Ellipsis in 'DP be CP' constructions and the syntax of embedded fragments

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Introduction. This paper investigates sentences of the form in (1) and (2). Some NPs with 'propositional content', e.g. *idea, rumor, story* etc., can participate in 'DP be CP' structures like (1), see e.g. Potts 2002. In such cases, the CP can be replaced by a fragment corresponding only to the focused material in the CP (2), a fact which to my knowledge has not previously been noted in the literature.

  (1)   The {idea/rumor/story/suggestion} was that he would write to MARY.

  (2)   Who should he write to? – The original idea was (to) MARY, but she's on holiday, so he should write to John. (= *The original idea was ~~that he should write~~ to Mary*)

Even though cases like (2) appear to contain only a subsentential XP after the copula, I argue that they should be analyzed as covertly clausal, as in the parenthesis in (2). An initial motivation for this is semantic; while a semantics has been given for 'DP be CP' structures (Potts 2002, Kratzer 2006), it's less clear what semantics could be given for generalized 'DP be XP' structures. Positing ellipsis allows us to maintain a uniform semantics. There is also positive evidence for clausal structure in examples like (2). For example, pied-piping of the preposition is optional in (2); the binding connectivity effects in (3) also suggest that clausal structure is present (cf. also den Dikken et al. 2000 on pseudoclefts)

  (3)   Who is John going to promote? – The rumor is himself/*him.

      (cf. *The rumor is that John is going to promote himself/*him*)

On the basis of these data, I argue that (2) represents a case of *fragment ellipsis* (Merchant 2004), in which a focused phrase moves to a left-peripheral position in the CP, followed by clausal ellipsis (4).

  (4)   The original idea was [$_{CP}$ to Mary ~~that he should write t~~]

An interesting contrast arises in cases like (5), where such fragments are strikingly ungrammatical.

  (5)   The [$_{NP}$ idea [$_{CP}$ that John should write to MARY]] seems like a bad one.

      a. I prefer the idea that John should write to SUE.

      b. *I prefer the idea (that) SUE. (i.e. *the idea ~~that John should write to~~ Sue*)

On the face of it, the CPs in (5) look the same as those in (1); in particular the syntax does not immediately seem to differ. It's not clear that extant accounts of where clausal ellipsis is licit (e.g. Merchant 2001, van Craenenbroeck and Lipták 2006, a.o.) capture the contrast between (2) and (5b). I propose an analysis for these cases, which I argue will also help us understand other cases of embedded fragments such as (6), discussed by Temmerman 2013 (for Dutch) and Weir 2014 (for English).

  (6)   What did John eat? – I {think/hope/suspect} salad. (i.e. *I think ~~that John ate~~ salad*)

What can CPs denote, and how? We start by understanding what CPs denote in 'DP be CP' and 'NP CP' structures. Clauses must be able to denote propositions of the familiar type, <st>. But Kratzer 2006, 2013, Moulton 2015, note that CPs must also be able to restrict the denotations of nouns like *idea*, as in (5). (These CPs are not arguments; as Moulton points out, nouns like *idea* and *story* do not take arguments. They also semantically restrict their head nouns rather than standing in apposition to them, as Stowell 1981 suggests; and despite semantic appearance, they do not have the syntax of relative clauses, *pace* e.g. Kayne 2009.) Kratzer and Moulton propose that (one particular flavor of) complementizer, call it C$_L$ (for 'logophoric', after Kratzer 2006), can transform propositions into properties of (abstract) individuals with propositional/intentional content, <e,st>.

  (7) $[\![C_L]\!]^w = \lambda p. \lambda x_p. [\text{CONT}(x)(w) = p]$ (where x_p is a variable over individuals with propositional content, and CONT is a function from such individuals to their content)

  (8) $[\![[_{CP} C_L \text{ that John is corrupt}]]\!]^w = \lambda x_p. [\text{CONT}(x)(w) = \lambda w'. \text{John is corrupt in } w']$

Denotations like (8) allow the composition of 'NP CP' examples like (5) to proceed unproblematically via Predicate Modification (Kratzer 2006, Moulton 2015).

  (9) $[\![[_{NP} \text{rumor} [_{CP} C_L \text{ that John is corrupt}]]]\!]^w$

      $= \lambda x_p. \text{rumor}(x)(w) \ \& \ [\text{CONT}(x)(w) = \lambda w'. \text{John is corrupt in } w']$

Constructions like (1), however, are equative (Potts 2002), i.e. DP = CP. DPs like *the rumor* appear to denote (abstract) individuals (Moulton 2015); so assuming that type-equivalence is required in equative constructions (Heycock & Kroch 1999), the CP therefore also needs to be shifted into the type of individuals <e>. I propose (departing from Potts' implementation, and also from Kratzer and Moulton) that this is done by a choice-functional operator applied to clauses like (8) – and that this operator also inhabits a left-peripheral complementizer position which takes a CP such as (8) as complement. I label this operator as C$_D$ – 'D' to imply its determiner-like semantics. (Note that the category label remains that of a C rather than a D (clausal rather than nominal); as Moulton 2015 notes, we do not want to neutralize the *syntactic* (c-selectional) DP/CP distinction, cf. e.g. discussion in Kastner 2015.)

