D+CP:
Introduction

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1 Selection and semantic transparency

There's a long tradition of associating complement types with semantic categories:

$$\begin{aligned} \text{proposition} &\leftrightarrow \text{CP}_{\pm\text{finite}} \\ \text{event} &\leftrightarrow \{ \text{ bare infinitive, nominal gerund } \} \\ &\vdots \end{aligned}$$

(1) a. [The removal of the statue]/*[That the statue was removed] occurred...
b. *[The removal of the statue]/[That the statue was removed] is true...

An important distinction

Bare infinitival perception reports are semantically **transparent**: substitution of extensional equivalents preserves truth.

(2) a. Lilah saw Bea eat pasta.
b. Bea ate strozzapreti.
⇒ Lilah saw Bea eat strozzapreti.

Finite complements are semantically **opaque** (and factive and "indirect" but those are additional dimensions):

(3) a. Lilah saw that Bea ate pasta.
b. Bea ate strozzapreti.
⇏ Lilah saw that Bea ate strozzapreti.

Barwise (1981): transparency follows automatically if direct perception *see* **semantically selects** for an individual situation or event e[1]; regardless of the event's description, the see-relation is true if the subject sees that event.

(4) *see*$(e)(x)$ = 1 iff x saw e

see(*Bea eat pasta*)(*Lilah*) = 1 iff ∃e [Lilah saw e and e is an event of Bea eating pasta]
see(*Bea eat strozzapreti*)(*Lilah*) = 1 iff ∃e [Lilah saw e and e is an event of Bea eating strozzapreti]

An opaque reading arises when the selecting predicate cares about the propositional content of the complement, which I will model with possible worlds (there are other ways, this is just convenient for now). A proposition is a set of possible worlds (or situations):

(5) *Bea ate pasta* → {w: Bea ate pasta in w}

While in the actual word, (5) picks out the same thing as does *Bea ate strozzapreti*, the two are nonetheless different propositions:

(6) *Bea ate strozzapreti* → {w: Bea ate strozzapreti in w}

One could easily believe or know (5) but not know (6) (unlike with direct perception).

Indirect/opacity-inducing *see* selects propositions:

- the complement proposition (set of worlds) is a subset of the worlds compatible with what the subject knows via indirect perception (IND)

(7) *see*$(p)(x)^{w}$ = 1 iff $\text{IND}_{x,w} \subset p$

$\text{IND}_{x,w}$ = {w': w' compatible with the knowledge gained by x through indirect means in w}

(8) Lila saw that Bea ate pasta ⇝

{w': w' compatible with the knowledge gained by Lilah through indirect means in w} ⊂ {w: Bea ate pasta in w}

If Lila saw only remnants of a pasta pieces but not it's original shape, then her IND worlds include worlds where Bea ate strozzapreti, spaghetti, etc. So the it would be false that IND ⊂ {w: Bea ate strozzapreti in w}

[1] Higginbotham (1983) showed that events could do the job, and argued for ∃ force for bare infinitives.

Syntactic size?

At first blush it appears that the presence of verbal functional categories (T, Asp, C) is what gets to opaque interpretations, but that's not always the case.

- The range of arguments that are intensional readings is very large (Moltmann (2008), who also discuss the shortcomings of failure of substitution tests, a subtlety I won't get into).

Small but opaque:

(9) *Intensional transitive verbs:*
Roger is looking for the mayor of Vancouver $\not\Rightarrow$ Roger is looking for Kennedy Stewart

(10) *Concealed Questions:*
Roger knows the capital of Ontario $\not\Rightarrow$ Roger knows the largest city in Ontario

(11) *Propositional DPs* (Vendler 1967; Zucchi 1989):
Oedipus was informed/aware of Jocasta's arrival $\not\Rightarrow$ Oedipus was informed of his mother's arrival.

Good paraphrase involves a CP: Oedipus knows that Jocasta arrived... (we'll talk about these in this course)

Big but transparent:

Pseudo-relatives: transparent finite CPs (we'll look at these in detail on Saturday)

(12) Gianni ha visto [$_{PR}$ **Maria che piangeva**] . . .ma ha pensato che
Gianni has seen Maria that cry.IMPF . . .but has.3SG thought that
ridesse.
laugh.SUBJ.3SG
'Gianni saw Maria crying . . . but he thought she was laughing.'

