Factive Complements as Defective Phases (Keywords: Minimalism, phases, factives, wh-extraction)

This paper offers a derivational analysis of wh-extraction from the clausal complements of factive verbs ('factives', e.g. *regret/know*). Factives are distinguished from non-factives (e.g. *think/say*) in that the complement CP of a factive verb is presupposed as true by the speaker, while the complement of a non-factive is not. Furthermore, as shown in (1)-(2), factive complements disallow subject and adjunct extraction in English, while only allowing slightly degraded object extraction. Previous analyses have featured a semantic operator in Spec, CP of the lower clause, which encodes presupposition and fills Spec, CP, prohibiting antecedent-government of subject/adjunct traces, while object traces are theta-governed by the subordinate verb. I show that this assumption is unnecessary and can be better explained utilizing the framework(s) of minimalism/phase theory laid out in Chomsky (2001, 2005) and the Split-CP as described in Rizzi (1997, 2001).
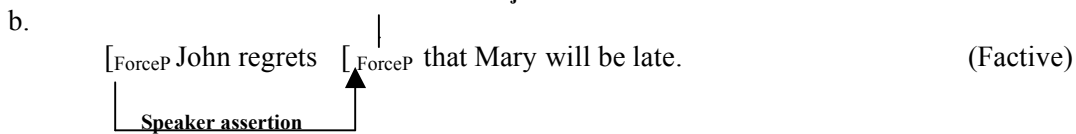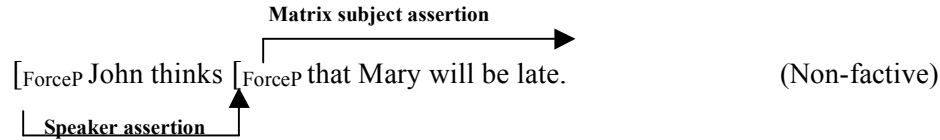
Melvold (1991) argues for a [+definite] semantic operator in Spec, CP of factive complements, which causes the CP to be interpreted as a definite (i.e. presupposed) event. However, Melvold's analysis requires that the operator be inserted at LF, violating the minimalist requirement that all operations take place during the derivation. Varlakosta (1994) also argues against Melvold and posits an empty DP projection above factive CP, as in (3), based on the fact that factive verbs can take a DP complement, as in (9). However, as shown in (4), factive CP complements can only be conjoined with DPs if the empty projection is filled, suggesting they are in fact CPs and not DPs in disguise. Both of these analyses also rely on the notions of government and gamma-marking, which are absent in current minimalist syntax.

Building on Hegarty (1990), I show that presupposition of factive CPs does not stem from a presuppositional operator in the complement CP-layer, but from the lack of an [assertion] feature *relative to the matrix subject* (not the speaker) located in ForceP of the lower clause, shown in (5). The lack of matrix subject assertion is visible in (6), where epistemic modals in the lower clause anchor to the matrix subject in non-factives, but must anchor to the *speaker* in factives. The lack of a matrix subject [assertion] feature in the lower clause renders the subordinate CP a defective phase, as the CP layer does not contain "all necessary force indicators" (Chomsky, 2001, 13). As factive CPs are defective phases, they are predicted to lack an EF (essentially an EPP feature) and should be unable to draw elements to their left edge. This prediction is borne out in (7), where factives disallow topicalization to the subordinate CP-layer in English and Japanese. Previously unnoticed data from Latvian also shows that factives disallow partial wh-movement to the left edge of the complement CP, as in (8). Non-factive complement CPs contain an [assertion] feature (and therefore an EF) at their left edge, so movement to the lower CP-layer is permitted and long-distance wh-movement proceeds upward from the lower Spec, CP via classic wh- (A-bar) movement.

