

# Nouny Clauses

Keir Moulton  
*Simon Fraser University*

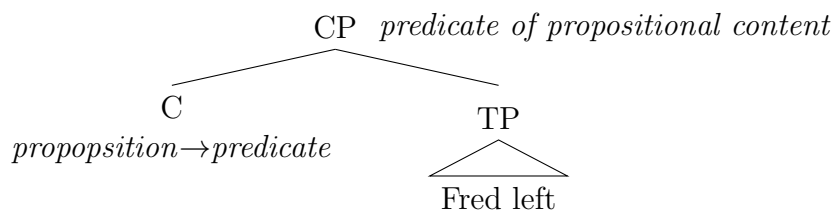
Göttingen

(Bruening 2014)

## 1 D+CP?

The proposal that we've been playing with: **CPs are Content predicates**

- (1) the story [ that Fred left ]



**Can CP predicates combine with which determiners?**

- (2) Relative CP also combines directly with D (raising analysis Kayne 1994, Bianchi 2000)  
[<sub>DP</sub> the [<sub>CP</sub> book that<sub>Op<sub>i</sub></sub> John read <sub>i</sub> ]]

**Do Content CPs ever combine with determiners?**

- Yes! Proposition-Denoting CPs combine with **overt** Determiners in many languages:
  - Roussou 1991, Picallo 2002 argue that these do not have a null N, but are D+CP constructions

- (3) [El que creas que hay fantasmas en la azotea] carece de lógica. (Spanish)  
the C believe.2SG that there-is ghosts in the attic lacks of logic  
‘That you believe that there are ghosts in the attic is illogical.’ (Picallo 2002 (6a))

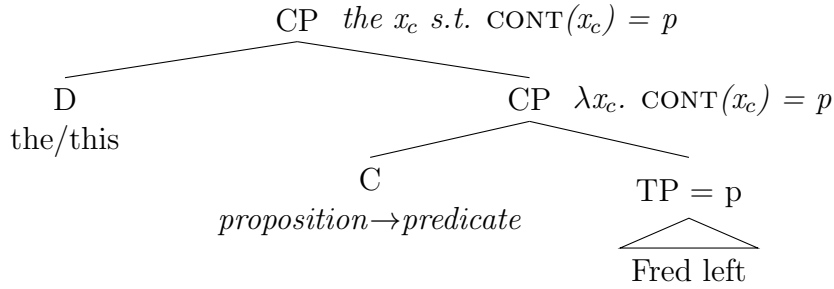
- (4) [to oti lei psemeta] ine fanero  
the-NOM C tell-3SG lies-ACC be-3SG obvious-NOM

‘That she tells lies is obvious’ (Roussou 1991 (45b))

- (5) man [ in-o ke Ramin miād emshab ] shenid-am. (Persian)  
 I this-OBJ that Ramin come.Pres.3SG tonight ] heard.Past-1SG  
 ‘I heard that Ramin is coming tonight.’ (Farudi 2007))

The idea I have been playing with predicts that the D+CP should be possible and should denote things with propositional content:

(6)



This predicts that nominalized clauses do not need to be factive (cf. Kiparsky and Kiparsky 1970), and this is borne out:

- (7) [To oti ine plusios] ine psema.  
 The that is-3SG rich is lie  
 ‘That he is rich is a lie’. (P. Pappas, p.c.)

(8) #The fact that he is rich is a lie.

- (9) man [ in-o ke Ramin miād emshab ] na-shenid-am. (Persian)  
 I this-OBJ that Ramin come.Pres.3SG tonight ] NEG-heard.Past-1SG  
 ‘I didn’t heard that Ramin is coming tonight.  
 He may or may not come.’ (A. Farudi, p.c.)

The view that CPs are predicates readily accounts for the fact that they can combine with Det and other nominalizing elements.

If CPs had their ‘standard’ denotation as sets of possible worlds (or properties of possible situations (Kratzer 1989, 2007)), then just sticking a determiner on that would lead to the wrong semantic type for these cases:

- (10) \*DP: s  
 D CP: ⟨s,t⟩  
 △  
 ...

This is **not** the right semantic type to be an argument of *is a lie*.

## An alternative

- **Chierchia (1984)** proposes that propositions can be nominalized (by his  $NOM \cap$  operator) and thereby denote the **individual correlates** of a proposition.
- This might or might not be different semantically from what we have done with contentful individuals. But it would be committed to Greek *to* being a  $\cap$  operator, which may be distinct from a definite determiner.

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One thing to note: D is highly restricted — usually definite or demonstrative, and if demonstrative then often proximal.