Compare to Standard finite CPs: opaque

(13) Gianni ha visto dalle lacrime **che Maria piangeva**, #ma pensava
Gianni has seen from.the tears that Maria cry.IMPF, but thought.3SG
ridesse.
laugh.SUBJ.3SG

Sometimes even English CP *that*-clauses can be transparent:

(14) a. It just so happened that Bea ate pasta.
b. Bea ate strozzapreti.
⇒ It just so happened that Bea ate strozzapreti.

But there are still form-meaning generalizations to capture!

For one, in direct perception there's a unique mapping between form and meaning: CPs can and must give rise to opaque reading (indirect perception):

(15) I saw that Fred dancing # but at the time I thought he was jumping away from a mouse
cf. I saw Fred dancing, but at the time I thought he was jumping away form a mouse

And the kinds of DPs that can give rise to opaque meanings for, say, verbs that take propositional DPs (11) can only give rise to transparent readings with this verb:

(16) Susie saw Fred dance/Fred's dancing, #but in fact he was in fact jumping away from a mouse.
cf. Sue believe that Fred was dancing, but in fact he we jumping away from a mouse.

We need to make sure that here DP=transparent and CP=opaque. Although **certain DPs** can give rise to opaque reading:

(17) Susie saw the fact that Fred was dancing # but at the time I thought he was jumping away from a mouse.

Complex NP constructions headed by what I call *content nouns* (*the fact that, proposition that, claim that*) are going to play a prominent role in this course.

Explain

There are other interesting places where DP and CP give rise to very difference meanings: e.g. the two readings of *explain*: (Pietroski 2000; Elliott 2016)

- Explanans: the complement is what is being said by way of explanation
- Explanadum: the complement expresses the thing being explained
- CP complements express an explanans/proposition reading (18a)

- DPs, including DNs, can't generate the explanans reading (18b)

(18) Why does everyone look so happy?
   a. John explained that Sally won—but not how.
   b. John explained Sally's win—#but not how.

Summary

There are form-meaning correspondences with respect to transparency/opacity

- CP usually opaque; non-content-DPs usually transparent

But there are significant divergences:

- Propositional DPs (Vendler 1967, Zucchi 1989), Intensional transitive verbs...
- Content DPs (*claim*, *idea*, *fact*, *myth*)

In this course I want to investigate the syntactic category–intensionality connections with a focus on "**nouny CPs**".

This course: nouny CPs

Propositional but "nouny"

In many languages, embedded clauses can be nominal, in one way or another:

- *Clauses affixed with nominalizing morphology*: **Korean** (M-J Kim 2009, S-S Kim 2011, Shim and Ihsane 2015), **Navajo** (Schauber 1979), Blackfoot (Bliss 2014), among many others (Dixon and Aikhenvald 2006).
- *Clauses headed by determiners:* Greek (Roussou 1991), Persian (Farudi 2007), Hebrew (Kastner 2015), Spanish (Picallo 2002)
- *Propositional Proforms: that/this, it, so* (Asher 1993; Snider 2017)
- (Maybe) *Clauses in DP syntactic positions*: Dutch (Barbiers 2000; Haegeman and Ürögdi 2010).
- (Maybe) *Clauses associated with nominal proforms:* English *it* (Kiparsky and Kiparsky 1970), German *es* (Sudhoff 2003; Frey, Meinunger, and Schwabe 2016; Zimmermann 2016), Albanian (Kallulli 2006), Hungarian (Abrusán 2011)

(19) nay-ka [Jo-i posek-ul hwumchi-ess-ta-nun] **kes**-ul tul-ess-ta. (Korean)
I-NOM Jo-NOM jewelry-ACC steal–PAST-DCL-ADN thing-ACC hear-PAST-DEC
'I heard that Jo stole the jewelry.' (S-S Kim 2011: 29a)

(20) [Mary Kinłánígóó 'ííyáh-**ígíí**] yishniih. (Navajo)
M. Flagstaff.to 3SUBJ.go.PERF-NMLZ 3OBJ.1SUBJ.hear.IMPF
'I hear that Mary has gone to Flagstaff.' (Schauber 1979)

