Nominalized clauses and reference to propositional content

1 Introduction

Clause-embedding verbs are often divided into different classes based on certain aspects of the embedded clause’s interpretation.


**I Volunteered stance / non-factive:** Embedded clause introduces new idea.
   Alice believed/says/assumed/feels/thought [that Ron called].

**II Non-stance / factive:** Embedded clause refers to a fact.
   Alice remembered/regretted/knows/forgot [that Ron called].

**III Response stance:** Embedded clause refers to familiar idea.
   Alice agreed/admits/confirmed [that Ron called].

A recurring observation: Complements of class II and III predicates frequently have noun-related morphosyntactic properties:

- *Clauses associated with/headed by proforms and demonstratives:* English *it* (Kiparsky and Kiparsky, 1970), German *es* (Sudhoff, 2003; Schwabe et al., 2016; Zimmermann, 2016), Greek (Roussou, 1991), Albanian (Kallulli, 2006), Persian (Farudi, 2007), Hungarian (Abrusán, 2011), Hebrew (Kastner, 2015).

- *Clauses in DP syntactic positions:* Dutch (Barbiers, 2000; Haegeman and Ūrögi, 2010).

- *Nominalizing morphology:* Korean (Kim, 2009; ?; Shim and Ihsane, 2015), Navajo (Schauber, 1979).

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1 New judgments (those not otherwise attributed) for Korean reported here are from Chung-hye Han, whose input was invaluable to this project. This project was funded by SSHRC Insight Grant (#435-2015-0454) to Keir Moulton and Junko Shimoyama.
The literature is largely in agreement that these morphosyntactic properties do not necessarily correlate with factivity (but cf. Kallulli, 2006, 2010). But characterization of these complements’ discourse status is varied and unclear:


This mainly syntactic literature largely does not clarify:

- The contexts or discourses that license clauses with nominal morphosyntax—are they like definites?
- What kind of semantic object is referred to (what is a “referential proposition”? Bhatt 2010 to Haegeman and Ürögdi 2010)\(^2\) or their compositional source.

We address these questions for **Korean** nominalized clauses like (1).\(^3\)

(1) Kibo-nun [Dana-ka i chayk-ul ilk-ess-ta-nun kes-ul]
   K.-TOP D.-NOM this book-ACC read-PST-DEC-ADN kes-ACC
   mit-ess-ta.
   believe-PST-DEC
   ‘Kibo believed that Dana read this book.’ (Shim & Ihsane, 2015: (5b))

Comparable data from **Navajo** is sketched in the appendix.

### Contributions:

- §2 introduces kes-structures and confirms that clauses like (1) are not factive.
- §3 presents novel elicitation data showing that sentences like (1) are only felicitous if the content conveyed by the kes-clause was previously asserted in the context.
- §4 argues that kes-clauses like (1) doesn’t denote a proposition but a definite description of a discourse event — an assertion — carrying propositional content.
  - The account builds on Kim’s (2009) work on other types of kes-clauses.
  - When they embed structures as in (1), verbs like mit ‘believe’ become similar to response stance verbs (*agree, claim*) which Anand and Hacquard (2014) propose report discourse moves.

\(^2\)Treatments of reference to propositions found in Asher (1993) and Chierchia (1984) not addressed in the literature on nominalized clauses cited above.

\(^3\)DEC = declarative marker, ADN = adnominal marker
2 The structure and interpretation of \textit{kes}-clauses

Kim (2009) discusses three types of \textit{kes}-constructions in Korean:

- The adnominal marker \textit{-un ADN} is a feature of many nominal modifiers.

**The internally-headed relative clause (IHRC) construction:**

(2) \textit{John-un [\textit{totwuk-i} thief-NOM \textit{run.away-IMPF-ADN} \textit{kes-ACC} catch-PSST-DEC].}

\textit{John caught the thief that was running away.} \hfill (Kim, 2009: (1))

**The perception construction:**

(3) \textit{John-un [\textit{totwuk-i} thief-NOM \textit{run.away-IMPF-ADN} \textit{kes-ACC} see-PST-DEC].}

\textit{John saw (the event) of the thief running away.} \hfill (Kim, 2009: (2))

**The factive construction:**

(4) \textit{John-un [\textit{totwuk-i} thief-NOM \textit{run.away-IMPF-ADN} \textit{kes-ACC} know-PST-DEC].}

\textit{John knew (the fact) that the thief was running away.} \hfill (Kim, 2009: (3))

\textit{Kes} has been variously described as a nominalizer (Kim, 1984; Jo, 2003), pronoun (Chung and Kim, 2003; Lee, 2006), or comp (Jhang, 1994). (See Chae (2007)).

