]-ul
 J.-TOP [woman-NOM B.-ACC love-REL.IMPRF kes]-ACC
 kkaytal-ess-ta
 realize-PST-DECL
 ‘John realized that the woman was in love with Bill.’

(8) John_i-un [pro_i yeca-lul top-ci an-un kes]-ul
 J.-TOP [] woman-ACC help-CI NEG-REL.PRF kes]-ACC
 hwuhoyha-ess-ta
 regret-PST-DECL
 ‘John regretted that he (= John) didn’t help the woman.’

The above two sentences presuppose that some contextually salient woman was actually in love with Bill and that John actually did not help some contextually salient woman, respectively.

Note, however, that even verbs like *mit-* ‘believe’, which are inherently non-factive (Karttunen 1973, Heim 1992), can also embed *kes*-clauses. But when they do, the complement’s meaning is presumed to be true not just in the subject’s belief worlds, but also in the speaker’s knowledge worlds. Compare (9) and (10).

(9) Kallilio-nun [cikwu-ka twungkul-n kes]-ul mit-ess-ta
 Galileo-TOP [earth-NOM round-REL kes]-ACC believe-PST-DECL
 ‘Galileo believed that the Earth was round.’

(10)#Mary-nun [cikwu-ka phyengphyengha-n kes]-ul mit-ess-ta
 M.-TOP [earth-NOM flat-REL kes]-ACC believe-PST-DECL
 ‘Mary believed that the Earth was flat.’

Sentence (9) is felicitous because the complement’s denotation is true in the speaker knowledge worlds; sentence (10) is infelicitous because though the complement’s denotation is true in the subject’s belief worlds, it is not in the speaker’s knowledge worlds.²

Since the complement of (10) does not denote a fact, in order to make it felicitous, a different complementation strategy than the *kes*-complementation must be used, namely, the *ko*-complementation, as shown in (11). Notice that

ko-clauses typically occur under non-factive verbs such as *malha*- ‘say’ or *sayngkakha*- ‘think’, as shown in (12).

- (11) Mary-nun [cikwu-ka phyengphyengha-ta-ko] **mit-ess-ta**
 M.-TOP [earth-NOM flat-IND-COMP] **believe-PST-DECL**
 ‘Mary believed that the Earth was flat.’
- (12) Mary-nun [cikwu-ka phyengphyengha-ta-ko] **malhay-ess-ta**
 M.-TOP [earth-NOM flat-IND-COMP] **say-PST-DECL**
 ‘Mary said that the Earth was flat.’

These facts show that when a *kes*-clause is selected by a propositional attitude verb, it must denote a fact. This suggests that the factivity of the PAC results not only from the semantics of the embedding verb but also from the semantics of *kes* whatever it is.³

2.1.2 The non-factivity of the IHRC and the DPC

The IHRC and the DPC differ from the factive PAC in a rather intricate way. At first glance, the IHRC and the DPC seem to be factive; the presuppositions triggered by the complements are also preserved in negative, interrogative, or counterfactual contexts, as shown in (13-15) and in (16-18).

- (13) John-un [totwuk-i tomangka-nun kes]-ul **cap-ci**
 J.-TOP [thief-NOM run.away-REL.IMPRF kes]-ACC **catch-CI**
an-h-ess-ta
 NEG-DO-PST-DECL
 ‘John didn’t catch the thief running away.’
- (14) John-i [totwuk-i tomangka-nun kes]-ul **cap-ess-ni**
 J.-NOM [thief-NOM run.away-REL.IMPRF kes]-ACC **catch-PST-Q**
 ‘Did John catch the thief running away?’
- (15) Manil John_i-i ku ttay cip-ey **iss-ess-ta-meyn,**
 if J.-NOM that time home-LOC **exist-PST-IND-COND,**
 pro_i [totwuk-i tomangka-nun kes]-ul **cap-ess-ulthen-tey**
 [thief-NOM run.away-REL.IMPRF kes]-ACC **catch-PST-MOD-DECL**
 ‘If John had been home at that time, he would have caught the thief running away.’