(21) [**El** que creas que hay fantasmas] carece de lógica. (Spanish)
the C believe.2SG that there-is ghosts lacks of logic
'That you believe that there are ghosts is illogical.' (Picallo 2002 (6a))

(22) [**to** oti lei psemata] ine fanero (Greek)
the-NOM C tell-3SG lies-ACC be-3SG obvious-NOM
'That she tells lies is obvious' (Roussou 1991 (45b))

(23) 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))

Not factive: These morphosyntactic properties do not *necessarily* correlate with factivity, as Korean and Navajo show:[2]

(24) [Toli-ka cip-ul sa-ss-ta-nun **kes**-un] sasil-i an-i-ta. (Korean)
T.-NOM house-ACC buy-PST-DEC-ADN NMLZ-TOP fact-NOM NEG-COP-DEC
'That Toli bought a house is not true.'

(25) [Jáan diné nilín**=ígíí**] yooch'ííd 'át'é. (Navajo)
John Navajo 3S.be=NMLZ lie 3S.be
'That John is a Navajo is a lie' (Schauber 1979)

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

(27) 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.)

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

Some descriptions of the interpretative effects of "nouny clauses" from the literature:

- Referential propositions (de Cuba and Ürögdi 2009; Haegeman and Ürögdi 2010), familiar (De Cuba 2007), presuppositional (Kastner 2015), given (Zimmermann 2016).

But...

- What kind of semantic object is referred to (what is a "referential proposition"? Bhatt 2010 to Haegeman and Ürögdi 2010)[3] and how does this meaning arise compositionally?
  - 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.
- What is the nature of the presupposition? What content is given?
- For Spanish, Greek and Persian a big questions is whether there is a null noun (D (NP) CP); if so, these constructions would just be like content DPs.

There is *something* "presuppositional" about nominalized CPs and we're going to talk about what.

[2] DEC = declarative marker, ADN = adnominal marker, NMLZ = nominalizer.

[3] Treatments of reference to propositions can be found in Asher (1993); Snider (2017) and Chierchia (1984). But as we will see the facts we uncover require something more.

Here's a demo from Schauber's (ahead-of-its-time) work on Navajo:

(29) **A:** Mary ch?ééh hanishtá. Hágólá ?ííyá?
M. vain 3OBJ.1SUBJ.seek where.Q 3SUBJ.go.PERF
'I can?t find Mary. Where did she go??

B1:#[Mary Kin?ánígóó ?ííyáh-**ígíí**] yishniih.
M. Flagstaff.to 3SUBJ.go.PERF-*igii* 3OBJ.1SUBJ.hear.IMPF
'I hear that Mary has gone to Flagstaff.'

B2: [Mary Kin?ánígóó ?ííyáa-**go**] yishniih.
Mary Flagstaff.to 3SUBJ.go.PERF-*go* 3OBJ.1SUBJ.hear.IMPF
'I hear that Mary has gone to Flagstaff.?

Internally-Headed Relative Clauses (IHRC) correlation

Poly-functional nominalizer: very common for the same nominalizer to introduce complement clauses and Internally-head relative clauses (IHRCs) (Culy 1990)

(30) [K'ad t'éiyá 'ashkii 'ałhá́á']-**ígíí** yádoołtih.
now just boy 3SBJ.snore.IPFV-NMLZ 3SBJ.speak.FUT
'The boy who is snoring right now will speak.' (Platero 1974: (12))

(31) Korean
a. John-un [totwuk-i tomangka-n-un **kes**-ul] cap-ess-ta.
J.-TOP thief-NOM run.away-IMPF-ADN *kes*-ACC catch-PSST-DEC.
'John caught the thief that was running away.' (Kim, 2009: (1))
b. John-un [totwuk-i tomangka-n-un **kes**-ul] al-ess-ta.
J.-TOP thief-NOM run.away-IMPF-ADN *kes*-ACC know-PST-DEC
'John knew (the fact) that the thief was running away.' (Kim, 2009: (3))

This shouldn't be an accident.

- What is clausal nominalization such that it can return both individuals and non-factive propositions?

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