- Historically, \textit{kes} was a full-fledged noun translated as ‘thing’ (Rhee, 2011). \textit{Kes} no longer seems to be a full noun: it cannot stand alone in modern Korean, requiring at least a demonstrative:

(5) \textit{Na-to [ \textit{ *(ku) kes-ul} ] know-PST-DEC.}

\textit{I also knew that thing/fact.}

- Some nominal character remains, however. Throughout, we will see clauses with \textit{kes} variably translated into English with \textit{fact, event} or \textit{claim}.

\textit{Kes}-clauses must be embedded (Yoon, 2013):

(6) \textit{Lee-ka \ textit{hoyngryengha-ss-ta-nun kes-ul}}

\textit{Lee-NOM embezzle-PST-DEC-ADN k\textit{es-ACC}.}

\textit{(Intended: ‘The fact, claim that Lee embezzled.’)} \hfill (Yoon, 2013: (12))

Kim (2009) gives a compositional, largely unified account of \textit{kes}-clauses where \textit{kes} denotes individuals of different sorts, e.g. ordinary entities (2), events or facts (4).

- But Kim does not take up \textbf{non-factive} \textit{kes}-clauses. We return to Kim (2009) in §4 when we develop our account of these \textit{kes}-clauses.
2.1 Non-factive kes-clauses

When embedded by verbs like mit ‘believe’, kes-clauses of the shape explored by Kim (2009) are still factive (Shim and Ihsane, 2015).

(7)  \[
\text{# [believe}(\phi\text{-kes}) \text{ but } \neg\phi] \\
\text{Kibo-nun [Dana-ka i chayk ulk-ess-nun kes-ul]} \\
\text{K.-TOP D.-NOM this book-ACC read-PST-ADN kes-ACC} \\
\text{mit-ess-ta,} \quad \# \text{ kulente sasil-un Dana-nun i chayk-ul} \\
\text{believe-PST-DEC but fact-TOP D.-TOP this book-ACC} \\
\text{ilk-ci anh-ass-ta,} \\
\text{read-NEG-PST-DEC} \\
\text{#’Kibo believed (the fact) that Dana read this book, but D. didn’t read it.’} \\
\]

However, Shim and Ihsane (2015) show that adding a declarative marker ta to a kes-clause results in a non-factive meaning under mit ‘believe’ (8).\footnote{As Shim & Ihsane (2015) point out, clauses with yukamsuleweha ‘regret’ seem to only have a factive interpretation. This suggests that while choice of embedded morphology may drive factivity with verbs like mit ‘believe,’ other verbs may lexically impose factivity on their complements, as in Kiparsky & Kiparsky (1970) and subsequent work.}

- Clauses with ta-kes are often translated with the claim that.

(8)  \[
\text{✓ [believe}(\phi\text{-ta-kes}) \text{ but } \neg\phi] \\
\text{Kibo-nun [Dana-ka i chayk-ul ilk-ess-ta-nun kes-ul]} \\
\text{K.-TOP D.-NOM this book-ACC read-PST-DEC-ADN kes-ACC} \\
\text{mit-ess-ta,} \quad \text{kulente sasil-un Dana-nun i chayk-ul} \\
\text{believe-PST-DEC but fact-TOP D.-TOP this book-ACC} \\
\text{ilk-ci anh-ass-ta.} \\
\text{read-NEG-PST-DEC} \\
\text{‘Kibo believed (the claim) that Dana read this book, but D. didn’t read it.’} \\
\]

Note: Declarative ta also occurs in main clauses, e.g. mit-ess-ta ‘believed’ (7)–(9).

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\footnote{As Shim & Ihsane (2015) point out, clauses with yukamsuleweha ‘regret’ seem to only have a factive interpretation. This suggests that while choice of embedded morphology may drive factivity with verbs like mit ‘believe,’ other verbs may lexically impose factivity on their complements, as in Kiparsky & Kiparsky (1970) and subsequent work.}
Alternatively, mit ‘believe’ can embed a clause marked by ko rather than kes (9), again resulting in non-factivity.

(9) ✓ [believe(ϕ-ta-ko) but ~ϕ]

Kibo-nun [Dana-ka i chayk-ul ilk-ess-ta-ko] mit-ess-ta,
K.-TOP D.-NOM this book-ACC read-PST-DEC-ko believe-PST-DEC
kulente sasil-un Dana-nun i chayk-ul ilk-ci anh-ass-ta.
but fact-TOP D.-TOP this book-ACC read-NEG-PST-DEC
‘Kibo believed that Dana read this book, but D. didn’t read it.’

