

A-movement cannot use escape hatches: evidence from causatives

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According to Chomsky's (2001) revised version of the Phase Impenetrability Condition (henceforth PIC2), the complement of a phase head is only spelled out when the next highest phase head is merged. This has the effect of introducing a 'window of opportunity' for Agree/internal merge between merger of two phase heads. Where the phase heads are voice and C, this effectively permits A-movement to take place in this interval (triggered by a T-related head). If we accept the overwhelming evidence that passive and unaccusative voicePs are phases (see Legate 2003, 2016, amongst others), then the main difference between the more restrictive PIC1 (Chomsky 2000) and PIC2 is that **PIC1 requires A-movement to proceed through the phase edge, whereas PIC2 does not**. This is because, under PIC1, internal arguments will be spelled out with VP unless they raise to spec voiceP, whereas, under PIC2, they can raise directly to spec TP during the window of opportunity. Predictions for external arguments depend on where they are externally merged, but if they are merged below the phase head, (in spec vP) then the same is true for them. I illustrate here for internal arguments here:

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| 1) | [_{TP} DP ₁ T [_{AspP} Asp [_{voiceP} DP₁ voice | { _{vP} v [_{vP} V DP _i]}}] | PIC1 |
| 2) | [_{TP} DP ₁ T [_{AspP} Asp [_{voiceP} voice | [_{vP} v [_{vP} V DP _i]}}]] | PIC2 |

In this talk, I present evidence in favour of PIC2 and against PIC1. The evidence comes from contexts where causative (and perception) verbs take a reduced complement and so passivisation is banned. This is due, I claim, to the absence of the window of opportunity for A-movement in such contexts. Crucially, passivisation is only banned where these verbs select a phase, and not otherwise.

It is well known that **causatives (and verbs of perception) often resist passivisation** (Higginbotham 1983, Williams 1983, Basilico 2003). This is true in English, but also in Swedish, Danish, Hungarian, German (Wurmbrand 2001), Dutch (Bennis and Hoekstra 1989/2004), French (Kayne 1975), Korean (Jung 2014, Harley 2017), Italian (Folli & Harley 2007, 2013), European and Brazilian Portuguese (Hornstein, Nunes and Martins 2010, Sheehan & Cyrino 2018) and Spanish (Tubino Blanco 2010). In English, where these verbs can take a range of different complements, only bare verbal complements are incompatible with passivisation:

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| 3) | a. Some progress was made by the team of experts. | DP object |
| | b. Sylvie was made sad by the news. | Small clause complement |
| | c. Sam was caused to slip by the water on the floor. | To-infinitival complement |
| | d. *Kim was made slip by the water on the floor. | Bare verbal complement |

These bare verbal complements can host passive and progressive auxiliaries and so can be as large as progP, and must contain a full vP including an external argument (if the verb requires one). They cannot be as large as TP, however, as they ban independent temporal reference and lack *to*:

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| 4) | a. I made the children [_{progP} be sitting quietly when the headteacher arrived]. |
| | b. I made the perpetrators [_{voiceP} be fired]. |

ProgP/voiceP are argued to be v-related phases in English, based on evidence from 'VP-ellipsis' and 'VP-fronting' (see Harwood 2015, Ramchand and Svenonius 2014, Wurmbrand 2012, Aelbrecht and Harwood 2015). In this way, (3d) is a context where a (light) verb selects a v-related phase directly, with no T-related projection intervening. Under PIC1, no prohibition of passivisation is predicted, as A-movement must proceed through each phase edge, as in other contexts (see (1)). Under PIC2, though, if A-movement cannot use phase edge escape hatches, then the ungrammaticality of (3d) follows (6):

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| 5) | [_{TP} T [_{voiceP} voice [_{vP} v [_{voiceP} DP₁ voice | { _{vP} v [_{vP} V DP _i]}}] | PIC1 |
| 6) | *[_{TP} T [_{voiceP} voice [_{vP} v [_{voiceP} voice | { _{vP} v [_{vP} V DP _i]}}]] | PIC2 |

PIC2 is therefore compatible with a phase-based explanation of (3d), whereas PIC1 is not, because PIC1 *requires* movement through the phase edge in the general case, unlike PIC2. In this crucial context, where we can test whether escape hatches are available for A-movement, it seems they are not, favouring PIC2 over PIC1.

