

## Determiners on clauses\*

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### 1 CP predicates

There have been a number of proposals<sup>1</sup> suggesting that finite clausal arguments can be predicates. In particular, these proposals suggest that CPs are predicates of things with propositional content. The idea takes inspiration from clausal complements of nouns, as in (1).

- (1) the idea that Bob is a fraud

One reason to think that these CPs are not ‘true’ arguments but rather predicate modifiers is that many of the nouns they combine with do not take arguments of any sort (2a), even if their parent verb is transitive (2b).

- (2) a. \*his claim of that/\*the belief of the story (Zucchi 1989: 14)  
b. He claimed that./He believed that story.

Stowell (1981) suggested that the CP was in apposition to the noun, like a nominal appositive as in *Hepburn, a/the winner of four Oscars*. Yet while extraction is somewhat available from CP complements of N (3a), just as with some relative clauses (3b), extraction is not possible from appositives (3c).

- (3) a. the money<sub>i</sub> which I have [ { hopes/a feeling } that the company will squander t<sub>i</sub> ] amounts to \$400,000 (Ross 1967: 85)  
b. Then you look at what happens in languages that you know and languages<sub>i</sub> that you have a friend who knows t<sub>i</sub>. (McCawley 1981: 108)  
c. \*What award is Hepburn, a/the winner of, dead?

Instead of an appositive modifier, then, CPs could be profitably likened to predicate modifiers like relative clauses. CPs that combine with nouns behave like modi-

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\* I would like to think that I have done some other stuff besides this CP business since I tortured Professor Johnson with it as a student. But this is a good opportunity to explain why it all might not work. And the questions raised here seem relevant to work Kyle has done on the combinatorics of determiners.

<sup>1</sup> Kratzer 2006, Moulton 2009, 2013, 2015. Related ideas are found in Arsenijevic 2009.

fiers in a number of respects. Like relative clauses (4a), and unlike arguments (4b), CP complements can obviate condition C violations (5) (Lasnik 1998, Kuno 2004, Moulton 2013, compare to Freidin 1986 and Lebeaux 1988):

- (4) a. Which book [that John<sub>1</sub> hated most] did he<sub>1</sub> read? *relative clause*  
 b. \*Which depiction [of John's<sub>1</sub> face] does he<sub>1</sub> hate most? *argument*
- (5) a. The fact that [John<sub>1</sub> has been arrested] he<sub>1</sub> generally fails to mention.  
 b. Whose allegation [that Lee<sub>1</sub> was less than truthful] did he<sub>1</sub> refute vehemently? (Kuno 2004: 72)

CP complements of N also behave like relative clauses with respect to Williams's generalization. Williams's generalization states that an extraposed (adjunct) restricts the scope of its source DP (Fox & Nissenbaum 1999).<sup>2</sup> So while the non-extraposed relative in (6a) allows the quantifier to take wide or narrow scope with respect to the *before*-clause, only a wide scope reading of *every* is possible when the relative clause undergoes extraposition (6b). On the Fox and Nissenbaum view, extraposition brings (a copy of) the quantifier to a position that scopes over the *before*-clause, which then forces the ellipsis to have a variable object not a quantified one.

- (6) a. John dismissed every rumour that was spread before Mary did.  
 $\forall > \text{before} / \text{before} > \forall$   
 b. John dismissed every rumour, before Mary did, that was spread.  
 $\forall > \text{before} / * \text{before} > \forall$

Now look at the pair in (7) with CP complements.

- (7) a. John dismissed every rumour that he was resigning, before Mary did.  
 $\forall > \text{before} / \text{before} > \forall$   
 b. John dismissed every rumour, before Mary did, that he was resigning.  
 $\forall > \text{before} / * \text{before} > \forall$

If (7b) were true on a narrow scope construal of *every*, it could truthfully describe a scenario like (8), where  $t_n$  is time and  $r_{a\dots d}$  are distinct rumours.