Our elicited data support Shim and Ihsane’s observations about factivity.

the factive meaning is standard: projects out of negation etc. (data not shown) For a false 𝜙, kes-only (10a) was infelicitous but ta-kes (10b) and ta-ko (10c) were accepted. 5

(10) • Context: Kibo’s stupid friend Dana told him that Sydney is the capital of Australia. Kibo missed the day of class where the children learned that Sydney is not the capital of Australia.

a. #Kulayse ačikto Kibo-nun [Sydney-ka Australia-uy swuto-i-n
so still K.-TOP S.-NOM A.-GEN capital-COP-ADN
kes-ul] mit-e.
kés-ACC believe-DEC
‘Kibo still believes (the fact) that Sydney is the capital of Australia.’

b. Kulayse ačikto Kibo-nun [Sydney-ka Australia-uy swuto-la-nun
so still K.-TOP S.-NOM A.-GEN capital-DEC-ADN
kes-ul] mit-e.
kés-ACC believe-DEC
‘Kibo still believes (the claim) that Sydney is the capital of Australia.’

c. Kulayse ačikto Kibo-nun [Sydney-ka Australia-uy swuto-la-ko]
so still K.-TOP S.-NOM A.-GEN capital-DEC-ko
mit-e.
believe-DEC
‘Kibo still believes that Sydney is the capital of Australia.’

<table>
<thead>
<tr>
<th>Summary of factivity under mit ‘believe’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factive:</strong></td>
</tr>
<tr>
<td>𝜙-kes</td>
</tr>
<tr>
<td><strong>Non-factive:</strong></td>
</tr>
<tr>
<td>𝜙-ta-kes, 𝜙-ta-ko</td>
</tr>
</tbody>
</table>

5 In (10b) and (10c), ta is realized as la for reasons unrelated to the present discussion.
3 Licensing kes-marked clauses

Despite patterning together with respect to their non-factivity, however, clauses of the shape \( \phi\)-ta-kes and \( \phi\)-ta-ko are not interchangeable.

- Differences not addressed by Shim & Ihsane (2015) or other authors above.
- We show that \( \phi\)-ta-kes is only felicitous if \( \phi\) is familiar in a sense to be characterized.

3.1 Familiarity required by ta-kes


- Hegarty (1992): Complement must express, e.g., common knowledge or a point of current discussion.

(11) Alice agreed/admits/confirmed [that Ron called]... #...but no one had said that Ron called.

De Cuba (2007) and Kastner (2015) observe that in some languages, response stance verbs appear to prefer clauses with nominal morphosyntax (Hungarian, Hebrew), e.g. sentential proforms.

- This is true for Korean (12).
- The consultant found ta-ko degraded with agree, accept and deny (not shown).

I-TOP L.-NOM come-PST-DEC-ADN kes-at agree-PRES-DEC ‘I agree (with the claim) that Lee came.’

What Korean adds: Using ta-kes with mit seems to add a familiarity requirement that recalls the familiarity (definiteness?) requirements of response stance verbs.

- New response stance-like meanings can be constructed in Korean by using ta-kes with a wider range of verbs, e.g. believe.
- The things that is familiar/definite with ta-kes, we will argue, is an event of assertion (§4), and ta is curcial to this becuase it intorduces an event.
In context (13), A utter $\phi$ (I finished my homework).

- B can utter $\phi$\text{-}ta-kes (B1) or $\phi$\text{-}ta-ko (B2) (modulo differences in pronouns).

(13) A: Na-nun swukecey-lul ta ha-yess-e. Pakk-ey naka nola-to toy?
I\text{-}TOP homework\text{-}ACC all do\text{-}PST\text{-}DEC outside\text{-}at go play\text{-}also can
‘I finished my homework. Can I go outside and play?’

B: An toy. A: Na-lul an mit-e?
not can I\text{-}ACC not believe\text{-}INT
‘No.’ ‘Don’t you believe me?’

B1: Um. Na-nun [ney-ka swukecey-lul ta ha-yess\text{-}ta-nun kes-ul]
Yes. I\text{-}TOP you\text{-}NOM homework\text{-}ACC all do\text{-}PST\text{-}DEC\text{-}ADN kes\text{-}ACC
mit-e. Haciman cikum-un cenyek siksa sikan\text{-}i\text{-}ya.
believe\text{-}DEC but now\text{-}TOP evening meal time\text{-}COP\text{-}DEC
‘Yes, I believe (the claim) that you finished your homework. But it’s dinner time.’

B2: Um. Na-nun [ney-ka swukecey-lul ta ha-yess\text{-}ta-ko]
Yes. I\text{-}TOP you\text{-}NOM homework\text{-}ACC all do\text{-}PST\text{-}DEC\text{-}ko
mit-e. Haciman cikum-un cenyek siksa sikan\text{-}i\text{-}ya.
believe\text{-}DEC but now\text{-}TOP evening meal time\text{-}COP\text{-}DEC
‘Yes, I believe that you finished your homework. But it’s dinner time.’