- (11) \*ena oti efighe... Greek  
a that left-3SG  
'A that he left...'
- (12) \*[Un(a) que creas que hay fantasmas en la azotea] carece de lógica. (Spanish)  
A C believe.2SG that there-is ghosts in the attic lacks of logic  
'That you believe that there are ghosts in the attic is illogical.'

Persian only allows *in* 'this' or *un* 'that' (Farudi 2007)

This might be something more general about D+NP+CP:

- (13) a. the fact/idea/rumour/notion that he was a candidate  
b. #a fact/idea/rumour/notion that he was a candidate

This deserves thinking about. (Any thoughts?)

## 1.1 Other nominalized clauses (first pass)

In **many** languages clausal arguments are nominalized.

**Do these “Nouny” Clauses ever denote propositional entities? Yes!**

In Navajo, the marker **-ígíí** nominalizes:<sup>1</sup>

- (14) jool yee ndaané=**ígíí**  
ball 3O.with 3PL.S.play  
'school ball team' lit. the ones that play with a ball
- (15) [Mary Kinłánígóó 'íyáh-**ígíí**] yishniih.  
Mary Flagstaff.to 3SUBJ.go.PERF-IGII 1SUBJ.hear  
'I hear that Mary has gone to Flagstaff.'  
(Schauber 1979: 252-253)

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<sup>1</sup>It's also described as a relativizer when it heads relative clauses — we'll get to this.

And they're NOT necessarily factive:

- (16) Jáan diné nilín=ígíí yooch'ííd 'át'é.  
 John Navajo 3S.be=NOMLZR lie 3S.be  
 'That John is a Navajo is a lie' (Schauber 1979)

## Korean

Complement clauses are often nominalized:

- (17) Mary-nun [John-i kil-ul kenne-ss] **-um -ul** al-ass-ta.  
 Mary-TOP John-NOM street-ACC cross-PAST NMLZR -ACC know-PAST-DECL  
 'Mary learned that John had crossed the street.'
- (18) Mary-nun [John-i sihem-ey hapkyekha] **-ki -lul** pala-n-ta.  
 Mary-TOP John-NOM exam-in pass NMLZR -ACC hope-PRES-DECL  
 'Mary hopes that John will pass the exam.'  
 (Horie 2000: 16(11))

CPs can also be nominalized by a semantically 'light' noun *kes*, 'thing':

- (19) Mary-nun [John-i sihem-ey hapkyekha-n] **-kes -ul** al-ass-ta.  
 Mary-TOP John-NOM exam-in pass-ADN:PAST NMLZR -ACC know-PAST-DECL  
 'Mary learned that John passed the exam.'
- (20) Mary-nun [John-i sihem-ey hapkyekha-l] **-kes -ul** pala-n-ta.  
 Mary-TOP John-NOM exam-in pass-ADN:FUT NMLZR -ACC hope-PRES-DECL  
 'Mary hopes that John will pass the exam.'  
 (Horie 2000: 16(11))

The complement in (20) is not necessarily factive, nor is (21):

- (21) [Toli-ka cip-ul sa-ss-ta-nun kes-un] sasil-i an-i-ta.  
 Toli-NOM house-ACC buy-PAST-DECL-ADN KES-TOP fact-NOM not-COP-DECL  
 'The claim that Toli bought a house is not true.' (C.H. Han, p.c.)

## Lessons from Mohawk

Mowhak: Baker (1996) shows that it takes a noun to embed a clause.

- (22) a. Sak rake        **-nuhwe'** -s  
          Sak MsS/1sO **-like**        -HAB  
          ‘Sak likes me.’  
       b. Sak ro-    **-rihw**    -a **-nuhwé'** -u    a-ha-'sere-ht-óhare-'  
          Sak MsO **-matter** -Ø **-like**        -STAT OPT-MsS-car-NOM-wash-PUNC  
          ‘Sak has agreed to wash the car’  
          (Baker 1996: 462(23))

- (23) **o-rihw-a'** : ‘*matter*’, ‘*affair*’, ‘*fact*’, ‘*news*’  
       “A very general word referring to a kind of proposition” (Baker 1996)

CP-taking verb	Literal gloss	Free gloss
rihw-a-nuhwe'	matter-like	‘to agree to S’
rihw-a-tshuri	matter-find	‘to find out that S’
rihw-a-yuta's	matter-acquire	‘to decided to S’
rihw-isak	matter-seek	‘to investigate S’
rihw-a-ruk	???	‘to hear that S’

Bakers very interesting point is that Mohawk is generally a pronominal argument language, where DP arguments are adjunct satellites (Jelinek 1984).

Curiously, CPs, he shows, are *not* satellites (surprising given Koster 1978), and his explanation is that the CPs are in apposition to an incorporated N.