- (16) John-un [totwuk-i tomangka-nun kes]-ul **po-ci**
 J.-TOP [thief-NOM run.away-REL.IMPRF kes]-ACC **see-CI**
an-h-ess-ta
 NEG-DO-PST-DECL
 ‘John didn’t see the event of the thief running away.’
- (17) John-i [totwuk-i tomangka-nun kes]-ul **po-ess-ni**
 J.-NOM [thief-NOM run.away-REL.PRF kes]-ACC **see-PST-Q**
 ‘Did John see the event of the thief running away?’
- (18) Manil John_i-i ku ttay cip-ey **iss-ess-ta-meyn,**
 if J.-NOM that time home-LOC **exist-PST-IND-COND,**
 pro_i [totwuk-i tomangka-nun kes]-ul **po-ess-ulthen-tey**
 [thief-NOM run.away-REL.PRF kes]-ACC **see-PST-MOD-DECL**
 ‘If John had been home at that time, he would have seen the event of the thief running away.’

These sentences seem to presuppose that the event of the thief running away actually happened.

In addition, the denotation of an IHRC complement seems extensional even when it occurs in opaque contexts, such as under intensional verbs, as shown in (19), or under modals, as shown in (20).

- (19) John-un [Mary-ka ppang-ul mantu-n kes]-ul
 J.-TOP [M.-NOM bread-ACC make-REL.PRF kes]-ACC
chac-ko iss-ta
look.for-COMP COP-DECL
 ‘John is looking for the bread, which Mary made.’
- (20) John-un [Mary-ka ppang-ul mantu-n kes]-ul
 J.-TOP [M.-NOM bread-ACC make-REL.PRF kes]-ACC
mek-eya ha-n-ta
eat-COMP do-PRST-DECL
 ‘John must eat the bread, which Mary made.’

These sentences presuppose that the event of Mary’s bread making actually happened and as a result the bread existed at the time of the matrix event. Hence if they are followed by the speaker’s denial of the existence of the embedded event, the discourse becomes contradictory, as shown in (21-22).⁴

(21) John-un [Mary-ka ppang-ul mantu-n kes]-ul
 J.-TOP [M.-NOM bread-ACC make-REL.PRF kes]-ACC
 chac-ko iss-ta
 look.for-COMP COP-DECL
 ‘John is looking for the bread, which Mary made.’

Kulentay, Mary-ka ppang-ul **mantul-ci an-h-ess-ta**
 But, M.-NOM bread-ACC **make-CI NEG-DO-PST-DECL**
 ‘But, in fact, Mary didn’t make bread.’

(22) John-un [Mary-ka ppang-ul mantu-n kes]-ul
 J.-TOP [M.-NOM bread-ACC make-REL.PRF kes]-ACC
mek-eya ha-n-ta
eat-COMP do-PRST-DECL
 ‘John must eat the bread, which Mary made.’

#Kulentay, Mary-ka ppang-ul **mantul-ci an-h-ess-ta**
 But, M.-NOM bread-ACC **make-CI NEG-DO-PST-DECL**
 ‘But, in fact, Mary didn’t make bread.’

Despite these facts, there are reasons to believe that the IHRC and the DPC differ from the factive PAC in terms of presuppositionality.

First, the DPC can have an intensional verb like *sangsangha-* ‘imagine’ or *kkumkku-* ‘dream’ as its embedding predicate, as shown in (23). In this case, the sentence does not presuppose that the denotation of the embedded *kes*-clause exists in the actual world; the complement denotes an eventuality that exists in the subject’s imaginary worlds.⁵

(23) John-un [Mary-ka ppang-ul mantu-nun kes]-ul
 J.-TOP [M.-NOM bread-ACC make-REL.IMPRF kes]-ACC
sangsangha-ess-ta
imagine-PST-DECL
 ‘John imagined Mary making bread.’

Second, the IHRC and the DPC contrast sharply with the factive PAC when they are embedded under intensional verbs such as *sangsangha-* ‘imagine’ or *kkumkku-* ‘dream’. Compare (24-25) with (26).

(24) John-un [Bill-i [Mary-ka ppang-ul mantu-nun kes]-ul
 J.-TOP [B.-NOM [M.-NOM bread-ACC make-REL.IMPRF kes]-ACC
mek-nun kes]-ul sangsangha-ess-ta
eat-REL.IMPRF kes]-ACC imagine- PST-DECL
 ‘John imagined that Mary was making bread and Bill was eating it.’