  (10) $[\![C_D]\!]^w = \lambda P_{<e,t>}. f(P)$ where f is a choice function that picks an individual in the domain of P

(11) $[\![C_D]\!]^w([\![(8)]\!]^w) = f(\lambda x_p.\ [\text{CONT}(x)(w) = \lambda w'.\ \text{John is corrupt in } w'])$

(12) $[\![[_{DP}\text{ the rumor] is } [\ C_D\ [\ C_L\text{ that John is corrupt}]]]\!]^w$
   $= [\iota x.\ \text{rumor}(x)(w) = f(\lambda x_p.\ [\text{CONT}(x)(w) = \lambda w'.\ \text{John is corrupt in } w'])]$
   (i.e. the rumor is an entity with the intentional content that John is corrupt)

The relevance for clausal ellipsis. I propose that the difference between (2) and (5b) is because C_D is a licensor of ellipsis, while C_L is not. In Merchant 2001, 2004's terms, only C_D bears the [E]-feature which attracts a fragment to its Spec and licenses ellipsis of its complement.

(13) the idea is [to John $C_{D[E]}$ ~~C_L that he should write t~~]

(14) the [$_{NP}$ idea [C_L that he should write to John]]   (no C_D, so ellipsis not possible)

This finds a parallel with Weir 2014's treatment of embedded fragments of the type in (6). In many languages (e.g. Dutch, Barbiers 2000; Spanish, de Cuba & Macdonald 2013; English, Weir 2014), this possibility is restricted only to bridge verbs. Non-bridge verbs, as in (15), do not allow fragment embedding of the type shown in (6).

(15) I {??found out/??regret/??discovered/*know/*am surprised} salad.

Following Iatridou & Kroch 1992, McCloskey 2006 a.m.o., Weir 2014 argues that the complements of bridge verbs (but not non-bridge verbs) have a double-complementizer structure ('recursive CP'). Weir argues that the higher of the two complementizers bears the [E]-feature. The complement of non-bridge verbs lacks this higher C and so lacks [E] (and so does not allow ellipsis). In our terms, we can understand this higher C position as the C_D head:

(16) I believe/was told/hear/think/suspect [C_D [C_L that John ate salad]]

This is consistent with the proposal in Kratzer 2006, Moulton 2015 that verbs like *believe* s-select for intentional entities, not propositions. If, however, verbs like *discover* do not s-select for intentional entities, they will not select a clause headed by C_D. In support of this, note that (17b) (in contrast to (17a)) does not relate to the intentional content of the rumor; (17b) only means roughly 'I discovered/regret that the rumor exists' (cf. discussion in Uegaki 2015).

(17) a. I believe/was told/heard the rumor.   b. I discovered/regret the rumor.

The failure of ellipsis in cases like (15) is therefore explained by the lack of C_D:

(18) I found out/discovered/know [$_{CP}$ that John ate salad]   (no C_D, so ellipsis not possible)

Extension to sluicing. It is perhaps surprising that those verbs in (15) which embed *wh*-questions *do* allow clausal ellipsis in sluicing, even though fragments are ruled out.

(19) John ate something, and I found out/discovered/know what ~~John ate t~~

The contrast between (15) and (19) can, I argue, receive an explanation on the current account. I propose, following Weir 2014, that when these verbs embed questions, they also require the mediation of a 'high' left-peripheral head. If the questions denote Hamblin sets of propositions, then these need to be shifted into the single proposition which is the true answer, by means of an ANSW operator such as (21) (Heim 1994, Dayal 1996). This operator also bears [E], licensing the movement of the *wh*-word to its Spec and ellipsis of its complement.

(20) $[\![\text{what Q John ate t}]\!]^w = \{\lambda w'.\ \text{John ate salad in } w', \lambda w'.\ \text{John ate cake in } w', \dots\}$

(21) $[\![\text{ANSW}]\!]^w = \lambda q_{<st,t>}.$ the maximal p such that $p \in q\ \&\ p(w) = 1$

(22) $[\![\text{ANSW what Q John ate t}]\!]^w = \lambda w'.\ \text{John ate salad in } w'$ (i.e. the true answer in w)

(23) I found out [what ANSW$_{[E]}$ ~~t' Q [John ate t]~~]   (= I found out that John ate salad)

Why *these* left-peripheral heads? Weir 2014 argued that 'high' left-peripheral heads license clausal ellipsis, but gave no deeper reason for why this should be the case. However, on the present analysis, ANSW and C_D form a natural class that has independently been argued to be relevant for ellipsis licensing – they are both *quantificational*; they both take a set and return a member of that set, i.e. they are of type $<\sigma t, \sigma>$. We may then be able to return to a variant of the picture painted by Lobeck 1995 concerning the licensing of ellipsis: that certain features, in particular quantificational force or partitivity, are the crucial determinants of whether a head can license ellipsis of its complement. Based on this, I also speculate about the licensing of clausal ellipsis in *root* clauses. I propose that the left-peripheral head that licenses ellipsis in root clauses may also be an element with determiner-like semantics: one which takes a proposition and returns a *speech act* (cf. Krifka 2001, McCloskey 2006).

Selected references. Kratzer A (2006) Decomposing attitude verbs. Presentation at Hebrew U. • Moulton K (2015) CPs: copies and compositionality. *LI* 46(2) • Potts C (2002) The lexical semantics of parenthetical *as*… *Syntax* 5(1) • Weir A (2014) *Fragments and clausal ellipsis*. UMass dissertation