On the argument structure of eventive nominals in Korean

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1. Overview

- An investigation of eventive nominals in Korean challenges the assumption that argument structure is exclusively licensed in the verbal domain
- Exploratory analysis for how AS could be represented in a syntactic model, given this finding
  - Korean nominals suggest that the ability to realize arguments is not inherently domain-specific, pointing us toward functional structure that is not inherently restricted to verbal syntax
- This work aim to communicate with two major areas of theoretical approaches to argument structure: Lexicalist approaches (e.g. Chomsky 1970, Grimshaw 1990, and recently J. Yoon 2022), and structural proposals (e.g Harley 2009, Alexiadou & Rathert 2010), in conversation with a Distributed Morphology (Halle and Marantz 1993) framework that treat nominalizations as a direct component of structure building.

2. Background

2.1 Foundational characterizations of argument structure and lexicalist approaches

Argument structure (AS) as a concept broadly encompasses theoretical approaches to representation of the relationship between an event predicate and its arguments.

- Grimshaw (1990): AS is tied to event denotation. Nominals are split between complex event nominals vs. simple event (result) nominals in terms of their eventive capabilities
- This cut is later re-characterized (though maintaining most of the same generalizations) as AS-nominals vs. R-nominals (Borer 2003)
  1. **AS-nominals** denote events, have argument structure, and take arguments
  2. **R-nominals** lack the possibility of an eventive interpretation, and therefore do not have argument structure, and do not take arguments
- Nominal constructions can therefore be diagnosed for AS by evaluating their compatibility with diagnostics that place them in contexts that only allow eventive interpretation.

Characteristics of AS-nominals vs. R-nominals (Borer 2003)

AS-nominals (have argument structure)	R-nominals (do NOT have argument structure)
- theta-assigners, obligatory arguments **event reading** **agent-oriented modifiers** - subjects are arguments - by phrases are arguments - implicit argument control - aspectual modifiers **frequent. constant, etc. possible without plural** - mass nouns	- non-theta-assigners, no obligatory arguments **no event reading** **no agent-oriented modifiers** - subjects are adjuncts - by phrases are non-arguments - no implicit argument control - no aspectual modifiers **frequent, constant, etc. possible only with plural nouns** - count nouns

Committing to a lexical approach

Lexicalist view of nominalizations: the syntax plays NO role in licensing arguments, nor forming the morphological root+affix. Under lexical approaches, V→N is a lexical operation, not a syntactic one.

- AS is an inherent property of a particular lexical category; nouns inherit the theta grid of the verb they are formed from (in the lexicon). Nouns like *destruction* are created in the lexicon out of *destroy* and *-ion*, but the syntactic derivation itself does not involve verbal projections. (Grimshaw 1990, Chomsky 1970, Lieber 1981, Jackendoff 1875, Aronoff 1976)

Chomsky (1970):

- argues against the transformational account of nominalizations (see Lee 1960)
- a transformational syntactic derivation for nominalizations fails to capture crucial empirical differences between different types of nominalizations
- 'derived nominals' (1), 'mixed nominals' (2), 'gerunds' (3)

(1) a. the army's destruction of the city   (... caused many tragedies.)
     b. Jimin's refusal of the offer   (... had terrible consequences.)
(2) a. the army's destroying (of) the city   (... caused many tragedies.)
     b. Jimin's refusing (of) the offer   (... had terrible consequences.)
(3) a. The army destroying the city   (... caused many tragedies.)
     b. Jimin refusing the offer   (... had terrible consequences.)

- Chomsky (1970) observes gerunds are regular and compositional, but deverbal ones are not - there are a couple different nominalizer affixes that are idiosyncratic by root
- unlike gerunds, deverbal/derived nominals have a fully nominal internal syntax (no adverbs, no accusative case,etc.)
- Iif 'lexical nominalizations' are syntactic, they should be able to operate on the outputs of transformations, but this is not possible
  - A more contemporary understanding of this statement: certainly, the morphological reflex we see on deverbal nominalizations must be attributed to some earlier component (i.e. either a lexical component, or DM style) of the derivation

2.2 Making AS-nominals in the syntax

- Unified syntactic analyses assume that differences between complex event nominals and others are attributable to the height of the structure targeted by the nominalization
- This characterization is helpful for understanding the gradient of the nominalization types discussed by (Chomsky 1970)
- In (1-3), there is some indication of verb-y material that can even be interpreted along a scale of "more to less verb-y".

