Successive-cyclic Movement as intermediate labelling Indeterminacies

Background: [3] proposes (1-a) as an algorithm to determine the label when two syntactic objects undergo external merge (EM, a symmetric process of set-formation) and (1-b) for internal merge (IM). Both statements express the fact that the set resulting from IM/EM must be identified to participate in further operations. But especially the stipulation (1-b) is dubious on conceptual grounds and failures of the application of (1-b) have been claimed to be empirically desireable to derive free relatives among other constructions ([3], [4], [8]). Thus (1-b) is better derived from independent factors. There is no shortage of proposals according to which 'reprojection' of the moving XP may take place ([4], [5], [6]), but in these works violations of (1-b) serve as descriptive devices, not as sources of (failures to apply) (1-b).

Already for EM [3:fn.34] addresses an exception to the application of (1-a), namely EM of a subject-DP to v*P as in (2): "[T]hese structures lack a label and have an inherent instability, so that one of the two members [. . .] must raise." An attractive side-effect of this analysis is that it gives a partial explanation for the EPP: the symmetry created by EM is broken by IM of the subject to Spec-TP. Recently, a number of works have capitalized on this idea and suggested that instances of IM are 'triggered' by the interfaces' avoidance and intolerance of symmetry and ambiguity created by narrow syntax ([2:116-118], [7], [9]). When one of the two members in (2) moves, an asymmetry and concomitantly the label (3) is created: IM of DP yields a discontinuous object, a set of occurrences of DP, while v* is identified as the label (boldfaced on the right in (3)).

Proposal: Adopting the phase-base model in [4], I propose that such 'instable' structures may not only result from EM but also from IM: symmetry-breaking movement effectively leaves the in-situ category as the label. But IM results again in a symmetric, unlabellable structure in need of desymmetrization once we partially dispense with (1-b). Thus the process solves the labelling problem downstairs, but only to create a new one in the target. I claim that this principally infinite symmetry-destroying/symmetry-creating character of derivations is the source, i.e. the 'trigger' of intermediate steps of successive-cyclic A'-movement, the empirical domain to which I confine myself here. The symmetry-avoiding character at Transfer (i.e. at the next higher phase) is thus what derives (1-b): the target category becomes the label due to the fact that the moving XP must move further to break the newly created symmetry. Of course, this powerful mechanism needs taming. I propose that Agree between a phase-head and the moving WH-element does just that: at the point when a C-head with an unvalued Q-feature is merged, it probes for the WH-element. It is the successful probing relationship which ultimately and effectively brings the WH-element to a halt, captured in (4) (taken from [2:91-98]): as the probe becomes the label by (4), movement of XP to Spec-probe creates a symmetry which is unproblematic, because (4) renders the structure sufficiently asymmetric for label determination. The probe functions similar to what [1] calls 'Strong Occurrences' and [11] 'Criterial Positions.'

Consider (5), an abstract partial representation of the pervasive, structurally unbounded phenomenon of successive-cyclic WH-movement: an object WH-element ends up in the specifier of the phase head v* (for independent reasons). At this derivational stage v* or WH may determine the label. At the point when C merges, IM of the WH-phrase to Spec-CP asymmetrizes the structure, solving the labelling problem as far as the TP is concerned: TP-internally, v* determines the label because IM applies to WH, stabilizing the structure (6). But in the resulting workspace the label indeterminacy problem once again arises, i.e. the edge {WH {C { . . . }}} is again 'too symmetric' and unstable. In this sense the edge configurations in (2)/(5) and (6) are parallel. Again the asymmetry is restored once WH moves on ((7)).

In (8-a) the matrix verb doesn't select an indirect question. A spurious [WH]/[EPP]-feature on the embedded C head to derive intermediate movement steps is thus dubious and *ad hoc*.

Under the present analysis, the successive-cyclic character of long WH-movement follows automatically from the symmetry-avoiding character the interfaces impose on each intermediate configuration. What blocks movement to the matrix Spec-C in cases like (9-a), i.e. why don't we have to get (9-b)? I propose that interrogative C bears a probing Q-feature which Agrees with the WH-word. Such a feature appears plausible as the CP is selected by *wonder*. By contrast, such an Agree relation between non-interrogative C (=*that*) and *which book* is crucially missing in (8-a), which is why (8-b) is out: the WH-word is stuck in the symmetric structure {WH {C=*that* ...}}, where an intermediate labelling indeterminacy arises which remains unresolved. In (9-a)/(10) on the other hand, Agree(uQ,WH) determines C as the label by (4). Whether or not IM of WH takes place at this point is irrelevant for labelling: if WH moves, no problematic symmetry arises, as (4) renders C the label. But notice that WH *has to* move, because the labelling question between v and WH is still not decided. Once the labelling question is settled for v/WH (i.e. by moving WH), no further movement is enforced despite the fact that the WH-element ends up being a sister of C. As no further movement is enforced by symmetry, I take it that further movement *must not* take place. In this sense, the function of (4) in the current system is to stop further movement, i.e. to prevent further symmetries. Notice also that after Agree(uQ,WH) Q is valued, which means that for SEM it becomes indistinguishable from interpretable Q-features. As such it must be selected by interrogative-embedding predicates, and no further distinctions (as in [10]) are needed.

Consequences: The current analysis reconciles tensions between 'late trigger' theories of successive-cyclic movement that rely on (variants of) stipulations like Shortes Steps or the Minimize Chain Links Condition (cf. [1] and references therein) on the one hand, and 'early trigger' theories that rely on spurious intermediate WH/EPP/Edge-features on the other (cf. [10] among others). The former are problematic in that they violate the Extension Condition and are incompatible with phases. The latter rely on stipulated intermediate features to trigger movement. As an extension I would like to discuss possibilities of this idea to analyze successive-cyclic A-movement, and address the problem of determining which of the two elements moves when a 'too symmetric' configuration obtains. The 'right choice' might be due to non-syntactic conditions (cf. [9]).

(1) a. if EM of XP and simplex H yields {H, XP}, then H is the label

     b. if α undergoes IM to β, forming $\{\alpha, \beta\}$ then the label of β is the label of $\{\alpha, \beta\}$

(2) {DP {v* ...}}

(3) { DP { T { ⟨DP⟩ {v* ...}}}} → { DP { T { ⟨DP⟩ { **v*** ...}}}}

(4) *Probe-Label Correspondence Axiom*: The label of $\{\alpha, \beta\}$ is whichever of α or β probes the other, where the Probe = Lexical Item whose uF gets valued

(5) {WH v* { ...}}

(6) {WH C { ...T {⟨WH⟩ **v*** { ...}}}}

(7) WH ...{⟨WH⟩ **C** { ...T {⟨WH⟩ **v*** { ...}}}}

(8) a. [Which book]$_i$ do you [$_{vP}$ t$_i$ think/believe [$_{CP}$ t$_i$ C=that Mary [$_{vP}$ t$_i$ wrote t$_i$]]]

     b. *You think/believe which book (that) Mary wrote?

(9) a. John wonders [what C Mary will eat]

     b. *What does John wonder Mary will eat?

(10) [C [uQ] [... [$_{vP}$ what[Q] [v=eat ...]]]]

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