Compare this scenario with 'normal' ECM contexts, which permit passivisation. These are generally taken to be TP complements:

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| 7) | [_{TP} T [_{voiceP} voice [_{vP} v [_{vP} V [_{TP} DP₁] T [_{voiceP} DP₁ voice | { _{vP} v [_{vP} V DP _i]}}] | PIC1 |
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8) [TP T [voiceP voice [vP v [VP V [TP $\overline{\text{DP}}_1$ T [voiceP voice [vP v [VP V $\overline{\text{DP}}_1$]]]]]]] PIC2

These are correctly predicted to be grammatical regardless of whether A-movement proceeds through the phase edge or not, as the presence of T opens up the window of opportunity for A-extraction. The crucial difference between (6) and (8) is that, in (8), an argument of the lowest verb raises to spec TP to satisfy the EPP during this window. This independently motivated EPP-related movement makes this argument accessible for further movement. In essence then, the presence of T facilitates A-movement across phases because of its EPP feature. **Where there is no window of opportunity, A-movement is phase bound.**

The claim that A-movement does not have access to phase edge escape hatches fits with the observation that it is also bounded by CP. Where a verb selects a CP, the window of opportunity for A-movement is limited to the thematic domain, potentially explaining the possibility of control, if it is conceived of as movement (Hornstein 1999, Rodrigues 2000), though this is controversial, (Landau 2006, 2015), and an explanation is required for the severe limitations on finite control. In instances of raising, A-movement is (correctly) predicted to be blocked by CP, in a parallel fashion to (6). By the time the matrix T probes, the lower TP has been spelled out and so is not visible to it (10):

9) [TP T [voiceP $\overline{\text{DP}}_1$ voice [vP v [CP $\overline{\text{DP}}_1$ C [TP $\overline{\text{DP}}_1$ T [voiceP $\overline{\text{DP}}_1$ voice [vP v [VP V $\overline{\text{DP}}_1$]]]]]]]]] PIC1

10) *[TP T [voiceP voice [vP v [CP C [TP $\overline{\text{DP}}_1$ T [voiceP $\overline{\text{DP}}_1$ voice [vP v [VP V $\overline{\text{DP}}_1$]]]]]]]]] PIC2

Once again, PIC1 makes the wrong prediction: that this (improper) A-movement should be possible, facilitated by movement through the phase edge (9). As we shall see, however, ‘hyperraising’ from finite CPs is actually possible where EPP-driven movement to spec CP takes place (Nevins 2004, Fong 2018). In the absence of this kind of EPP-driven movement, hyperraising is banned, however.

It is well known that causative morphemes/verbs can take different sized complements (both within and across languages), diagnosable via the scope of agent-oriented adverbials, interaction with high applicatives, number of binding domains etc. Pylkkanen (2002, 2008) proposes a three-way typology of causatives, which can be stated as follows in our terms (putting aside potential variation in the bundling of voice, v and caus). To this we can add phase-embedding ECM causatives of the English type, which are also attested in Romance languages (Sheehan & Cyrino 2018):

- (i) root-embedding causatives,
- (ii) VP-embedding causatives (with an optional adjunct external argument),
- (iii) vP-embedding causatives (with an obligatory external argument).
- (iv) phase-embedding causatives

I show that, as predicted, type (i) causatives permit passivisation and type (iv) do not, but what about types (ii) and (iii)? Type (ii) causatives appear to generally allow passivisation. VP-selecting causatives are attested in some Romance languages (the so-called *faire-par* causative) and in Bemba, Finnish, (Pylkkanen 2008) and Turkish (Key 2013). At least Finnish, Italian, and Turkish permit passivisation here (Nelson 1999, Folli & Harley 2007, Çetinolu et al. 2007):

11) Süt bütün çocuk-lar-a iç-ir-il-di [Turkish]
 milk.NOM all child-PL-DAT drink-CAUS-PASS -PAST
 Lit: ‘The milk was made drink to the children.’ (Çetinolu et al. 2007: 3)

Type (iii) causatives have been posited for Venda and Luganda (Pylkkanen 2008) as well as Korean (Jung 2014), French, Spanish, European Portuguese, Catalan and Italian (the *faire-infinitive*). While Luganda permits passives of these causatives (Ssekiryango 2006), Korean and Italian do not (Jung 2014, Folli and Harley 2007, 2013). In the case of Korean, passives are possible in the complements of causatives, suggesting the complement might actually be a voiceP. In Romance languages, I propose that v-v sequences lead to clause union whereby the causative verb functions as a phase head. This does not happen in languages which lack a causative verb, such as Luganda. So vP complements are not phases. The implication is that despite the strong evidence that phases are dynamic, there is both an upper and lower boundary on which heads function as phase heads (cf. Boskovic 2014).

If all movement is triggered, and successive cyclic A-bar movement is triggered by a [wh] feature on phase heads, following van Urk and Richards (2015), then there must be no such feature to trigger successive cyclic A-movement to the phase edge. For this reason, A-movement is bounded, unlike A-bar movement, unless a fortuitous EPP feature helps an argument escape its phase.