- (8)  $t_1$  Mary dismissed  $r_a$   
 John dismissed  $r_a$   
 $t_2$  Mary dismissed  $r_b$   
 $t_3$  Mary dismissed  $r_c$   
 John dismissed  $r_b$  &  $r_c$  &  $r_d$ .

<sup>2</sup> Fox & Nissenbaum (1999) offer other pieces of evidence that CP complements behave differently from relatives in tests for Late Merge. It has taken me nine years to address half of these data, so the other half will have to wait for another time.

$t_4$  Mary dismissed  $r_d$

In the context in (8) it is true that John dismissed the totality of rumours before Mary dismissed them all — it took until  $t_4$  for Mary to dismiss  $r_d$ , which rumour John dismissed at  $t_3$ . But it is not true that for every rumour  $a\dots d$  John dismissed it before Mary did: namely Mary dismissed  $r_b$  before John dismissed  $r_b$ .<sup>3</sup> Our judgment is that (8b) with an extraposed complement CP is infelicitous in this context whereas the non-extraposed CP in (8a) is not.

These considerations suggest that like relative clauses, CP complements do not themselves move rightward<sup>4</sup> and that they can Late Merge. Late Merge is possible for modifiers — their semantics lets them exist in one copy and not the other, unlike arguments. The predicate analysis of CP complements predicts this because it treats CPs as predicates of propositional content (such sorts of individuals are subscripted by  $c$ ).

- (9)  $\llbracket \text{that Bob is a fraud} \rrbracket = \lambda x_c \lambda w [\text{CONT}(x_c)(w) = \lambda w'. \text{Bob is a fraud in } w']$   
 $\text{CONT}(x_c)(w) = \{w': w' \text{ is compatible with the intentional content determined by } x_c \text{ in } w\}$  (after Kratzer 2013: 25)

Predicate CPs are of the same type as content nouns like *idea*, and the two can compose by predicate modification.

- (10) a.  $\llbracket \text{idea} \rrbracket = \lambda x_c \lambda w. \text{idea}(x_c)(w)$   
 b.  $\llbracket \text{idea that Bob is a fraud} \rrbracket = \lambda x_c \lambda w [\text{idea}(x_c)(w) \ \& \ \text{CONT}(x_c)(w) = \lambda w'. \text{Bob is a fraud in } w']$

The predicate analysis of CPs makes a prediction that no other theory of CPs I am aware of makes: if the language allows determiners to combine with CPs without a mediating NP<sup>5</sup>, we would expect those constructions to refer to individuals with propositional content. There do appear to be such languages, Greek the most famous (Roussou 1991). The determiner *to* can combine with CPs headed by the complementizer *oti*.

- (11) [to oti lei psemata] ine fanero.  
 the-NOM C tell.3SG lies-ACC be.3SG obvious-NOM  
 ‘That she tells lies is obvious.’ (Roussou 1991: (45b))

The determiner is required for the CP to sit in subject position.

<sup>3</sup> Thanks to Luka Crnić and Brian Buccola for helping craft these disambiguating scenarios.

<sup>4</sup> They do not move leftward very far either.

<sup>5</sup> Many accepted analyses of free relatives admit such configurations, as do many Kaynean raising analyses of headed relative clauses.

- (12) [\*(to) oti lei psemata ] 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.’ (Roussou 1991: (25a))

Roussou (1991) argues at some length that there is no null noun, like *fact*, in these constructions. She claims that these constructions are instances of a determiner directly selecting a CP. Here’s the interesting thing: *to oti* clauses do not have to be factive.<sup>6</sup> This is demonstrated by (13a): if the subject were factive the sentence would be non-sensical like (13b).

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

This is good news for the predicate hypothesis: we predict languages like Greek where (overt) determiners can combine directly with content-denoting predicate CPs. The DP subject of (13a) refers in world  $w_0$  to a (salient) thing whose propositional content is that some guy is rich:

- (14)  $\llbracket (13a) \rrbracket = \iota x_c[\text{idea}(x_c)(w_0) \ \& \ \text{CONT}(x_c)(w_0) = \lambda w'. \text{he is rich in } w']$

This is a non-factive nominalized CP. No other theory of CPs I know of predicts this because no other theory has CPs alone introduce properties of (contentful) individuals.<sup>7</sup> The good news for the predicate hypothesis, though, rests on the claim that there is no null noun in such constructions. Spanish, it turns out, delivers some bad news.