## More genereally:

Both D+CP constructions and nominalized clauses teach us that:

- “noun-y” clauses are not necessary factive!
- having the notion of a **thing** with content seems like a good way to capture this
  - but I suspect there other frameworks that might be candidates too—see Asher 1993 for much discussion of reference to abstract objects.

## 2 D+CP?

What is the right analysis of the cases with D? (and, by extension, the nominalized ones?)

1. D+CP  
[D [CP]]
2. A null N  
[D  $\emptyset_N$  [CP]]
3. CP is in apposition to a D(P)  
[DP] [CP]

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**Side-bar** This same question arises for *es*-correlates of CPs in German:

- (24) Hans glaubt **es**, [dass Sydney die Hauptstadt von Australien ist].  
H. believes it that Sydney the capital of Australia is.

See the recent volume Frey, Meinunger, and Schwabe (2016) for lots of interesting papers on this.

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Kornfilt and Whitman 2011 rule out option #3: it's a unit.

- (25) [To oti efighe] dhen amfisvito  
the.ACC that left.3.SG NEG dispute.1.SG  
'I do not dispute that he left' (Lit.: 'That he left I do not dispute.')
- (26) A: Ti se stenoxori?  
what you.ACC upset.3.SG  
'What upsets you?'  
B: To oti efighe.  
the.ACC that left.3.SG  
'That he left.'

- We might want to check if *to* can remain in an argument position and the CP can extrapose, as in German *es...dass...* constructions.)
- And can *es dass....* sequences answer a question in German? (I suspect not!)

Farsi (*in*+CP) works like Greek to an extent: as far as I can tell, it can front, but *in* and CP can be separated by CP extraposition like the Germanic *es....dass* constructions.

## 2.1 Arguments for D+CP in Greek

Roussou gives a number of arguments that there isn't a null Noun in the *to*+CP constructions, i.e. that (27a) does not have (27b) as its source:

- (27) a. *to*            *oti* *efighe*...  
          the-NOM that left-3SG...  
       b. *to*            **gheghonos** *oti* *efighe*  
          the-NOM fact            that left-3SG...  
          'the fact that he left...'

The major argument she gives is that *to* can appear with *na*-clauses, which don't complement *gheghonos* 'fact':

- (28) a. *to*            *na* *ehis*            *ipomoni*            *ine*            *proson*  
          the-NOM PRT have-2SG patience-NOM be-3SG advantage-NOM  
          'That you have patience is an advantage'  
       b. \**to*            *gheghonos* *na* *ehis*            *ipomoni*...  
          the-NOM fact            PRT have-2SG patience-NOM  
          'the fact to have patience'

(Presumably *na*-clauses are semantically compatible with the N 'fact', otherwise this could just show that the null N in *na*-clauses is too irrealis to deliver facts...we all should read Iatridou 2014.)

The gender of D is always neuter *to*, even though CP taking Ns can be gendered (using *i*)

- (29) a. *i*                    *fimi*            *oti* *eghine*            *ipurghos*  
          the-FEM.NOM rumour that became-3SG minister-NOM  
          'The rumour that he became minister'  
       b. \**i*                     $\emptyset$  *oti* *eghine*            *ipurghos*  
          the-FEM.NOM    that became-3SG minister-NOM  
          'The that he became minister'

This would be an argument against a null N for each type of overt N. But maybe there is a null N that just refers to **content**. Recall that *to oti* clauses can be both **factive** and non-factive.

Greek could have a null N like Korean *kes* or Mohawk, but this null N could have different selectional properties (see Hartman 2012, and his argument from Uygher about a null N).

- but postulating a null thing with different selectional properties from an overt version is a dangerous game! (right Jaklin?)



## 2.2 More on the distribution of *to oti*

*To* makes a CP a DP—this is required to be a subject:

- (30) [ \*(to) oti lei pse mata ] apodhiknii tin enohi tis.  
the-NOM that tell-3SG lies-ACC prove-3SG the-ACC guilt her-GEN  
'That she tells lies proves her guilt.'

Same restriction after P:

- (31) P \*(to) oti....

In object position: Roussou says it's bad but notices an exception:

- (32) a. \*ksero to oti efighe.  
know-1 the-ACC that left-3SG  
'I know that he left.'  
b. dhen amfisvito to oti efighe  
not dispute-1SG the-ACC that left-3SG  
'I do not dispute the fact that he left'.

But to disput a fact/claim, that must be somehow already on the table...see (Kastner 2015), who argues that presuppositionality not factivity is at work. I agree. But just sticking a D on top of a clause will not get you this **unless CPs denote things with propositional content!**

### 3 Spanish D+CP

All data from Picallo (2002), unless otherwise noted.