Alexiadou and Grimshaw (2008) breakdown

(4) a. [**D**   [AspP *-ing*   [VoiceP   [vP   [√   "verbal gerund"
     b. [D   [**n** *-ing*   [VoiceP   [vP   [√   "nominal gerund"
     c. [D   [**n** *-ation*   [vP   [√   "complex event nominal"
     d. [D   [**n** *-ation*   [√   "simple event nominal"

Structural/syntactic view of nominalizations: the split between AS nominals and R nominals is not represented as two independent classes of nouns, but rather as a difference in whether a nominal has an embedded verbal layer or not.
- In this style of analysis arguments/event structure is always projected in the syntax as vP: this proposal asserts that argument-bearing nominals should always be deverbal
- A lot of work has been done in this area for different languages (Engelhardt 1997, 1998, 2000, 2002, i.a.; Hazout 1995; Alexiadou 2001, Alexiadou & Rathert 2010; Fu et al. 2001, Marantz 1997, Kratzer 1996, Harley 2009, and more).
  - This approach works well for English, and for languages such as Greek and Hebrew and others that have very complex nominalization paradigms that show sensitivity to aspectual classification (Kolliakou 1995, Alexiadou 2010a&b)

2.3 The lexical / structural distinction and the stakes

- Under a contemporary syntax of argument licensing/representation of internal and external arguments, we need some amount of functional scaffolding to accurately capture eventive nominals and their argument licensing capabilities
- this is independent of whether there could potentially be a lexicon component at all
- In other words, we could split apart the theoretical tension between lexical and structural accounts in a couple different ways
    1. Are nominalizations created in the lexicon, with some separate morphological operations?
    2. Are ARGUMENTS introduced in the lexicon, with some separate morphological functional operation?
    3. Given the answer to 2 is no, is it the case that the syntactic tool used to add arguments/license argument structure is associated with a single lexical category/domain? (i.e. 'verbal' layers only?) Could a more general dependency be posited that is neutral about the associated lexical category? What would this gain us, empirically and conceptually?
    4. Is it the case that the lexicon NEVER interacts in a meaningful way in the creation of nominalizations, or could we understand the lexicon's role as one of Reanalysis (J. Yoon 2022), for some instances of word formation?

In sum: potential consequences of these theoretical areas in two major areas: 1) Lexicalist vs. structural proposals to *argument structure*; 2) Lexicalist vs. structural proposals to *nominalizations*

3. Nominalizations in Korean

3.1 Sino-Korean "nominalizations"

- There exists a robust class of nouns in Korean that have AS characteristics. Broadly speaking, nouns in this class are always disyllabic, and of Sino-Korean origin.

(5)

kongkyek	'attack'	공격	*haykyel*	'settlement'	해결
chimlyak	'invasion'	침략	*kensel*	'construction'	건설
kyeysan	'calculation'	계산	*pocang*	'guarantee'	보장
kyelceng	'decision'	결정	*insik*	'recognition'	인식
phakoe	'destruction'	파괴	*kyuceng*	'stipulation'	규정
…			…		

- The Korean nominal is head final, with modifiers and other phrases within appearing to the right of the noun.
- agent precedes patient, and the postposition *uy*, glossed as GEN in the examples, appears on both. *uy* is obligatory on the agent, but exhibits apparent optionality on the patient

(6) a.   *cek-uy*   *kwukka(-uy)*   **kongkyek**

           enemy-GEN   country(-GEN)   **attack**

           'The enemy's attack (of/on) the country'; 적의 국가(의) 공격

    b.   *cikwen-uy*   *yengswucung(-uy)*   **kyeysan**

           waiter-GEN   receipt(-GEN)   **calculation**

           'The waiter's calculation of the receipt'; 직원의 영수증(의) 계산

- These nominal constructions denote events (utilizing some diagnostics from Grimshaw 1990)

<u>Diagnostic: modification of the nominal using event modifiers, e.g. 'frequent' or 'constant'</u>

- Only AS nominals allow these modifiers when singular, Non-AS nominals will only be successfully modified by 'frequent' or 'constant' when plural. (7a) below is an AS-nominal, whereas (7b) is non-eventive use of the noun 'calculation', and lacks event structure.