## 2 Spanish *el que* and *lo de que*

Spanish has two potential candidates for constructions that involve D selecting CP. The first involves the masculine determiner *el*, which can take a finite (15a) or non-finite CP (15b).

<sup>6</sup> The literature often equates noun-y clauses with factivity (Kiparsky & Kiparsky 1970). It is true that there is often a presupposition associated with nominal clauses but it is not necessarily a factive one, as explored in Bogal-Allbritten & Moulton 2017.

<sup>7</sup> Takahashi 2010 suggests that the D combines with an  $\langle s,t \rangle$  denoting CP and returns a plurality a worlds. Maybe that will work for complements of attitudes, but it is hard to see how a plurality of worlds can be equated with a lie as in (13a).

- (15) a. [ **El** [ que creas que hay fantasmas en la azotea]] carece  
 that that believe.2SG that there-is ghosts in the attic lacks  
 de lógica.  
 of logic.  
 ‘That you believe that there are ghosts in the attic is illogical.’
- b. Lamento mucho [ **el** [ PRO haberme visto obligado a explicar  
 regret.1SG lot the to-have seen forced to explain  
 todo esto]]  
 all this  
 ‘I regret a lot to have been forced to explain this.’ (Picallo 2002:  
 (6a,b))

As with Greek, some linguists suggested *el+CP* constructions are actually complex NPs, perhaps with a null noun *hecho* ‘fact’ (see Picallo 2002 for details and references). But Picallo presents a very nice argument against a null noun using an interesting counterpart to *el+CP* constructions: *lo+de+CP*.<sup>8</sup>

- (16) a. **Lo de** que se tenga que pagar un impuesto adicional  
 the of that people have that to-pay a tax additional  
 provocará un unánime rechazo.  
 will-cause a unanimous revolt  
 ‘The (idea/proposal) that people have to pay an additional tax will  
 cause a unanimous revolt.’
- b. **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 con-  
 vince us.’ (Picallo 2002: (9a,b))

While the translations in (16) include nouns like *idea* and *proposal*, there is no overt noun in the Spanish sentences. But the presence of the particle *de* indicates that there is a null noun. In Spanish, *de* is required when a CP complements N.<sup>9</sup>

- (17) 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.’ (Picallo 2002: fn. 3 (ia))

But *de* is disallowed in the *el+CP* construction (at least when presented out of the blue, unlike *lo+de+CP* constructions).

<sup>8</sup> In traditional grammar, *lo* is labeled the neuter.

<sup>9</sup> This fact in itself is a little troubling for the predicate hypothesis.

- (18) Lamento el (\*de) que no me saludara.  
 regret.1SG the of that not me greet.3SG  
 ‘I regret that he did not greet me.’ (Picallo 2002: fn. 3 (ib))

Picallo’s argument, then, is that while there is a null N in *lo+de+CP* constructions — given that *de* is obligatory as with overt nouns — there must not be one in *el+CP* constructions. The null N must be a true null element too, not ellipsis. Spanish has NP ellipsis, and it can apply in the *el+que* construction when there is a linguistic antecedent for the elided N, as with *hechos* ‘fact’ in (19) (note also the presence of *de*).

- (19) Consideró varios **hechos** independientemente. **El** [e] **de** que  
 considered.3SG several facts independently the of that  
 hubieran apoyado tal propuesta era el más conspicuo.  
 had.3PL supported 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.’  
 (Picallo 2002: (8a))

In contrast, no such linguistic antecedent is required for the *lo+de+CP* constructions, suggesting that it is a null N as distinct from an elided N. So to summarize, Picallo’s conclusion is that *el+CP* constructions do not have a null N but *lo+de+CP* constructions do, and this null noun is not a result of ellipsis.