- (33) a. [ **El** [ que creas que hay fantasmas en la azotea]] carece de lógica.  
           that that believe.2SG that there-is ghosts in the attic lacks of logic.  
           ‘That you believe that there are ghosts in the attic is illogical.’  
       b. Lamento mucho [ **el** [ PRO haberme visto obligado a explicar todo esto]]  
           regret.1SG lot the to-have seen forced to explain all this  
           ‘I regret a lot to have been forced to explain this.’

As with Greek, earlier authors said there was a null noun *hecho* ‘fact’ here (Demonte 1977, Plann 1981, Iatridou and Embick 1997).

Picallo argues against this using an interesting counter-part to D+CP constructions: *Lo+CP*.

- (34) a. **Lo de** ir a Mallorca este verano no nos convence.  
           the of to-go to Mallorca this summer not us convince  
           ‘The (idea/proposal) of going to Mallorca this summer does not convince us.’  
       b. **Lo de** que se tenga que pagar un impuesto adicional provocará un  
           the of that people have that to-pay a tax additional will-cause a  
           unánime rechazo.  
           unanimous revolt  
           ‘The (idea/proposal) that people have to pay an additional tax will cause a unanimous revolt.’

Note that *de* is **required** when a CP complements N in the language.<sup>2</sup>

- (35) Lamento el hecho \*(de) que no me saludara.  
       regret.1SG the fact of that not me greet.3SG  
       ‘I regret the fact that he did not greet me.’

But *de* is **disallowed** in the D+CP construction:

- (36) Lamento el (\*de) que no me saludara.  
       regret.1SG the of that not me greet.3SG  
       ‘I regret that he did not greet me.’

So the argument is that there must **not** be an N in the *el-que* (D+CP) constructions, but there *is* one in the *lo-de-que* constructions.

- In *el-que* constructions we have a clear and established instance of D+CP.

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<sup>2</sup>This may pose something of a problem for the view that CP complements of nouns are really predicate modifiers. It depends, though, on the true reason why the P is needed.

One thing to note further is that the *lo-de-que* constructions do not involve an *elided* N. Those *also* exist in the language with a stranded *el*:

- (37) Consideró varios **hechos** independientemente. **El** [e] **de** que hubieran apoyado  
 considered.3SG several facts independently the of that had.3PL supported  
 tal propuesta era el más conspicuo.  
 such-a proposal was the most conspicuous  
 ‘S/he considered several facts independently. The (fact) that they had supported such a  
 proposal was the most conspicuous one.’

The noun *hecho* ‘fact’ in first clause antecedes N-ellipsis.

No similar linguistic N antecedent is needed (so far as I can tell) in the *lo de que* constructions.

So:

- Spanish has a null N that is similar in meaning to *kes* ‘thing’ in Korean or *o-rihw-a’* in Mohawk.
- It is not factive; it denotes a **thing** with propositional content (all data not in Picallo comes from Paula Menéndez-Benito, who knows everything):

- (38) [Lo de que María compró una casa nueva] es una mentira.  
 The of that Maria bought a house new is a lie  
 ‘That Maria has bought a new house is a lie.’

- (39) No me creo lo de que María compró una casa nueva.  
 Not me believe.1SG the of that Maria bought a house new  
 ‘I don’t believe that Maria bought a new house’.

Interestingly, *el que* is not possible predicated of *is a lie*:

- (40) \*[El que María haya comprado/compró una casa nueva] es una mentira.  
 The that Maria has.SUBJ bought/bought.INDIC a house new is a lie  
 ‘That Maria has bought a new house is a lie.’

This contrast suggests that *el que* does **not** denote things with propositional content, but that *lo de que* does.

- This should make us really re-question Roussous’s conclusions about Greek:
  - Perhaps, then, Greek has a null N in *to oti*, at least in those cases where it denotes propositional content.
  - Given the presence of a Null content noun in Spanish, why couldn’t that exist in Greek?
- This all suggests that D+CP denotes situations (not things with propositional content) which is **not** what the hypothesis I present (CPs are predicates of propositional content) predicts, without finding some mitigating/interfering factors in the present cases.

## 4 The Korean/Navajo Clausal nominalizer

Joint work with Elizabeth Bogal-Allbritten, U. of Gothenburg/Simon Fraser

Recall that we saw that in both Navajo and Korean, a nouny/nominalizing element could head a complement CP. We'll call these **Nominalized Argument Clause Constructions (NACCs)**.