- (25) John-un [Bill-i [Mary-ka ppang-ul mantu-nun kes]-ul
 J.-TOP [B.-NOM [M.-NOM bread-ACC make-REL.IMPRF kes]-ACC
ciki-e po-nun kes]-ul sangsangha-ess-ta
watch-COMP see-REL.IMPRF kes]-ACC imagine-PST-DECL
 ‘John imagined that Mary was making bread and Bill was watching it.’
- (26) John-un [Bill-i [Mary-ka ppang-ul mantu-nun kes]-ul
 J.-TOP [B.-NOM [M.-NOM bread-ACC make-REL.IMPRF kes]-ACC
nwunchichay-nun kes]-ul sangsangha-ess-ta
notice-REL.IMPRF kes]-ACC imagine-PST-DECL
 ‘John imagined that Mary was making bread and Bill was noticing it.’

What is striking about these paradigms is that unlike (24) and (25), (26) presupposes the truth of the embedded *kes*-clause even in intensional contexts. That is, it entails that Mary was making bread in the actual world at the topic time though Bill did not notice it. This shows that unlike IHRC and DPC complements, a factive complement takes the widest scope in the sentence, regardless of the semantic environments in which it occurs.

2.2 Temporal restriction

This section is concerned with how the three constructions differ from each other with regard to temporal restrictions on the complements.

To begin with the difference between the factive PAC and the IHRC/the DPC, while the complement of the factive PAC can describe an event which is temporally later than the matrix event, as shown in (27), the complement of the IHRC or that of the DPC cannot, as shown in (28-29).

- (27) John-un [Mary-ka ppang-ul **mantu-l kes]-ul
 J.-TOP [M.-NOM bread-ACC **make-REL.FUT kes]-ACC**
al-ess-ta
know-PST-DECL
 ‘John knew that Mary would be making bread.’**
- (28)*John-un [Mary-ka ppang-ul **mantu-l kes]-ul
 J.-TOP [M.-NOM bread-ACC **make-REL.FUT kes]-ACC**
mek-ess-ta
eat-PST-DECL
 Intended: ‘John ate the bread that Mary would be making.’**

- (29)*John-un [Mary-ka ppang-ul **mantu-l kes**]-ul
 J.-TOP [M.-NOM bread-ACC **make-REL.FUT kes**]-ACC
po-ess-ta
see-PST-DECL
 Intended: ‘John saw the future event of Mary making bread.’

Given our discussions thus far, it may appear that the IHRC and the DPC are exactly alike except that the complements have different interpretations—entity-denoting vs. eventuality-denoting. There is however a subtle difference between the two constructions with respect to the temporal restrictions.

In the IHRC, the complement can describe an event which is either temporally adjacent to the matrix event or simultaneous with it, as shown in (30).⁶ In (30a), the complement clause describes a complex event which consists of the process of the thief coming out of the room and the resultant state in which the thief had just come out of the room. What this means is that the event of John catching the thief temporally coincides with the resultant state of the embedded event, but not with the process. On the other hand, in (30b), the embedded event consists only of the process of the thief coming out of the room and hence the entire embedded event bears the same temporal index as the matrix event.

- (30) a. John-un [totwuk-i pang-eyse nao-**n** kes]-ul
 J.-TOP [thief-NOM room-from come.out-REL.PRF kes]-ACC
capesta
caught
 ‘The thief came out the room and John caught him.’
- b. John-un [totwuk-i pang-eyse nao-**nun** kes]-ul
 J.-TOP [thief-NOM room-from come.out-REL.IMPRF kes]-ACC
capesta
caught
 ‘The thief was coming out of the room and John caught him.’

In the DPC, however, the event described by the complement can only be coterminous with the matrix event, as shown in (31).⁷

- (31) a. *John-un [totwuk-i pang-eyse nao-**n** kes]-ul
 J.-TOP [thief-NOM room-from come.out-REL.PRF kes]-ACC
tulessta
heard
 ‘The thief came out the room and John heard it (= the sound of the thief coming out of the room).’

- b. John-un [totwuk-i pang-eyse nao-**nun** kes]-ul
 J.-TOP [thief-NOM room-from come.out-REL.IMPRF kes]-ACC
tulessta
heard
 ‘The thief was coming out of the room and John heard it.’

3 Why the differences?

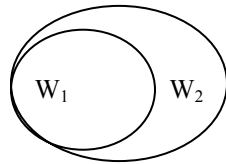
I argue that the differences among the three constructions arise because the semantic relations they describe differ from each other.