(7) a.   A waiter's frequent calculation of receipts (… is just part of the job.)

    b.   The frequent calculations (… were starting to get exhausting)

- See (8): though Korean plural marking is optional, *kyeysan* as singular is the most salient interpretation of (8), i.e. an event of receipt calculation that systematically reoccurs.

(8) *cikwen-uy*   **cac-un**   *yengswucung* *kyeysan*

    waiter-GEN   **frequent**   receipt   calculation

    'The waiter's frequent calculation of receipts'; 직원의 잦은 영수증 계산

<u>Diagnostic: agent-oriented modifiers, e.g. 'deliberate' or 'intentional'</u>

- biases an interpretation of an agentive event participant. These modifiers are only will force/encourage an event reading, hence the awkwardness of combining them with nominals that lack event structure (9b).

(9) a.   [The deliberate assignment of unsolvable problems]

              (…made the students feel overwhelmed.)

    b. ?# The student turned in [the deliberate assignment on mathematics].

- See (10): when used with agent-oriented modifiers, these Korean roots have the expected interpretation of an event that was deliberately enacted by some agentive participant (10).

(10)   *cek-uy*   ***kyeyhwoekceki-n***   *tosi*   *chimlyak*
         enemy-GEN   **deliberate**   city   invasion
         'The enemy's deliberate invasion of the city'; 적의 계획적인 도시 침략

<u>Diagnostic: embedding in predicates that have selective restrictions for events</u>

- These nominals are successfully licensed as complements of predicates that *require* the selection of an event, such as phrases "took 2 hours/lasted 2 hours."

(11)   *cikwen-uy*   *yengswucung* *kyeysan-i*   ***o.pwun-inay-ey***   ***twoe***-*yss-ta.*
         waiter-GEN   receipt   calculation-NOM   **five.minutes-in**   **become**-*past*.DECL
         "The waiter's calculation of the receipt took 5 minutes."; 직원의 영수증 계산이 5분이내에 됐다.

What exactly are these constructions? They are not gerunds, considering their nominal characteristics (they assign genitive case, and require adjectival modification; J. Yoon 2022)

- I will assert that this class of lexical items are not derived from verbs in any obvious way, compatible with treatment as category neutral/categorically underspecified roots. The crucial point is that they are *not* verbal.
- This assertion is not without contention: There is a pocket of literature within Korean syntax on this exact noun class, precisely *because* of their observed AS-nominal-like qualities.
- In the literature they have often been called 'verbal nouns' (Ahn 1991, Kim 1994, Park 1995, Chae 1996 & 1997). This name was coined to capture the intuition that these items appear to be 'not quite verbs' but 'not quite nouns' either.

Some approaches have attempted to treat them solely as verbs (Ahn 1991, Park 1995), but this interpretation is problematic on a couple of accounts.

- These lexical items have an unambiguously nominal distribution (Chae 1996), unless they have been composed with an overtly verbal element.
- The difference between these kinds of nouns and other nouns in Korean could quite straightforwardly be re-described using the characteristics of AS-nominals:
- The only verb-like property ascribed to these nouns that falls outside of the discussion of AS-nominals is their apparent ability to assign ACC case.

- This specific quality has been argued for in literature dealing with the clausal predicates that contain these nouns, which surface as a light verb construction (i.a. Ahn 2002, Kim 1994, Jo 2000). See example (12).

(12) *cikwen-i*　　　　　　*yengswucung-ul*　　　**kyeysan-ha**-*nta.*
　　　waiter-NOM　　　　　receipt-ACC　　　　　**calculation-do**-*pres.*DECL
　　　'The waiter calculated the receipt.'; 직원이 영수증을 계산한다.

Despite efforts by some researchers to attribute ACC case assignment to the nouns themselves, there is not sufficient evidence to suggest that they are responsible for the ACC case marking, as it only *ever* appears in contexts when a verbal element is also present.