In context (14), $\phi$ was not previously uttered.

- B can utter $\phi$\text{-}ta-ko (B2) but not $\phi$\text{-}ta-kes (B1).

(14) A: Cyoni-nun pakk-ey naka nola-to toy?
J\text{-}TOP outside\text{-}at go play\text{-}also can
‘Can Johnny go outside and play?’

B1# Um. Na-nun [kay-ka swukecey-lul ta ha-yess\text{-}ta-nun kes-ul]
Yes. I\text{-}TOP he\text{-}NOM homework\text{-}ACC all do\text{-}PST\text{-}DEC\text{-}ADN kes\text{-}ACC
mit-e.
believe\text{-}DEC
#‘Yes, I believe (the claim) that he finished his homework.’

Yes. I\text{-}TOP he\text{-}NOM homework\text{-}ACC all do\text{-}PST\text{-}DEC\text{-}ko believe\text{-}DEC
‘Yes, I believe that he finished his homework.’
Familiarity via direct quotation only? No.

Discourse (15) shows it is wrong to claim that *ta-kes* in (13) is licit because $\phi$ is quoted (mod. pronouns) but illicit in (14) because $\phi$ is not quoted.

(15)  
**Context:** B has a rule that A must eat vegetables before having cake.  
A: I ate peas! Can I have cake now?  
B: No, you can’t.  
A: But why? Don’t you believe me?  
B: Na-nun [ney-ka yachae-lul mek-ess-ta-nun kes-ul]  
   I-TOP you-NOM vegetable-ACC eat-PST-DEC-ADN kes-ACC  
   mit-e...  
   believe-DEC  
   ‘I believe that you ate vegetables (but the cake’s not ready).’

In (15), A claims that she has eaten peas, which only entails $\phi$ that *she has eaten vegetables*. *Ta-kes* still licit (B) (as well as *ta-ko*, not shown).

Familiarity via just any prior mention of $\phi$? No.

$\rightarrow \phi$-*ta-kes* is not licensed by **polar questions** $?\phi$:

(16)  
A: Johnny-nun swukcey-lul ta ha-yess-ni?  
   J.-TOP homework-ACC all do-PST-Q  
   ‘Has Johnny finished his homework?’

B: #Na-nun [Johnny-ka swukcey-lul ta ha-yess-ta-nun kes-ul]  
   I-TOP J.-NOM homework-ACC all do-PST-DEC-ADN kes-ACC  
   mit-e.  
   believe-DEC  
   ‘I believe (the claim) that Johnny finished his homework.’

This is a point of contrast between Korean *ta-kes* clauses and certain other structures described as having a familiarity requirement.

- Schwabe et al. (2016) citing Sudhoff (2003) show that a polar question is sufficient to license German ‘familiar’ clauses with sentential proform *es*.

(17)  
A: Ist Lea krank?  
   ‘Is Lea ill?’  
B: Max behauptet *es*, dass sie krank ist.  
   Max claims it that she ill is  
   ‘Max claims it that she is ill.’

   (Schwabe, Frey, and Meinunger, 2016: (4))
\( \rightarrow \) In Korean, \( \phi\)-ta-kes is not licensed by negated \( \phi \):

(18) \[ \text{A: Kibo has certainly heard in his geography class that Toronto is not the capital of Canada...} \]

\[ \text{A: ...#Kulayto Kibo-nun [Toronto-ka Canada-uy swuto-la-nun} \]

\[ \text{even.so K.-TOP T.-NOM C.-GEN capital-DEC-ADN} \]

\[ \text{kes-ul] mit-e.} \]

\[ \text{kes-ACC believe-DEC} \]

‘Even so, Kibo still believes that Toronto is the capital of Canada.’

\[ \text{Comment: “This sounds really odd to me, if Kibo has never heard anybody tell him that ‘Toronto is the capital of Canada.’”} \]

**Working Hypothesis:** \( \phi\)-ta-kes licensed by the previous assertion of \( \phi \)

In the formal account sketched below (§4), this presupposition follows from the individual meanings of \( ta \) and \( kes \). **To preview:**

- \( Ta \) composes with propositions \( p \) to denote events of assertion \( p \) (independently evidence is given for this).

- \( Kes \) obligatorily co-occurs with a definite determiner, as in Kim (2009). The definite determiner presupposes an assertion event of \( p \).

- \( Ta-kes \) renders verbs like believe similar to response stance verbs (e.g. agree).
Aside: Is ta-kes like a reportative marker?

Our claim that ϕ-ta-kes presupposes a previous assertion event of ϕ recalls presuppositional characterizations of reportative expressions in German and Tagalog (Schenner, 2008; Fabricius-Hansen and Sæbø, 2004; Schwager, 2010).