3.1 Proposal

I propose that the factive PAC differs from the IHRC and the DPC because its semantics involves connecting two sets of worlds while the semantics of the other two constructions involves connecting two sets of eventualities. But the IHRC and the DPC also differ in that the former describes an intersection relation between two sets of eventualities whereas the latter describes an inclusion relation.

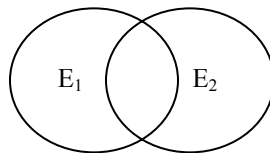
This idea is spelled out as follows: as we have seen above, the factive PAC presupposes that the denotation of the complement is true in the speaker’s knowledge worlds. What this means is that if the complement denotes a set of possible worlds (W_1), then it must be included in the speaker’s knowledge worlds (W_2), as depicted in (32).

(32)



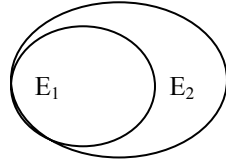
In the case of the IHRC, its semantics involves intersecting two sets of eventualities, where the set of eventualities denoted by the complement clause (E_1) intersects with the set of eventualities denoted by the embedding clause (E_2), as represented in (33).

(33)



On the other hand, in the DPC, the set of eventualities denoted by the complement clause (E_1) is included in the set of eventualities denoted by the embedding clause (E_2). That is, the two sets of events stand in a part-whole relation, as described in (34).

(34)



The basis for this proposal comes from the following sources. First, there is reason to believe that a factive complement has a full-blown syntactic structure, whereas IHRC and DPC complements have a truncated structure: a factive complement can contain the indicative mood marker *-ta*, as shown in (35), but IHRC and DPC complements cannot, as shown in (36-37).

(35) John-un [Mary-ka ppang-ul mantu-n-**ta**-nun **kes**]-ul
 J.-TOP [M.-NOM bread-ACC make-IMPRF-IND-REL **kes**]-ACC
al-ess-ta
know-PST-DECL
 ‘John knew that Mary was making bread.’

(36)*John-un [Mary-ka ppang-ul mantu-n-**ta**-nun **kes**]-ul
 J.-TOP [M.-NOM bread-ACC make-IMPRF-IND-REL **kes**]-ACC
mek-ess-ta
eat-PST-DECL
 Intended: ‘John ate the bread, which Mary was making.’

(37)*John-un [Mary-ka ppang-ul mantu-n-**ta**-nun **kes**]-ul
 J.-TOP [M.-NOM bread-ACC make-IMPRF-IND-REL **kes**]-ACC
po-ess-ta
see-PST-DECL
 Intended: ‘John saw the event of Mary making bread.’

Second, it has been noted that the IHRC instantiates athetic judgment as opposed to a categorical judgment (e.g., Kuroda 1992, Matsuda 2002, Park 1998).⁸ von Stechow (1989) claims thatthetic judgments are structurally smaller than full clauses on the grounds that they contain only the nuclear scope, which is the second argument of the quantifier in the tripartite logical structure of Heim (1982). According to Diesing (1992), material inside the nuclear scope maps onto VP or a projection that is lower than Tense Phrase. Hence it is highly

plausible that the structure of athetic construction like the IHRC is smaller than a full clause structure.

Third, cross-linguistic studies show that DPCs in other languages have truncated syntactic structures (e.g., Guasti 1993, Horie 1993, Felser 1998, Basilico 2002). It is possible to infer from this that the DPC in Korean also has a truncated structure.

3.2 Analysis

Under the present proposal, the complement clauses of the IHRC and the DPC cannot describe future events, as shown in (28-29), because their structures are too small to contain a functional projection that hosts tense, one possibility of which being Tense Phrase (TP).⁹

Why then is it possible for an IHRC complement to describe an event that is anterior to the matrix event, as illustrated in (30a)? I argue that this is because the IHRC projects up to Aspect Phrase, though not to TP. I assume that Aspect Phrase is located below TP because aspect is interpreted lower than tense¹⁰.

But, if both the IHRC and the DPC indeed have truncated syntactic structures, why do they differ with respect to the temporal restrictions on the complements?

This is because they describe different semantic relations. In the IHRC, the complement clause can describe an aspectually complex event, where only the resultant state coincides with the matrix event, as shown in (30a). This is because for the IHRC to be acceptable, it suffices that a part of the embedded event intersects with the matrix event.