- (41) a. Mary-nun [John-i sihem-ey hapkyekha-n] **-kes -ul** al-ass-ta.  
 Mary-TOP John-NOM exam-in pass-ADN:PAST NMLZR -ACC know-PAST-DECL  
 'Mary learned that John passed the exam.'  
 b. [Mary Kínlánígóó 'íyáh-**ígíí**] yishniih.  
 Mary Flagstaff.to 3SUBJ.go.PERF-IGII 1SUBJ.hear  
 'I hear that Mary has gone to Flagstaff.'  
 (Schauber 1979: 252-253)

Interestingly, this very same morphology is used to form Internally Headed Relatives (IHRCs) in both languages:

- (42) a. [John-un totwuk-i tomangka-n-un **kes-ul**] cap-ess-ta.  
 John-TOP thief-NOM run.away-IMPF-ADN KES-ACC catch-PAST-DEC.  
 'John caught the thief who was running away.' (adapt. Kim 2009) *Korean IHRC*  
 b. ['Ashkii yálti' **-ígíí**] yishniih.  
 boy 3SUBJ.speak -IGII 3OBJ.1SUBJ.hear  
 'I hear the boy who is speaking.'  
*Navajo IHRC*

A sentence like (42b) then is ambiguous between *I heard that the boy was speaking* and *I heard the boy who was speaking*.

While nominalized clauses are familiar in the factivity literature, NACCs in Korean and Navajo do not need to be factive (repeated from above):

- (43) a. [Toli-ka cip-ul sa-ss-ta-nun **kes-un**] sasil-i an-i-ta.  
 Toli-NOM house-ACC buy-PAST-DEC-ADN KES-TOP fact-NOM not-COP-DECL  
 'That Toli bought a house is not true.'  
*Korean NACC*  
 b. [Jáan diné nilín-**ígíí**] yooch'íid 'át'é.  
 John Navajo 3SUBJ.be-IGII lie 3SUBJ.be  
 'That John is a Navajo is a lie' (Schauber 1979)  
*Navajo NACC*

- Recent work on clauses that are DP-like (Kastner 2015)
- Lots of buzz around Haegeman & Ürögdi 2010 and de Cuba & Ürögdi 2010's notion of **referential propositions**, a notion we'll try to deal with more formally, because ...
  - ...these authors do not clarify the semantics of referential propositions (Bhatt 2010; cf. Asher 1993, Chierchia 1984) or how this meaning arises compositionally.

Furthermore, the fact that the means by which content clauses and IHRCs are formed are the same (in two unrelated languages) cannot be an accident.

Let's see how far we can get. To do so, we need to start with Kim's proposal for 3/4 of the *kes*-cases.

## 5 Korean *kes* constructions (Kim 2009)

Kim talks about *Kes*-constructions used as IHRCs, factive complements, and perception complements:

### Internally headed relatives

- (44) John-un [totwuk-i tomangka-n-un **kes-ul**] cap-ess-ta.  
 John-TOP thief-NOM run.away-IMPF-ADN KES-ACC catch-PAST-DECL.  
 'John caught the/a thief that/while he was running away.'

### Perception Complements

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

### Factive Complements

- (46) John-un [totwuk-i tomangka-n-un **kes-ul**] al-ess-ta.  
 John-TOP thief-NOM run.away-IMPF-REL KES-ACC know-PST-DECL  
 'John knew the fact that the thief was running away.'

Kim gives a unified, compositional semantics for *kes*-constructions that relies on events/situations.

- But the analysis that does not allow for non-factive, propositional uses of *kes*-clauses, more of which we will see below (in fact, Kim denied they existed, which is reasonable since it takes some discourse-pragmatic work to make them acceptable).

Before turning to the propositional uses of *kes*-clauses, it's worthwhile to look at the event/situation-based account of IHRCs.

### 5.1 Events/Situations and IHRCs

One reason to think that the semantic composition of IHRCs involves situations, is that the individual that serves as the head in an IHRC in Korean is quite flexible: the head can correspond to just about any DP in the sentence or several **combined**!

- (47) Jinho-nun [koyangi-ka cwi-lul coch-ko iss-n-un **kes-ul**] capassta.  
 J.-TOP [cat-NOM mouse-ACC chase-COMP COP-IMPF-REL NMLZ]-ACC caught.  
 'A cat was chasing a mouse & J. caught {the cat/the mouse/**the mouse & the cat**}.'

In some cases, the head does not even need to be a constituent in the IHRC, but rather inferred from the type of event described:

- (48) John-un [ paci-ka teleweci-Ø-un kes-ul ] takkanay-ss-ta  
 John-TOP pants-NOM get.dirty-PRF-REL KES-ACC wiped.out  
 ‘The pants got dirty and John wiped the dirt off the pants.’