- Elements like German *sollen* and Tagalog *daw* “induce a presupposition that the prejacent has been asserted” (Schwager, 2010: 238).

However, while the meanings can be described similarly, ta-kes differs from reportatives.

- Whereas reportatives introduce this presupposition, the presupposition in Korean arises through semantic contributions of independent markers *ta* and *kes*, neither of which can itself be characterized as a reportative.

- Whereas reportatives can occur as main clauses that express assertions, Korean ta-kes clauses cannot (6).

- Whereas *mit* ‘believe’ readily embeds Korean ta-kes clauses, German *glauben* ‘believe’ is reluctant to embed reportative *sollen* (Schenner, 2008).

4 Towards an account of reference to proffered content

4.1 Basics of Kim (2009)

Our account is in the spirit of Kim’s (2009) largely unified account of three structures with *kes*: IHRCs (19a), perception (19b) and factive clauses (19c).

John-TOP thief-NOM run.away-IMPF-ADN kes-ACC catch-PST-DEC
‘John caught the thief that/while he was running away.’

John-TOP thief-NOM run.away-IMPF-ADN kes-ACC see-PST-DEC
‘John saw (the event) of the thief running away.’

John-TOP thief-NOM run.away-IMPF-adn kes-ACC know-PST-DEC
‘John knew (the fact) that the thief was running away.’

Kim (2009) proposes that *kes* relates the embedded clause to a salient individual and/or situation standing in some relation to it.
This develops the analysis of IHRCs in Kim (2007), which in turn developed from previous work on Japanese IHRCs (Hoshi, 1995; Shimoyama, 1999).

We give a distillation of Kim (2009), which departs from the original at points.

- *Kes* takes the embedded clause (set of situations $p$) as argument and returns a definite description (20).\(^6\)

\[
[\text{kes}] = \lambda p \forall x. R(p)(x)
\]

where $x$ is in the domain of ordinary individuals or situations

As in Kim (2009), $R$ is the relation that determines what sort of individual/situation is returned by *kes*.

\[
\begin{align*}
\text{a. } R_{\text{agent}} = \lambda p' \forall x'. \exists s[p'(s) & \text{ Agent}(x')(s)] \\
\text{b. } R_{\text{theme}} = \lambda p' \forall x'. \exists s[p'(s) & \text{ Theme}(x')(s)]
\end{align*}
\]

\[\text{John-un } [\text{totwuk-i tomangka-n-un } \text{kes-ul}] \text{ cap-ess-ta.} \]

\[\text{John-TOP thief-NOM run.away-IMPF-ADN kes-ACC catch-PST-DEC} \]

‘John caught the thief that/while he was running away.’

\[
\begin{array}{c}
\text{kesP: e} \\
\text{IHRC: (s,t)} \\
\text{kes: } \langle \langle s,t \rangle, e \rangle \\
\end{array}
\]

\[
\lambda s[\text{run.away(thief)}(s)]
\]

\[\begin{align*}
\text{a. } [\text{kes}] &= \lambda p \forall x. R_{\text{agent}}(p)(x) \\
&= \lambda p \forall x. [\lambda p' \forall x'. \exists s[p'(s) & \text{ Agent}(x')(s)]](p)(x) \\
&= \lambda p \forall x. \exists s[p(s) & \text{ Agent}(x)(s)] \\
\text{b. } [\text{kesP}] &= \lambda p \forall x. \exists s[p(s) & \text{ Agent}(x)(s)](\lambda x'. \text{run.away(thief)}(s')) \\
&= \exists x. \exists s[\text{run.away(thief)}(s) & \text{ Agent}(x)(s)] \sim \text{ the thief}
\end{align*}
\]

We need to constrain what $R$ can be, but it is quite flexible:

- In (24a), $R$ can return sum of individuals in IHRC, each with distinct thematic role (Kim, 2007: 8). In (24b), $R$ returns individual inferred from situation described by the IHRC (Grosu and Landman, 2012 after (40) in Chung and Kim (2003)).

\[\text{a. } \text{Jinho-un } [\text{koyangi-ka cwi-lul } \text{coch-ko iss-n-un } \text{kes-ul}] \]

\[\text{J.-TOP [cat-NOM mouse-ACC chase-ko COP-IMPF-ADN kes]-ACC} \]

\[\text{capassta. catch-PST-DEC} \]

‘A cat chased a mouse & J. caught \{the cat/the mouse/the mouse & cat\}.’

\[\text{6For Kim, kes takes as argument the trace left by LF movement of the embedded clause. She also separates definiteness from kes, but we have built definiteness in.}\]
J-Top  pants-NOM  got.dirty-ADN  kes-ACC  wipe.out-PST-DEC 
'The pants got dirty and J. wiped the dirt off the pants.'