In the DPC, on the other hand, every subpart of the embedded event must be included in the matrix event. The reason is that when we directly perceive something, it must be present in the perceiving event (or must at least be felt that way). Hence the perceiving event and the perceived event are bound to be cotemporaneous.

The present proposal also accounts for why the non-factive propositional attitude verb *mit-* 'believe' can take a factive complement, namely, a *kes*-clause, though in the non-factive PAC, it suffices that the complement denotes a set of worlds that are contained in the subject's belief worlds. Under the proposed analysis, what matters is the relation between two sets of worlds, not what kind of set of worlds they are. Hence if the subject's belief worlds happen to match the speaker's knowledge worlds, then even the complement of a non-factive propositional attitude verb should be able to denote a fact.

4. Summary and Conclusion

In this paper I showed that despite their seemingly identical form, the IHRC, the DPC, and the factive PAC differ in various ways. The factive PAC differs from the IHRC and the DPC in that it presupposes the truth of the denotation of the

complement in the actual world, regardless of the semantic contexts in which it occurs; although the IHRC and the DPC behave alike in many ways, the latter is subject to a more rigid temporal constraint than the former. I accounted for the properties of these constructions by proposing that while a factive complement has a full-blown clausal structure, IHRC and DPC complements do not. I further proposed that while the factive PAC describes a part-whole relation between two sets of worlds, the IHRC describes an intersection relation and the DPC describes a part-whole relation between two sets of eventualities. Given the findings of the present analysis, I conclude that the prevailing view that the DPC is a kind of factive PAC (Kim 1984, Jhang 1994, Chung and Kim 2003) cannot be maintained.

Notes

* This paper benefited greatly from discussions with Makoto Kadowaki, Kyle Johnson, Chris Potts, Peggy Speas, and Ellen Woolford. I am especially indebted to Kyle Johnson and Chris Potts for the helpful comments and suggestions on an earlier version of this paper. I also would like to thank the audience at 2003 Harvard-ISOKL for comments and questions, in particular, Hee-rak Chae, Peter Sells, George Touslas, and John Whitman.

¹ See Kratzer 2002 for detailed discussion of the notion of ‘fact.’

² In this paper I do not differentiate between the actual world and the speaker’s knowledge worlds. But, according to Lewis (1986), when someone knows proposition *p*, the actual world is contained in the set of worlds that are ‘epistemically’ accessible to her. Under this view, the actual world is part of the speaker’s knowledge worlds.

³ See Kim 2003 for the semantics of *kes* that can capture this aspect of the factive PAC.

⁴ These discourses can be judged felicitous if the second sentences are uttered by the hearer, since it will only show that the speaker’s presupposition has failed.

⁵ I assume that *sangsangha-* ‘imagine’ is a function which takes the intension of its direct object and maps it onto the eventualities in the subject’s imaginary worlds.

⁶ The same restriction holds for the Japanese IHRC (Kuroda 1992: 148, Fuji 1998).

⁷ This restriction may not hold in some cases. Suppose that there occurs an explosion in the sun. Given the distance between the sun and the earth, we know that it takes a few seconds for us to actually perceive the explosion that occurs in the sun. In this context, if the speaker wants to be as accurate as possible in describing the perceptual experience of humans, then she can say the following sentence (I thank Chris Potts for pointing out this possibility):

-
- (i) John-un [thaiyang-i phokpalha-n kes]-ul sam cho
J.-TOP [sun-NOM explode-REL.PRF kes]-ACC three seconds
hwu-ey tulessta
past-LOC heard
'John heard the sound of the sun exploding three seconds later than it
(actually) happened.'

But we do not always consider this kind of fine-grained aspect of direct perception. Hence in what follows I abstract away from these cases.

⁸ For detailed discussion of thetic vs. categorial judgments, see Ladusaw 2000 and the references therein.

⁹ There is also a semantic reason for this temporal restriction on the IHRC and the DPC: (28) is unacceptable, because it means something like 'John ate the bread, which is to be made by Mary.' Similarly, (29) is ruled out, for one cannot directly perceive an event which has not happened yet (unless she has a supernatural or psychic ability).

¹⁰ Felser (1999) and Guasti (1993) show that the DPCs in English, Romance, and many other Indo-European languages can also contain Aspect Phrase, but not TP.

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