Japanese example from Grosu and Landman 2012, based on Hoshi 1995:

- (49) John-wa [ Mary-ga ringo-o sibottekureta-no-o ] hitoikide nomihosita  
 John-TOP Mary-NOM apple-ACC squeezed-NO-ACC in-a-gulp drank up.  
 ‘Mary squeezed apples and John drank the juice (produced by that squeezing).’

She derives a unified theory that recovers the head from certain theta-relations to the event/situation described by the IHRC.

## 5.2 The details

I won’t replicate Kim’s complete story—she gives a complete compositional analysis, which is quite clever, but hard (it involves AspP movement!). But here’s the gist. I have sort of combined her account with that of Grosu and Landman (2012).<sup>3</sup>

The element *kes* takes a proposition and returns an individual via a contextually supplied element *R*:

- (50)  $\llbracket kes \rrbracket = \lambda p \lambda w. \iota x [R(x)(p)(w)]$

We let *R* find the internal head via a theta-role predicate. So in the example below, *R* is something like (52):<sup>4</sup>

- (51) John-un totwuk-i tamngka-n-un kes-ul cap-ess-ta.  
 John-TOP thief-NOM run.away-IMPF KES-UL catch-PST-DECL.  
 ‘John caught a/the thief while he (=the thief) was running away.’ (Kim 2009 (1))

- (52)  $R_1 = \lambda p \lambda x \lambda w [\exists s [p(s)(w) \ \& \ \mathbf{Agent}(x)(s)]]$

The formula representing the meaning of (51) is (53), where *g* is the assignment function—taking as its domain the set of *R*s in the context.

- (53)  $\lambda w. \exists s [catch(s)(w) \ \& \ Agent(John)(s)(w) \ \& \ Theme(\iota x. g(R)(x)(\lambda s' [run.away(s') \ \& \ Agent(the\ thief)(s')]) (w))(s)]$

<sup>3</sup>Although I have abused Grosu by not giving his island-sensitive account of IHRCs, which is needed, according to the data he endorses.

<sup>4</sup>Kim 2009 adds a second condition on recovering the internal head that involves a salient property, which is her way of getting at the formal link problem.

Putting  $R_1$  in:

- (54)  $\lambda w. \exists s [\text{catch}(s)(w) \ \& \ \text{Agent}(\text{John})(s)(w) \ \& \ \text{Theme}(\iota x. \exists s' [\text{run.away}(s') \ \& \ \text{Agent}(\text{the thief})(s') \ \& \ \text{Agent}(x)(s')](w))(s)]$

There may also be an  $R$  that recovers facts, in the sense of Kratzer 2002. Facts are a difficult semantic/philosophical issue, so I won't go any further than this:

- (55)  $R_3 = \lambda p \lambda s \lambda w [s \text{ is a fact that exemplifies } p \text{ in } w]$

I'll leave it to the reader to see how Kim make this work in the factive case with *kes*

## 6 Referential, but not factive, NACCs

But *kes*-clauses are not just factive, as we saw above.

Moreover, contra Kim (2009) they *can* appear under propositional attitude verbs like *believe*, as long as the context makes that proposition somehow *given*.

Some verbs (e.g. *mit* 'believe') can take complements marked with complementizer *ko* or with the noun-y element (also found in internally-headed relative clauses) *kes*. In 'given' or 'previous mention' contexts ((56)), both *kes* (B1) and *ko* (B2) complements are acceptable:

- (56) **A:** Na-nun swukcey-lul ta ha-yesss-e. Pakk-ey naka nola-to toy?  
I-TOP homework-ACC all do-PAST-DECL outside-at go play-also can  
'I finished my homework. Can I go outside and play?'  
**B:** An toy.  
not can  
'No.'  
**A:** Na-lul an mit-e?  
I-ACC not believe-INT  
'Don't you believe me?'  
**B1:** Um. Na-nun [ney-ka swukcey-lul ta ha-yess-ta-nun **kes**-ul]  
Yes. I-TOP you-NOM homework-ACC all do-PAST-DECL-ADN KES-ACC  
mit-e. Haciman cikum-un cenyek siksa sikan-i-ya.  
believe-DEC but now-TOP evening meal time-COP-DEC  
'Yes, I believe that you finished your homework. But it's dinner time now.'  
**B2:** Um. Na-nun [ney-ka swukcey-lul ta ha-yess-ta-**ko**] mit-e.  
Yes. I-TOP you-NOM homework-ACC all do-PAST-DECL-COMP believe-DEC  
Haciman cikum-un cenyek siksa sikan-i-ya.  
but now-TOP evening meal time-COP-DEC  
'Yes, I believe that you finished your homework. But it's dinner time now.'