Because factive complements are defective phases and lack an EF at their left edge, any long-distance movement must therefore proceed via the next-highest phase head, the matrix v^o. Considering that factives (but not non-factives) can take a DP complement (shown in (9)), I assume that the factive matrix v^o contains an accusative case (ACC) feature. This ACC feature is able to establish an Agree relationship with the subordinate wh-object and draw it to the left edge of the matrix vP, as schematized in (10). This explains the wh-extraction data in (1): subjects and adjuncts are unable to establish an ACC Agree relationship with the matrix v^o, as the former are marked for nominative case and the latter are caseless. If the first step of wh-extraction from a factive complement is case-driven, we would expect that it would exhibit properties typically associated with A- (not A-bar) movement. This prediction is borne out in (11) and (12), where wh-anaphors extracted from a factive complement disallow reconstruction for binding and scope, respectively. A consequence of this theory is that the moved wh-object enters into *two* ACC-based Agree relationships: one with the lower v^o and one with the matrix v^o. This explains the marginalized grammaticality of object wh-extraction from factive complements in English and Greek (Varlakosta, 1994), and the outright prohibition of any wh-movement from factive complements in other languages such as German and Dutch.

This analysis accounts for a variety of phenomena with little to no added machinery; the explanation is fully derivational and does not resort to invisible operators or extra syntactic structure. On a more theoretical level, the system presented in this paper also integrates the Split-CP hypothesis with Chomskyan phase theory and supports Chomsky's (2005) claim that the position of the phase-head C^o should be interpreted as "shorthand" for Rizzi's string of CP-layer functional heads.

(1)   a.   What do you *think/say* that John ate __?   (Non-factive)
          b.   Who do you *think/say* __ ate the cookies?
          c.   Why do you *think/say* that John ate the cookies __?
(2)   a.   ?What do you *regret/remember* that John ate __ ?   (Factive)
          b.   *Who do you *regret/remember* ___ ate the cookies?
          c.   *Why do you *regret/remember* that John ate the cookies __?
(3)   a.   …[$_{V'}$ V$_{factive}$ [$_{DP}$ DP   [$_{CP}$ …]]]
          b.   …[$_{V'}$ V$_{non\text{-}factive}$ [$_{CP}$ …]]]
(4)   a.   I love [$_{DP}$ the flowers] and [$_{DP}$ the fact [$_{CP}$ that you though of me]
          b.   *I love [$_{DP}$ the flowers] and [$_{DP}$ e [$_{CP}$ that you thought of me]
(5)   a.   **Matrix subject assertion**

                [$_{ForceP}$ John thinks [$_{ForceP}$ that Mary will be late.   (Non-factive)

                    Speaker assertion

                         No matrix subject assertion
          b.

                [$_{ForceP}$ John regrets   [$_{ForceP}$ that Mary will be late.   (Factive)

                    Speaker assertion

(6)   a.   John thinks that Mary might win the prize   (Non-factive
          b.   John hates that Mary might win the prize.   (Factive)
(7)   a.   *I resent (the fact that) that *each part* he had to examine carefully.
          b.   John-wa [kono hon-***wa**/o Mary-ga yonda no]-o kookaisiteiru
                    John-TOP this book ***TOP**/ACC Mary-NOM read COMP-ACC regret
                    "John regrets that Mary read THIS BOOK"   (Haegeman, 2006, 1664)
(8)   [$_{CP}$ Kā tu   *domā/*nožēlo*   [$_{CP}$ **ko**   Jānis nozaga ___?   (Non-factive/*Factive)
          Q   you   think-2sg/*regret-2sg   **what-ACC** John   stole-2sg
          "What do you think/*regret that John stole?"
(9)   I *think/regret [$_{DP}$ the whole incident].   (*Non-factive/Factive)
(10)   …[$_{VP}$ *what*$_i$ [$_{V'}$ [$_{V°}$ *regret*] [$_{ForceP}$ that…[$_{TP}$ *you*$_j$ [$_{vP}$ t$_i$ [$_{v'}$ t$_j$ [$_{v°+V°}$ *bought*]…   (Factive)

          ACC-based Agree and Move: subordinate *v*P to matrix *v*P
(11)   a.   Which of his$_{i/j}$ aunts does John$_j$ think/reckon that every boy$_i$ loves most? (Non-factive)
         b.   Which of his$_{*i/j}$ aunts does John$_j$ regret/resent that every boy$_i$ loves most? (Factive)
(12)   a.   Which student do you think/reckon that every professor met __?   (Non-factive)
                       student >> professor, professor >> student
         b.   Which student do you hate/regret that every professor met __?   (Factive)
                       student >> professor, *professor >> student

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