- In modern syntactic frameworks where we understand *v* to be responsible for ACC case licensing, it makes little sense to suggest that the nouns would be responsible for this. In (12), it is the light verb that assigns ACC case to the object.
- This is the direction that noun-only analyses take, which have analyzed these nouns as the source of subcategorical information and theta-role assignments, but not as the case-assigners of clausal arguments (Grimshaw & Mester 1988, Kim 1993, Kim 1994, Yoon 1991, Yoon 1997).
- I will assert that this class of lexical items are not derived from verbs in any obvious way, compatible with treatment as category neutral/categorically underspecified roots. The crucial point is that they are *not* verbal.
  - They lack any overt verbal morphology that might indicate a derivation from clausal to nominal, and they compose with matrix verbs in the clausal domain.
- The corresponding verbal predicate in (12) denoting an event in the clausal domain is composed from the noun *kyesan* and a verb *ha*. This is incompatible with a 'nominalization' approach— not only does it demonstrate lack of clause-to-nominal directionality, it suggests the opposite, a derivation with nominal-to-clause directionality.

3.2 Native Korean nominalizations

- Recent work from J Yoon (2022) addresses very similar questions to those under discussion, looking at Native Korean nominalizations. Unlike the Sino-Korean ones, these nominals are marked with over nominalizer affixes. There are two: *-m* and *-ki*

(13)　a.　　*[Cheli-ka pap-ul nemwu kupha-key mek-ess]-**um**-i pwunmyengha-ta*
　　　　　　Cheli-NOM meal-ACC too hurried-adv eat-pst-**nmz**-NOM evident-decl
　　　　　　"It is obvious that Cheli ate too hurriedly"; 처리가 밥을 너무 그파게 먹었음이 분명하다

b. (Na-nun) [Cheli-ka/*uy pap-ul cey ttay mek-ko iss]-**ki**-lul palan-ta

I-top C-nom/gen meal-acc proper time eat-comp be-**nmz**-acc hope-decl

"I hope that Cheli is taking his meals on time."; 나는 처리가 밥을 제 때 먹고 있기를 바란다

Generalizations from J Yoon (2022)

- Externally nominal: incompatible with determiners/demonstratives, or plural marking; disallow adverbs, allow adjectives
- J Yoon (2022), given the lack of verbal behavior, ultimately argues for a Lexical approach to nominalizations, with a particular emphasis on complex base nominalizations such as (14)

(14)   *wu-nun-ai-ttek-hana-te-cwu-**ki***

Cry-rel-child-rice.cake-one-more-give-**nmz**

"act akin to treating a pestering child preferentially"

Lit. "giving a crying child one more rice cake"; [우는아이떡하나더주]기

- These are analyzed as XP → X0 reanalysis, an operation proposed to be done in the lexicon

3.3 Taking stock

- Argument part 1: against v layers inside of nominalizations
- There are arguments from N.K. nominalizations (J. Yoon 2022) that contest v layers
- There are arguments from S.K. nominals that contest v layers
  - therefore: we cannot posit a v inside Korean nominals that could be the licenser(s) of arguments (we don't have to commit to N being an argument introducer, but we do have to commit to it NOT being v in these cases)
  - We must look elsewhere to find satisfactory argument licensing, or commit to there being no arguments at all

4. Investigating argument structure

4.1 The hypothesis space

- No obvious link between being a verb and licencing arguments, but this doesn't necessarily mean that the way that the arguments are 'licensed' in nominals is identical to the way that arguments are 'licensed' in the verbal domain
- Simply saying something is in a specifier position, or has a thematic role, does not inherently say anything about its status as an argument. Possessives, for example, in Korean and English, utilize genitive case in the same way, but are NOT arguments (15).

(15)   a.   Jimin's hat.   (English)
              Jimin-GEN hat
       b.   *Cimini-uy moca*   (Korean)
              Jimin-GEN hat   지민이의 모자

- one way to approach this: independently identifying that the uy-things are arguments
- Another: correlating nominals behavior with the verbal domain behavior (is there anything qualitatively different between argument behavior of these roots when verbal, vs. when nominal?
- I diagnose the agent and patient of the Korean nominal constructions independently, and ultimately claim that both of these are indeed arguments of the main nominal predicate that should be appropriately licensed by nominal functional structure respectively

4.2 The external argument

Diagnosing the external argument using implicit argument diagnostics: Implicit arguments are covert elements for which there are doubts about their syntactic representation. Bhatt & Pancheva (2017) push for a distinction between just any unrealized role and the status of an implicit argument: in order to qualify as an implicit argument, the covert element in question must be shown to participate in some grammatical dependency.