In non-given or non-previous mention contexts (57), however, *kes* complements are unacceptable (B1). Only *ko* complements can be used:

- (57) **A:** Cyoni-nun pakk-ey naka nola-to toy?  
 Johnny-TOP outside-at go play-also can  
 ‘Can Johnny go outside and play?’
- B1#** Um. Na-nun [kay-ka swukcey-lul ta ha-yess-ta-nun **kes-ul**] mit-e.  
 Yes. I-TOP he-NOM homework-ACC all do-PAST-DEC-ADN KES-ACC believe-DEC  
 ‘Yes, I believe that he finished his homework.’
- B2:** Um. Na-nun [ney-ka swukecey-lul ta ha-yess-ta-**ko**] mit-e.  
 Yes. I-TOP he-NOM homework-ACC all do-PAST-DEC-COMP believe-DEC  
 ‘Yes, I believe that he finished his homework.’

Notably, clauses with *kes* like the ones shown above are not factive. Those *kes* complements all also contain a declarative mood marker, *ta* ((58a), (59a)). If *ta* is removed ((58b), (59b)) from the *kes* complement, factivity holds. Aside: The following *kes*-sentences are translated into English with words like *claim* or *fact*. The Korean counterparts to these words do not actually occur in the original sentences, however.

- (58) a. Toli-ka cip-ul sa-ss-ta-nun kes-un sasil-i an-i-ta.  
 Toli-Nom house-Acc buy-Past-Decl-Adnom KES-Top fact-Nom not-Cop-Decl  
 ‘The claim that Toli bought a house is not true.’ *Kes and ta*
- b. #Toli-ka cip-ul sa-n kes-un sasil-i an-i-ta.  
 Toli-Nom house-Acc buy-Adnom KES-Top fact-Nom not-Cop-Decl  
 ‘The fact that Toli bought a house is not true.’ *Kes only*
- (59) a. Toli-nun cikwu-ka napccakha-ta-nun kes-ul mit-ess-ta.  
 Toli-Top earth-Nom flat-Decl-Adnom KES-Acc believe-Past-Decl  
 ‘Toli believed the claim that the earth is flat.’ *Kes and ta*
- b. #Toli-nun cikwu-ka napcakha-n kes-ul mit-ess-ta.  
 Toli-Top earth-Nom flat-Adnom KES-Acc believe-Past-Decl  
 ‘Toli believed the fact that the earth is flat.’ *Kes only*

If *p-kes* is only licensed when *p* is ‘given,’ what are the conditions on givenness? Must *p* be true? Can *p* have previously been mentioned as  $\neg p$ ? It seems like the felicity conditions depend on whether the *kes* clause contains mood marking or not. If mood marking is used in a *kes*-marked complement, *p* — or something that entails *p*, but not  $\neg p$  — must have been previously mentioned, but *p* need not be true. If mood marking is absent from a *kes*-marked complement, *p* must be true.



## 6.1 Given in what sense?

- $p$  is false, previous mention of exactly  $p$

- Acceptable: *ko*, mood; *kes*, mood
- Unacceptable: *kes*, no mood

- (60) a. *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.
- b. Kulayse acikto Kibo-nun [Sydney-ka Australia-uy swuto-la-nun **kes-ul**]  
so still Kibo-TOP Sydney-NOM Australia-GEN capital-DEC-ADNOM kes-ACC  
mit-e.  
believe-DEC  
(‘Kibo still believes that Sydney is the capital of Australia.’) ✓ *kes*, mood
- c. #Kulayse acikto Kibo-nun [Sydney-ka Australia-uy swuto-i-n **kes-ul**]  
so still Kibo-TOP Sydney-NOM Australia-GEN capital-COP-ADNOM kes-ACC  
mit-e.  
believe-DEC  
(‘Kibo still believes that Sydney is the capital of Australia.’) # *kes*, no mood
- d. Kulayse acikto Kibo-nun [Sydney-ka Australia-uy swuto-la-**ko**] mit-e.  
so still Kibo-TOP Sydney-NOM Australia-GEN capital-DEC-ko believe-DEC  
(‘Kibo still believes that Sydney is the capital of Australia.’) ✓ *ko*, mood