**Factive** (25) and **perception** (26) meanings arise via different values for R ((25b), (26b)).

(25)  **Factive construction**

J.-Top  thief-NOM  run.away-IMPF-ADN  kes-ACC  know-PST-DEC 
'John knew (the fact) that the thief was running away.'

b. $R_{fact} = \lambda p'\lambda x'.x'$ is a fact that exemplifies $p'$
   (Treatment of facts after Kim (2009); Kratzer (2002).)

c. $[[kesP]] = \lambda x.x$ is a fact that exemplifies $[\lambda s'.run-away(thief)(s')]$

(26)  **Perception construction**

John-Top  thief-NOM  run.away-IMPF-ADN  kes-ACC  see-PST-DEC 
'John saw (the event) of the thief running away.'

b. $R_{id} = \lambda p'\lambda s'.p'(s')$

c. $[[kesP]] = \lambda s.run-away(thief)(s)$

NB: under negation, the event is presupposed in perception reports, as expect if it were like a definite (see Higginbotham 1983 on existential quant. of perception complements).

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**Some observations:**

**Constraining R:** one way to constrain R would be to say that the individual $x/s$ must refer to a (possibly non-proper) ‘part’ of the situation described by $p$: individuals in the situation, the situation itself (for perception), or the fact (not clear what the mereology of that is though).

**Choice point:** Complexity (homophony) in *kes* (Kim, 2009) vs. complexity in R (here)?

**Precedent:** The entries we give for $R_{fact}$ and $R_{id}$ are closely related (or identical, in the case of $R_{fact}$) to the denotations of complementizers given by Kratzer (2006).

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$^7$Kim suggests *kes* may pick out something more like the ‘image’ or ‘sound’ of an event. We’ve eliminated that step for simplicity.
4.2 A proposal for *ta-kes*

**Crucial observation:** Embedded declarative *-ta* introduces a separate level of embedding—‘people say that’:

(27) a. [Chelswu-ka na-eykey allye cwu-n] somwun
   C.-NOM I-DAT tell-ADN rumor
   ‘the rumor, that Chelswu told me ti’

   b. [Chelswu-ka na-eykey allye cwu-ess-ta-nun] somwun
   C.-NOM I-DAT tell-PST-DEC-ADN rumor
   ‘the rumor, that (people say that) Chelswu told me ti’

   *the rumor, that Chelswu told me ti’ (S.S. ?: 13a,b)

We propose that *-ta*-clauses denote a property of events of assertion of $p$.

(28) $\lfloor ta_{\text{embedded}} \rfloor = \lambda p \lambda e.e$ is an event of asserting $p$

In (28b), we would suggest that the event argument gets closed off by an $\exists$, perhaps (TBD).

In the *kes* construction, the event is essentially fed to a definite determiner.

- In (30), the R in *kes* is valued by $R_{id}$, the R found in perception constructions (30).

(29) $R_{id} = \lambda p' \lambda s'. p'(s')$

(30) Na-nun [kesP Johnny-ka swukcey-lul ta ha-yess-ta-nun kes-ul]
   I-TOP J.-NOM homework-ACC all do-PST-DEC-ADN kes-ACC
   mit-e.
   believe-DEC
   ‘I believe that Johnny finished his homework.’

(31) a. $\lfloor ta \rfloor$ *(that Johnny finished his homework)*
   $= \lambda e.e$ is an event of asserting *(that Johnny finished his homework)*

   b. $\lfloor kes \rfloor = \lambda p.s.[R_{id}(p)(s)]$
   $= \lambda p.s.[p(s)]$

   c. $\lfloor kesP \rfloor = is.s$ is an event of asserting *(that Johnny finished his homework)*
   $\sim$ the event of asserting that Johnny did his homework

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*It is worth checking whether this holds even if the head is a non content noun — something like book or dog — but as far as I know, the fact that (i) involves a content noun is a coincidence.

*When *-ta* is in a root clause or combined with *ko*, its semantics is not as transparent.*
The cases we saw in §3 (13)–(18) fall out. E.g.

(32) A: I finished my homework. (=an event of asserting p)  
     B: ✓(30)

(33) A: Has Johnny done his homework? (not an event of asserting p)  
     B: ✗(30)

**Question:** What does it mean to *believe* an event of asserting p?

### 4.3 Response Stance *believe*

**Proposal:** *believe* has a use as a Response Stance verb.

Anand and Hacquard 2014 describe Response Stance verbs (*claim, agree, dispute, etc.*) as reporting discourse moves whose goal is updating a reported common ground, CGR.