- Two diagnostics often used for evaluating activity of covert arguments in nominals are:
  - Participation in binding theory, and Control (either of or by the implicit argument)
- Implicit argument tests provide evidence for arguments that exist and have relevance to interpretation *even when covert*.

Obligatory subject control in Korean

Example (16) shows control by the matrix subject, of an embedded *pro* subject. Simply dropping the matrix subject in (17), we get the same, this time with an implicit agent acting as the controller:

(16)   *Namcwuni-nun*   *ttena-ki-lo*   **kyelceng**-*ha-yss-ta*.
       Namjoon-TOP   [*pro* leave-N.-P$_{twrd.}$]   **decision**-do-*past*-DECL
       'Namjoon decided to leave.' (Namjoon = decider = leaver); 남준이는 떠나기로 결정했다.
(17)   *ttena-ki-lo*   **kyelceng**-*ha-yss-ta.*
       [*pro* leave-N.-P$_{twrd.}$]   **decision**-do-*past*-DECL
       '(someone) decided to leave.' (decider = leaver); 떠나기로 결정했다.

Corresponding nominal examples appear in (18): in (18a) there is obligatory control by an agentive *uy*-marked phrase, of an embedded pro subject within a CP modifier. In (18b), there is obligatory control by an implicit agent, of the embedded pro subject within the CP modifier.

(18) a. *Namcwuni-uy   ttena-ki-lo-ha-n   **kyelceng***
          Namjoon-GEN   [pro leave-N.-P$_{twrd.}$-DO-T-C]   **decision**
          'Namjoon's decision to leave' (Namjoon = decider = leaver); 남준이의 떠나기로한 결정

      b.   *ttena-ki-lo-ha-n   **kyelceng***
          [*pro* leave-N.-P$_{twrd.}$-DO-T-C]   **decision**
          'the decision to leave' (decider = leaver); 떠나기로한 결정

- Evidence of obligatory subject control within these nominal constructions positively suggests that there is an external argument associated with the head noun
- Additionally, it is the same argument surfaces as the *uy*-marked agent, when overt.

4.3 The internal argument

Diagnosing the internal argument given genitive case distribution: I will argue that the realization of the genitive morpheme *-uy* parallels object shift behavior observed in the Korean clausal domain
- The NPs of the Korean eventive nominal, when overt, show up marked by the morpheme *uy*, often analyzed as a genitive case marker (though not without dispute; see An 2014).
- This morpheme shows up obligatorily on the agent, but only sometimes on the patient.

(19) a. *cek-uy   kwukka(-uy)   **kongkyek***
          enemy-GEN   country(-GEN)   **attack**
          'The enemy's attack (of/on) the country'; 적의 국가(의) 공격

      b. *cikwen-uy   yengswucung(-uy)   **kyeysan***
          waiter-GEN   receipt(-GEN)   **calculation**
          'The waiter's calculation of the receipt'; 직원의 영수증(의) 계산

This apparent optionality for *uy* on the patient is not random, but predictably conditioned. Let's first consider accusative case realization in the clausal domain for comparison: When the object is adjacent to the verb, omitting ACC case is possible (though not required). When the object is not adjacent to the verb (there is intervening material between them), then omitting case is disallowed.

(20) a. *Nikho-nun   (ku) shyo-**lul**   cincihakey   pole.ka-llci sayngkak-cwung-ita*
          Niko-TOP   (that) show-**ACC** earnestly   go.and.see thought-middle-COP-DECL
          "Niko is seriously considering seeing a(/the) show about dogs."

b.   *Nikho-nun   (ku) shyo   cincihakey   pole.ka-llci sayngkak-cwung-ita*

         Niko-TOP   (that) show   earnestly   go.and.see thought-middle-COP-DECL

         Intended: "Niko is seriously considering seeing a(/the) show about dogs."

The eventive nominals show the same pattern with respect to genitive case omission on the internal argument: it is possible when the object is adjacent to the head noun, but not possible when an adjunct intercedes.