- $p$  is false, previous mention of  $\neg p$

- Acceptable: *ko*, mood
- Unacceptable: *kes*, mood; *kes*, no mood

- (61) a. *Context:* Kibo has certainly heard in his geography class that Toronto is not the capital of Canada.
- b. #Kulayto Kibo-nun [Toronto-ka Canada-uy swuto-la-nun] **kes-ul**  
even.so Kibo-TOP Toronto-NOM Canada-GEN capital-DEC-ADNOM kes-ACC  
mit-e.  
believe-DEC  
(‘Even so, Kibo still believes that Toronto is the capital of Canada.’) # *kes*, mood
- c. #Kulayto Kibo-nun [Toronto-ka Canada-uy swuto-i-n **kes-ul**]  
even.so Kibo-TOP Toronto-NOM Canada-GEN capital-COP-ADNOM kes-ACC  
mit-e.  
believe-DECL  
(‘Even so, Kibo still believes that Toronto is the capital of Canada.’) # *kes*, no mood  
*Comment:* “This sounds really odd to me, if Kibo has never heard anybody tell him that ‘Toronto is the capital of Canada.’”
- d. Kulayto Kibo-nun [Toronto-ka Canada-uy swuto-la-**ko**] mit-e.  
even.so Kibo-TOP Toronto-NOM Canada-GEN capital-DEC-ko believe-DEC  
(‘Even so, Kibo still believes that Toronto is the capital of Canada.’) ✓ *ko*, mood

- $p$  is true;  $p$  entailed by previously mentioned proposition

- (62)
- Context:* Mary's children must eat vegetables before they can have cake.
  - M's daughter:** Mom! I ate peas! Can I have cake now?
  - M:** No, you can't.
  - M's daughter:** But why? Don't you believe me that I ate peas?
  - M':** Na-nun [ney-ka yachae-lul mek-ess-ta-nun **kes-ul**] mit-e...  
 I-TOP you-NOM vegetable-ACC eat-PST-DEC-ADNOM kes-ACC believe-DEC  
 'I believe that you ate vegetables (...but...).' ✓ *kes*, mood
  - M'':** Na-nun [ney-ka yachae-lul mek-un **kes-ul**] mit-e.  
 I-TOP you-NOM vegetable-ACC eat-ADNOM kes-ACC believe-DEC  
 'I believe that you ate vegetables (...but...).' ✓ *kes*, no mood
  - M''':** Na-nun [ney-ka yachae-lul mek-ess-ta-**ko**] mit-e...  
 I-TOP you-NOM vegetable-ACC eat-PST-DEC-ko believe-DEC  
 'I believe that you ate vegetables (...but...).' ✓ *ko*, mood

## 6.2 Navajo

NACCs are infelicitous in dialogues like (63), where the answer to the question is contained in the embedded clause (Simons 2007).

Schauber (1979) demonstrates for Navajo that an NACC (B1) cannot be used to provide new information, as in (63) where it would answer A's question. We show the same is true in Korean.

In both languages, NACCs are only licit if the main clause answers the question (e.g. *Did you hear that Mary went to Flagstaff?* ✓ *Yes*, B1).

This is expected if NACCs must refer back to common ground information but cannot offer novel information. Both kinds of questions can be answered with the non-nominalized embedded structure (e.g. B2).

- (63)
- A:** 'Where did you hear that Mary went?'
- B1:** #[Mary Kinlánígóó 'íyáh-**ígíí**] yishniih.  
 Mary Flagstaff.to 3SUBJ.go.PERF-IGII 1SUBJ.hear  
 'I hear that Mary has gone to Flagstaff.?' (Schauber 1979: 252-253)
- B2:** [Mary Kinlánígóó 'íyáh-**go**] yishniih.

## 7 A unified analysis of IHRCs and NACCs

Recall the R function embedded inside *kes*.

We just add a new R, one that picks out propositional content, using the same CONT function we did in the earlier lectures.

An NACC interpretation obtains when  $R_{cont}$  picks out a contentful entity whose propositional content is  $p$ .

- (64) a.  $\llbracket -ig'ig'/kes \rrbracket = \lambda p \lambda w. \iota x [R(p)(x)(w)]$   
 b.  $\llbracket R_{indiv} \rrbracket^{g,c} = \lambda p \lambda x \lambda w [\exists s \text{ in } w : p(s) \ \& \ \text{ROLE}^{g,c}(s)(w) = x]$   
 c.  $\llbracket R_{cont} \rrbracket = \lambda p \lambda x \lambda w [ \text{CONT}(x)(w) = p ]$   
 where  $\text{CONT}(x)(w) = \{ w' : \text{the information that } x \text{ carries in } w \text{ is true in } w' \}$

Under this account of NACCs, sentence B2 in (56)/(57) has the following analysis (see Moulton 2015 for a denotation for *believe* that selects content entities).

If no contentful entity exists in the common ground (57), we correctly predict the NACC to be infelicitous.

- (65)  $\lambda w. \text{I believe in } w [\iota x. \text{CONT}(x)(w) = \lambda w'. \text{you finish your homework in } w']$   
 $\approx \text{I believe the salient thing with content in the common ground, whose content is that you did your homework.}$

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