(34) \[ \text{\texttt{\textbf{claim}}} \text{\texttt{\textasciicircum}{c,w,g} = \lambda p\lambda e.\texttt{claim}'(e,w) \} & \forall w' \text{ compat. with Goal}(e) [\forall w'' \in \text{CGR}(w') [p(w'')]] \} \]  
     (Anand & Hacquard, 2014: 78)

We propose that the goal of *belief* discourse moves is not to update CGR.

- Instead, it reports acceptance of (the propositional content of) the discourse move into the attitude holder’s belief set.

(35) **Sketch of denotation of Response-stance (RS) *believe***

x believesRS e in w iff:

(i) \( e \) is a discourse move in some reported CG (CGR)

(ii) goal(e) is to add the content(e) to CGR

(iii) Dox(x)(w) ⊆ content(e)

(36) a. Dox(x)(w) = \{ w' : w' is compatible with what x believes in w \}

b. content(e) = \{ w' : w' is the informational content of e \}

only defined if e is an assertion

See Hacquard, 2006; Kratzer, 2013 on the informational mode of content projection.
Restrictions on ta-kes in reported discourses:

For \( \text{believe}(\phi \text{-ta-kes}) \) to be felicitous, \( \phi \) must be consistent with content previously proffered to the subject of \( \text{believe} \). In (37), content proffered to \( \text{Johnny’s mother} \):

\[
(37) \quad \begin{array}{l}
\text{Johnny-ka ku-uy emma-eykey [ku-ka swukcey-lul \; ta}\hfill \\
J.-\text{NOM \; he-GEN \; mom-to \; he-NOM \; homework-ACC \; all}\hfill \\
\text{ha-yess-ta-ko] \; malha-yess-ta.}\hfill \\
do-PST-DEC-\text{ko say-PST-DEC}\hfill \\
\text{‘Johnny told his mom that he finished his homework.’}
\end{array}
\]

\[
\begin{array}{l}
\text{Johnny-uy emma-nun [ku-ka swukcey-lul \; ta \; ha-yess-\text{ta-nun}}\hfill \\
J.-\text{GEN \; mom-TOP \; he-NOM \; homework-ACC \; all \; do-PST-DEC-ADN}\hfill \\
\text{kes-ul]} \; \text{mit-nun-ta.}\hfill \\
\text{kes-ACC believe-PRES-DEC}\hfill \\
\text{‘Johnny’s mom believes that he finished his homework.’}
\end{array}
\]

By contrast, \( \text{believe}(\phi \text{-ta-kes}) \) is infelicitous in (38) since \( \phi \) was proffered to the speaker but not \( \text{Johnny’s mother} \):

\[
(38) \quad \begin{array}{l}
\text{A: \; Johnny told me—but hasn’t said anything to his mother—that he finished all his homework. Do you believe him?}\hfill \\
\text{B: \; I don’t know, but Johnny’s mother went into his room and saw several completed assignments...}\hfill \\
\text{B: \#Kulayse Johnny-uy emma-nun [Johnny-ka swukcey-lul \; ta}\hfill \\
\text{so \; J.-\text{GEN \; mother-TOP \; J.NOM \; homework-ACC \; all}}\hfill \\
\text{ha-yess-\text{ta-nun kes-ul]} \; \text{mit-e.}\hfill \\
do-PST-DEC-\text{ADN k}es\text{-ACC believe-DEC}\hfill \\
\text{‘So Johnny’s mother believes that Johnny finished his homework.’}\hfill \\
\text{Comment: \; “I feel that Johnny’s mom herself must have heard the claim that Johnny finished the homework.”}
\end{array}
\]

Open empirical questions:

- Can proffering discourse verbs in Korean (e.g. \text{malha} ‘say’) embed ta-kes? If so, would that not conflict with the claim being presupposed in the CG or CG\text{R}?  
- What do factive kes-clauses mean under believe, e.g. (7)?

5 Conclusions

- When clauses refer, they might not refer to propositions or even to propositional content directly, but to discourse events that carry propositional content.
Korean *ta-kes* clauses are best understood as denoting definite descriptions of a discourse event (an assertion) that carries propositional content.

When *ta-kes* is present, Korean *mit* ‘believe’ behaves like a response stance verb, reporting a discourse move: the uptake of a proffering, not the proffering itself (Anand and Hacquard, 2014).

**Why is this interesting? Is this expected?**

- We think things could have been different: non-factive, non-perception *ta-kes*-clauses could have referred to content that was *not* previously proffered

- Is reference to propositions/propositional content parasitic on reference to events of asserting that content, which only indirectly carry propositional content?

- How do *ta-kes* clauses differ from explicit reference with *the claim that*...?
  