- With no adjuncts (21a), the object can optionally be genitive marked. This remains true even if an overt adjective is added in, so long as that adjective does not intervene between the object and the head noun. In (21b), the genitive case remains optional on the internal object; it can either be expressed, or omitted.
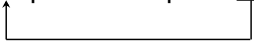
(21)   a.   *Nikho-uy   yenghwa(-uy)   kwanlam*

         Niko-GEN   movie(-GEN)   observation

         "Niko's watching of the/a movie"

    b.   *Nikho-uy   cinciha-n   yenghwa(-uy)   kwanlam*

         Niko-GEN   ernest   movie(-GEN)   observation

         "Niko's serious watching of the/a movie"

- if the adjective instead surfaces between the object and the head noun, case marking becomes obligatory. In (20), genitive case on *yenghwa* ("movie") is obligatory.

(22)   a.   *Nikho-uy   yenghwa-uy   cinciha-n   kwanlam*

         Niko-GEN   movie-GEN   ernest   observation

         "Niko's watching of the/a movie"

    b.   * *Nikho-uy   yenghwa   cinciha-n   kwanlam*

         Niko-GEN   movie   ernest   observation

         Intended: "Niko's watching of the/a movie"

In sum, the case omission generalization for the verbal and the nominal domains is cohesive: an object that is adjacent to the head verb/noun can optionally omit the case particle, but a non-adjacent object cannot. This distribution suggests a structural difference in height between *uy*-marked and non *uy*-marked elements.

- There is a possible analysis of this paradigm as object shift, schematized in (23)

(23)   waiter-GEN receipt-GEN frequent __ calculation

Evidence for object shift? Korean differential object marking (DOM) has been investigated by various researchers (Ko 2000; Lee 2003, 2005, 2006; T Kim 2008; Kwon & Zribi-Hertz 2008; Chung 2020)

- Korean overtly marks nominative subjects and accusative objects, but case markers can be dropped in colloquial/spoken speech, sensitive to constraints (Lee 2006a)
- DOM in Korean does not appear to be fully grammaticalized as a categorical distinction between objects, in that it is always grammatical regardless of animacy or definiteness to include an overt case marker. However, the language does reflect a clear preference for which environments case ellison is acceptable, and these preferences follow the anticipated cross-linguistic patterns based on languages that have stricter categorical distinctions between object classes.
- If we adopt an object shift account for the nominal data, it supports the conclusion that the NP patient in these constructions is indeed an argument associated with the head noun, as it removes the possibility that these uy-marked items could simply be adjuncts, and parallels its behavior compellingly with uncontroversial arguments with accusative case in clauses

5. Consequences for syntactic vs. lexical accounts of AS

5.1 Considering of case facts

- For accusative case, and genitive case alike, there are differences in location on the basis of adverbs, and at least for accusative case in the clausal domain, suggestions of differences in specificity between the marked/unmarked object
- Importantly too, there is a difference in the allowance of case between the proposed re-analysis and non-reanalysis Native Korean nominalizations (J. Yoon 2022):
  - No case for re-analysis nominalizations, but yes case for syntactic nominalizations
  - Recall the complex base example. Case marking is disallowed in (24)

(24)   *wu-nun-ai-ttek-hana-te-cwu-**ki***

Cry-rel-child-rice.cake-one-more-give-**nmz**

"act akin to treating a pestering child preferentially"

Lit. "giving a crying child one more rice cake"; [우는아이떡하나더주]기

(25)   *(na-nun) wu-nun ai-eykey ttek-(ul) hana te cwu-**ki***

(I-top) cry-adn child-to rice.cake-(acc) one more give-**nmz**

"The act of giving one more piece of rice cake to a crying child." 우는 아이에게 떡을 하나 더 주기

- In both nominal and clausal domains, Sino-Korean roots do have case-marked arguments, which suggests a syntactic account of argument licensing; functional scaffolding needs to be in place to contribute case marking to the object

5.2 Concluding remarks

Given the above, we are left with the following conclusions:
- It is not satisfactory to isolate all argument introduction power to v layers, given that Korean nominal(-izations) do not have embedded v layers
- Case assignment disallows a purely lexical account of argument licensing
- It is possible that there is room for a lexical approach to "reanalyzed" Native K. nominalizations (J. Yoon 2022), but this is independent from the necessity of functional scaffolding for argument structure itself, that is critically not verbal in nature

Possible syntactic structures for Korean: what's been ruled out
- an adjunct analysis, where *uy* does the argument introduction and licensing (as a postposition-esque projection), or a purely lexical approach
- What remains as a way forward: informed by the insights of Kratzer (1996), a category neutral projection is posited to license external arguments.

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