Now for the promised bad news for the CP predicate hypothesis: *lo+de+CP* clauses can refer to things with propositional content, i.e., are not factive (20a), but *el+CP* clauses do not refer to such things (20b). (This could be either because *el+CP* clauses must be factive or because they do not denote things with propositional content. Teasing these apart is harder than you might think.)

- (20) a. [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.’  
 b. \*[El que María haya comprado/compró una casa nueva] es  
 The that Maria has.SUBJ bought/bought.INDIC a house new is  
 una mentira.  
 a lie  
 ‘That Maria has bought a new house is a lie.’  
 (P. Menéndez-Benito, p.c.)

Furthermore, *lo+de+CP* clauses can complement the canonical propositional attitudes (21a) but *el+CP* cannot (21b). (*El+CP* cannot even complement factive *sabe* ‘know’.)

- (21) a. 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’.
- b. \*Dijo/pensa/sabe el que María estaba en la tienda.  
 said/thought/knew.3SG the that Maria was in the store  
 ‘He/she said/thought/knew that Maria was in the store.’  
 (P. Menéndez-Benito, p.c.)

*El+CP* clauses typically combine with fact-selecting predicates, like those listed below:

- (22) Predicates that combine with *el+que* in Spanish:  
*pleases someone, is surprising/important/irrelevant/amazing, lacks logic, shows, makes, triggers*

(Again, whether *el+CP* clauses are themselves ‘factive’ in some way, I do not know yet, but the only predicates I have found them with are factive or fact-selecting in some sense.) These contrasts suggest that *el+CP* does not denote things with propositional content, but that *lo+de+CP* does. But this means that it takes a noun to let a DP denote propositional entities. This is not what we would expect on the CP predicate hypothesis.

### 3 Null content nouns

Roussou (1991) rejected the idea of a null noun in Greek *to+oti* clauses. One of her objections was that such a noun would have to have a very wide range of selectional options that no one overt noun has. But a number of languages have semantically light, all-purpose content nouns that introduce a variety propositional complements. Korean *kes* ‘thing’ is one such element that introduces a variety of clauses (Kim 2009), including factive (23a) and non-factive complements (23b). *Kes*-clauses are not necessarily factive either as (24) shows. The predicate here is literally ‘is not a fact’ (the declarative marker *-ta* is needed though to obviate factivity; see Bogal-Allbritten & Moulton 2017).

- (23) a. Mary-nun [John-i sihem-ey hapkyekha-n] -kes-ul  
 Mary-TOP John-NOM exam-in pass-ADN.PAST KES-ACC  
 al-ass-ta.  
 know-PAST-DECL  
 ‘Mary learned that John passed the exam.’

- b. Mary-nun [John-i sihem-ey hapkyekha-l] **-kes-ul**  
 Mary-TOP John-NOM exam-in pass-ADN.FUT KES-ACC  
 pala-n-ta.  
 hope-PRES-DECL  
 ‘Mary hopes that John will pass the exam.’ (Horie 2000: (11))
- (24) [Toli-ka cip-ul sa-ss-ta-nun **kes-un**] sasil-i  
 Toli-NOM house-ACC buy-PAST-DECL-ADN KES-TOP fact-NOM  
 an-i-ta.  
 not-COP-DECL  
 ‘The claim that Toli bought a house is not a fact.’ (C.-h. Han, p.c.)

Hindi has the light noun *yeh* ‘thing’ that can introduce CPs under propositional attitudes.

- (25) Raam-ne (**yeh**) socaa hi mohan cor hE  
 Raam-ERG thing/this thought M. theif is.  
 ‘Ram thought that Mohan is a thief’ (R. Bhatt, p.c.)

Baker (1996) reported on a noun in Mohawk that not only serves as a general all-purpose content noun ‘matter’, but incorporates into non-CP selecting verbs such as ‘like’ (27a) to building propositional attitudes such as ‘agree’ (27b).