  - Does (39) imply that the claim was “heard” by the subject:

  
  (39)  
  a. My great grandpa believed what/the thing that you just now claimed (but no one at the time made that claim but him).
  b. I think that we will colonize Mars. And My great grandpa believed it that we would colonize Mars too (and he was the only one then).

  - These seem ok, but a *ta-kes* clause is predicted not to be, suggesting that *ta-kes* clauses impose more than just a restriction on a propositional ‘thing’ being felicitously referred to by a definite in the context of utterance.

It may be useful to apply the contexts used here to other languages that have been claimed to have ‘referential clauses’ with nominal morphosyntax.

- Our results reinforce the need to clearly distinguish *factive* from *familiar* referential clauses.

- Using our contexts may show that structures previously described as “factive” or “presuppositional” may be best understood in terms of belief as a discourse-move reporting predicate.
Preliminary results show that Kastner’s (2015) Hebrew “presuppositional clauses” (bearing demonstrative ze as in (40b)) can occur under non-factive belief reports and have felicity conditions like Korean ta-kes clauses.

(40) **Hebrew:**

a. anaxnu ma’amimin [še-yeš le-xa hetkef lev].
   we believe.PL COMP-is to-you.M attack.CS heart
   ‘We believe that you are having a heart attack.’

b. anaxnu ma’amimin le-ze [še-yeš le-xa hetkef lev].
   we believe.PL to.this COMP-is to-you.M attack.CS heart
   ‘We believe this that you are having a heart attack.’ (I. Kastner, p.c.)

(41) **Discourse A:**

A: What’s wrong with me Doctor?
B: ✓(40a), ✗(40b)

(42) **Discourse B:**

A: Don’t you believe me that I am having a heart attack?
B: ✓(40a), ✓(40b)
References


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A Nominalized clauses in Navajo

As in Korean, Navajo uses the same marker both on internally-headed relative clauses (43a) and a certain kind of embedded clause (43b).

- Like Korean kes, the marker ígíí has been variably described as a complementizer, relativizer, and nominalizer (Platero 1974, Young & Morgan 1987, Hiraiwa 2008), although these terms are often not clearly defined.

(43)  

a. [‘Ashkii ‘álhosh-ígíí]  ‘álháá’.  
   boy 3SUBJ.sleep.IMPF-ígíí 3SUBJ.snore.IMPF  
   ‘The boy who is sleeping is snoring.’ (Platero 1974: (7))

   Mary Flagstaff.to 3SUBJ.go.PERF-ígíí 3OBJ.1SUBJ.hear.IMPF  
   ‘I hear that Mary has gone to Flagstaff.’ (Schauber 1979: 253)

Also like Korean, the nominalization strategy for embedding shown in (43b) is not the only strategy found in Navajo. Verbs like yishniih ‘I hear’ also permit embedded clauses to embed clauses marked by go (44).

- Elsewhere in Navajo, go seems to function as general purpose clausal subordinator, marking e.g. temporal clauses and conditional antecedents.

(44)  

[Mary Kinłánígóó ‘íiyáa-go] yishniih.  
   Mary Flagstaff.to 3SUBJ.go.PERF-go 3OBJ.1SUBJ.hear.IMPF  
   ‘I hear that Mary has gone to Flagstaff.’ (adapt. Schauber 1979: 253)

Schauber (1979) demonstrates that the two types of embedded clauses are licit in different kinds of discourse contexts.

- Navajo ígíí-marked clauses are licit in (45) but not (46). Navajo go-marked clauses are licit in both (45) and (46).

(45)  

A: Jįįdą́ą Mary kintahgóó ‘íiyá, nilísh bééhózin?  
   today M. town.to 3SUBJ.go.PERF 2OBJ.with.Q 3SUBJ.be.known  
   ‘Mary went to town today. Did you know? ’

   yes M. town.to 3SUBJ.go.PERF-ígíí 3OBJ.1SUBJ.hear.PERF  
   ‘Yes, I heard that she went to town.’ (Ellavina Perkins, p.c.)

   yes M. town.to 3SUBJ.go.PERF-go 3OBJ.1SUBJ.hear.PERF  
   ‘Yes, I heard that she went to town, why?’ (Schauber 1979: 251)
Schauber (1979) characterizes ɨgií vs. go as follows:

- For ɨgií-marked embedded clauses, the main clause carries the main point of the utterance.
- For go-marked embedded clause, either the embedded clause or the main clause can carry the main point.

In ongoing work, we explore the idea that the licensing conditions for ɨgií-marked clauses can be characterized in terms familiar from Korean: ɨgií-marked clauses express content that as previously proffered.

- We are testing the Navajo constructions using the kinds of contexts discussed above for Korean to tease apart factivity from ɨgií-marked clauses.