A movement theory of adjunct control

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Adjunct control is the referential relation between the implicit (PRO) subject of a non-finite adjunct clause and its understood antecedent, as in the temporal adjuncts in (1) or the rationale clauses in (2). Landau [9, 10] has recently argued that adjunct control in temporal and rationale adjuncts may be either syntactic 'Obligatory Control' (OC), as in (1a) and (2a), or non-syntactic 'Non-Obligatory Control' (NOC), as in (1b) and (2b), in contrast to previous assumptions that adjunct control is strictly OC [3, 5, 13, 15]. Here I demonstrate that this this OC/NOC duality does not extend to all adjuncts, contrary to implicit predictions Landau's theory makes. I outline assumptions that Landau would have to make in order to accommodate the wider distribution of OC and NOC in adjuncts, but argue that this is better accomplished within the Movement Theory of Control (MTC) [5] by relaxing the assumption that all adjuncts are phases.

(1) a. The window$_1$ broke [after PRO$_1$ being hit with a rock].
b. The window broke [after PRO hitting it with a rock].

(2) a. This book$_1$ was written [in order PRO$_1$ to be read].
b. The painting was on the wall [in order PRO to check how it would be received].

Because adjuncts are not selected, Landau argues that they may freely adjoin with either of the structures in (3), with (3a) resulting in OC, and (3b) in NOC. This is in contrast to complement control, where the structure of the controlled clause is said to be selected by the matrix verb [8].

(3) a. <u>OC adjunct</u>: [$_{\text{PP}}$ before/in order [$_{\text{FinP}}$ Fin [$_{\text{TP}}$ . . .]]]
b. <u>NOC adjunct</u>: [$_{\text{PP}}$ before/in order [$_{\text{CP}}$ C$_{+\text{log}}$ [$_{\text{FinP}}$ Fin [$_{\text{TP}}$ . . .]]]]

Although Landau does not explicitly say so, this theory predicts that all adjuncts, being unselected, should similarly allow both OC and NOC structures. While this is true for some adjuncts, the prediction fails for each of the adjuncts in (4), which only allow OC. Under Landau's theory, in order for these to exhibit strict OC, the "adjuncts" would have to actually be selected complements of the verb. Although this may be possible for goal clauses, it is less likely for the others, which can attach to a wide variety of matrix clauses.

(4) a. Max$_1$ works hard [PRO$_1$ to avoid doing any work]. (Goal clause)
b. Ron$_1$ awoke [PRO$_1$ to find the fire had gone out]. (Result clause)
c. I bought this shelf$_1$ [PRO$_1$ to hold books]. (Subject-gap purpose clause)

I propose an alternative within the framework of the MTC that can better account for the OC status of the adjuncts in (4), while still allowing other adjuncts, including temporal and rationale clauses, to maintain dual OC/NOC status. Under the MTC, PRO in OC is simply the trace of movement, as illustrated in (5a). In NOC, on the other hand, PRO is simply an unbound *pro*, as in (5b).

(5) a. The window$_1$ broke [after ~~the window~~$_1$ being hit with a rock].
b. The window broke [after *pro* hitting it with a rock].

Under the MTC, it has been proposed that OC via movement is preferred by the grammar and in language processing to NOC via pronominalization [1]. Because of this, NOC is assumed to only occur when OC is blocked. While this generalization may apply to complement control, it cannot be true for those adjuncts that allow both OC and NOC. Why would both OC and NOC be possible in certain adjuncts, but not in complement control? The only difference between complements and adjuncts is that in complement control, OC involves upward movement, meaning that origin and target position of movement are within the same tree, while in adjunct control, movement is sideward [14], with the DP moving from the adjunct to the root of the matrix tree before the adjunct itself is adjoined. I propose that sideward movement involves a derivational penalty akin to the one that has been posited for moving out of islands [12]. I propose that this weak penalty does not cause the derivation to crash, but that it results in a lower "degree of grammaticality" [2, 4]. Because both upward movement and sideward movement can lead to convergent derivations, both

may result in grammatical strings, but derivations involving sideward movement are lower on the scale between fully grammatical and fully ungrammatical. This results in a derivational "cost" for sideward movement that in turn causes a reduction in the parser's relative preference for traces over *pro*s. This then leads to a greater probability of both OC and NOC being accepted in adjuncts involving sideward movement than in complements, which involve upward movement.

Positing that sideward movement is more costly than upward movement accounts for the fact that temporal, rationale, and other adjuncts allow both OC and NOC. But previous literature [6, 14] has argued that all adjunct control involves sideward movement, since all adjuncts have been assumed to linearize, and thus become islands, prior to adjunction [16]. If this is the case, then the MTC makes the same incorrect prediction as Landau's theory: that all adjuncts should allow both OC and NOC. The only way to get strict OC in the adjuncts in (4) under the MTC would be if upward movement were allowed out of the adjunct. Two conditions would be necessary in order for this to occur: the adjunct must adjoin below the base position of its controller, and the adjunct must not linearize prior to adjunction.

Low attachment is not a problem. Each of the adjuncts in (4) can be demonstrated to adjoin at the VP level. This is well below spec-*v*P, the base position of the subject controller in (4a). But the controllers in (4b,c) are adjoined lower; in (4b), the controller is the subject of an unaccusative, and in (4c), it is the direct object of the matrix verb. This too may be higher than the adjunct if we assume, following [7, 11], that objects of the verb are base-generated as the specifier of V, and that adjuncts may adjoin lower.

Besides the adjuncts adjoining low enough, they must also not (yet) be islands to movement. Perhaps these adjuncts do not linearize upon adjunction, as previously assumed, but rather in line with phase theory. If the adjunct is smaller than a phase, then it will still be active for movement after adjunction, until it is spelled-out with the next phase. There is evidence that this must be true at least for the adjuncts in (4), since a *wh*-phrase may escape them, as illustrated in (6).

(6) a. What$_1$ did Max$_2$ work hard [PRO$_2$ to do t_1]?
b. What$_1$ did Ron$_2$ awake [PRO$_2$ to find t_1]?
c. What$_1$ did you$_2$ buy this shelf [PRO$_2$ to hold t_1]?

Under this theory, an adjunct will allow both OC and NOC if OC requires sideward movement. Strict OC will only result if the adjunct is smaller than a phase and adjoins lower than the base position of its antecedent. This theory successfully accounts for the adjuncts in (4) without having to posit that they are actually selected arguments of an element of the matrix clause.

One remaining challenge for this account is telic clauses, as in (7). These adjuncts can be shown to adjoin at the TP level, above the base position of their controller. As such, OC them must involve sideward movement. And yet, I can find no evidence that NOC is possible. But these clauses also would present a challenge for Landau's theory, since they adjoin too high to be verbal arguments, and can adjoin to such a large variety of matrix clauses that it would be untenable to claim that they are selected.

(7) Harry$_1$ opened the letter, [only PRO$_1$ to discover it wasn't for him]. (Telic clause)

References

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