- (26) **o-rihw-a**: ‘matter’, ‘affair’, ‘fact’, ‘news’  
 “A very general word referring to a kind of proposition” (Baker 1996)
- (27) a. Sak rake **-nuhwe**’ -s  
 Sak MsS/1sO **-like** -HAB  
 ‘Sak likes me.’
- b. Sak ro- **-rihw** -a **-nuhwé**’ -u  
 Sak MsO **-matter -∅ -like** -STAT  
 a-ha-’sere-ht-óhare-’  
 OPT-MsS-car-NOM-wash-PUNC  
 ‘Sak has agreed to wash the car’ (Baker 1996: (23))

More such combinations are given in (28) from Baker 1996: 462.

| (28) | CP-taking verb        | Literal gloss  | Free gloss           |
|------|-----------------------|----------------|----------------------|
|      | <i>rihw-a-nuhwe</i> ’ | matter-like    | ‘to agree to S’      |
|      | <i>rihw-a-tshuri</i>  | matter-find    | ‘to find out that S’ |
|      | <i>rihw-a-yuta</i> ’s | matter-acquire | ‘to decided to S’    |
|      | <i>rihw-isak</i>      | matter-seek    | ‘to investigate S’   |

Since all-purpose, semantically light content nouns have overt form in these languages, it is not surprising that in some languages this light noun is null. (See also [Hartman 2012](#) for an argument for null N in similar constructions in Uygher.) The idea would be then that Greek *to+oti* clauses and Spanish *lo+de+CP* clauses have a null content noun (which is apparently neuter):

- (29) [Lo  $\emptyset_{Content}$  de que María compró una casa nueva] es una mentira.  
 The N of that Maria bought a house new is a lie  
 ‘That Maria has bought a new house is a lie.’

#### 4 English

There’s a long tradition, one that gets revived every few years, suggesting that in English sentential subjects are actually headed by null D (see [Davies & Dubinsky 2010](#) and references therein). Some of these authors suggest that this null D selects the CP directly, without a null N ([Takahashi 2010](#)). I won’t rehearse the reasons for treating sentential subjects as DPs (and the pitfalls of that move), but one recurring question in this area is whether the clause is truly in subject position or some satellite, topicalized position. [Koster \(1978\)](#) argues for the latter based on the apparent fact that CPs can’t be trapped by subject-auxiliary inversion:

- (30) a. \*?To what extent is [<sub>CP</sub> that the moon is made of cheese] a theory worth considering?  
 b. To what extent is [<sub>DP</sub> the theory that the moon is made of cheese] worth considering?

Others point out that extra-grammatical pressures may account for the judgments in (30), obscuring the positions in which the grammar places clauses ([Delahunty 1983](#), [Davies & Dubinsky 2010](#)).

- (31) a. Who does [<sub>CP</sub> that Fred left early] bother so greatly that he refuses to visit us any more?  
 b. Who does [<sub>CP</sub> that the world is ending] upset so terribly that they have decided to abandon the planet? ([Delahunty 1983: 384–385](#))

There is a subtle difference, I think, that emerges when the matrix predicate distinguishes between the kinds of things that *lo+de+CP* clauses refer to (things with propositional content) (32a) and the kinds of things that *el+CP* clauses refer to—maybe facts (32b).

- (32) a. ??Is that John is a millionaire a lie?  
 b. Is that John is a millionaire a surprise?

Another spot reserved for true (embedded) subjects is the ECM position. Again, robustly proposition-denoting CPs are odder here than the CPs that correspond to Spanish *el+CP* clauses.

- (33) a. ??I consider that John is a millionaire a real lie.  
 b. I consider that John is a millionaire a real surprise.

What do these data, if they pan out, mean? They suggest something close to the popular Kiparskyian idea that fact-denoting clauses are DPs and that subject positions must be occupied by DPs. English, like Spanish, has a D+CP construction like *el+CP* (with a null D) but not one like *lo+de+CP*. I guess English just does not have a null content noun like Greek and Spanish. Why that should be the case is a mystery.

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