

Deriving the typology of predicate fronting

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Claim: I present a hitherto unobserved typological gap in the cross-classification of V(P) preposing and verb doubling/dummy verb insertion. I argue that this gap can be derived from the interaction of a language-specific order between Chain Reduction (CR, Nunes, 2004) and Head-to-head movement (HHM) in the post-syntax (Chomsky, 1995; Platzack, 2013) with the language-specific use of syntactic A' head movement (AHM) (Koopman, 1984; Matushansky, 2006; Vicente, 2009). **Generalisation:** In languages that allow a surface word order with a verb in the left periphery and its object(s) stranded (V fronting, often called predicate cleft Koopman, 1984; Aboh, 2006; Harbour, 2008; Trinh, 2011) as well as one where the full VP appears in the left periphery (VP fronting) two strategies can be observed to fill the verbal gap: either (i) a copy of the verb occurs in the canonical verb position (Hebrew, Landau, 2006, (1)) or (ii) a semantically empty dummy verb is inserted (German, (2)).

- (1) a. **Liknot** hi **kanta** et ha-praxim.
 buy.INF she buy.PST ACC DEF-flowers
 'As for buying, she bought the flowers.'
 b. [**Liknot** et ha-praxim] hi **kanta**.
 buy.INF ACC DEF-flowers she buy.PST
 'As for buying the flowers, she bought (them).'
- (2) a. **Kaufen tut** er Blumen nie.
 buy.INF does he flowers never
 'He never BUYS flowers.'
 b. [Blumen **kaufen**] **tut** er nie.
 flowers buy.INF does he never
 'Buy flowers he never does.'

New data from two languages, Asante Twi and Limbum, demonstrate that both strategies may be used in the same language. Crucially, in both languages verb doubling is only used in V fronting contexts while dummy verb insertion is only used in VP fronting contexts. In a survey of 47 languages, the reverse pattern, namely dummy verb insertion with V fronting but verb doubling with VP fronting, remains unattested resulting in a tetrachoric (3/4) typology (4). **Data:** Taking Asante Twi (AT) as an example, in V fronting, an uninflected verb (optionally nominalized) occurs in the left periphery while a fully inflected copy of the verb is pronounced in its canonical position (4a). In VP fronting, an inflected dummy verb *yo* (\approx 'do') occurs instead (4b).

		V fronting		
		verb copy	dummy verb	
VP fronting	dummy verb verb copy	Asante Twi Hebrew	German —	In a survey of 47 languages, the reverse pattern, namely dummy verb insertion with V fronting but verb doubling with VP fronting, remains unattested resulting in a tetrachoric (3/4) typology (4). Data: Taking Asante Twi (AT) as an example, in V fronting, an uninflected verb (optionally nominalized) occurs in the left periphery while a fully inflected copy of the verb is pronounced in its canonical position (4a). In VP fronting, an inflected dummy verb <i>yo</i> (\approx 'do') occurs instead (4b).

(4) a. **Sí-(é)** na Kofí **á-sí/*yó** dán.
 build-NLZ FOC Kofi PFV-build/do house
 'Kofi has BUILT a house.'
 b. [Dán **sí-é**] na Kofí **á-yó/*sí**
 house build-NLZ FOC Kofi PFV-do/build
 'Kofi has BUILT A HOUSE.'

The construction involves movement (Landau, 2006; Vicente, 2009) rather than base generation (Cable, 2004) of the fronted constituent as it can cross finite clause boundaries (5), is sensitive to islands (CNPC) (6), and shows tonal reflexes of A'-movement (Korsah and Murphy, 2016).

- (5) a. **Sí-(é)** na Ám¹má ká-a [sé Kofí á-sí dán].
 build-NMLZ FOC Ama say-PST COMP Kofi PRF-build house
 'Ama said that Kofi has BUILT a house.'
 b. [Dán si-é] na Ám¹má ká-a [sé Kofí á-yó].
 house build-NMLZ FOC Ama say-PST COMP Kofi PRF-do
 'Ama said that Kofi has BUILT A HOUSE.'
- (6) a. ***Sí-(é)** na mé-ń-té-e [atétésém bíará sé Kofí á-si dán].
 build-NMLZ FOC 1SG-NEG-hear-PST rumour.PL any COMP Kofi PRF-build house
 'I didn't hear any rumours that Kofi has BUILT a house.'
 b. *?[Dán sí-é] na mé-ń-té-e [atétésém bíará sé Kofí á-yó]
 house build-NMLZ FOC 1SG-NEG-hear-PST rumour.PL any COMP Kofi PRF-do
 'I didn't hear any rumours that Kofi has BUILT A HOUSE.'

Kandybowicz (2015) shows that the aspect head is between *v* and V in AT. Since the fronted constituent cannot bear any aspect marking it must be V(P) rather than *v*(P). Also, the verb in V fronting must be a bare head (A'-head-movement, Koopman, 1984; Vicente, 2009) rather than a remnant VP as AT provides no independent evidence for a generally applicable VP evacuating object movement. **Proposal:** Under the Copy Theory (Chomsky, 1995), I propose that the choice of verb doubling vs. dummy verb insertion is the result of a language-specific order of application in the post-syntactic component between Chain

Reduction (CR), an operation that applies to chains (which I understand as proper objects of the theory rather than a c-command relation between phonologically identical elements) and deletes lower copies (Bobaljik, 1995; Pesetsky, 1998; Nunes, 2004), and HHM, which has been independently suggested to be a post-syntactic operation (Chomsky, 1995; Brody, 2000; Harley, 2004; Platzack, 2013) that does not leave any copies (Boeckx and Stjepanović, 2001; Sauerland and Elbourne, 2002). In VP fronting, the VP is moved to SpecCP in syntax leaving a VP copy in its base position. If HHM applies before CR (7), the V moves to *v*/T/C (①,②) before the lower VP copy is deleted (③), resulting in two Vs in the structure (Hebrew, Polish). If CR applies before HHM (8), deletion of the lower VP copy including V bleeds HHM of V out of VP. A dummy verb is inserted to enable expression of inflectional affixes (German, Asante Twi).

(7) HHM \gg CR: $[_{CP} [_{VP} \mathbf{V} \mathbf{O}] [_{C'} \dots \mathbf{T} + \mathbf{v} + \mathbf{V} \dots [_{v'} \mathbf{v} + \mathbf{V} [_{\mathbf{VP}} \mathbf{V} \Theta \textcircled{3}]]]]$ Chain: $\langle (VP, C'), (VP, v) \rangle$

(8) CR \gg HHM: $[_{CP} [_{VP} \mathbf{V} \mathbf{O}] [_{C'} \dots \mathbf{T} + \mathbf{v} + \mathbf{do} \dots [_{v'} \mathbf{v} [_{\mathbf{VP}} \mathbf{V} \Theta \textcircled{1}]]]]$ Chain: $\langle (VP, C'), (VP, v) \rangle$

In V fronting, languages differ in whether they employ remnant VP movement (German) or A'-movement of a bare V head (AHM) into a SpecCP (Asante Twi), which is more similar to syntactic A'-movement than to post-syntactic head movement, because it behaves on a par with phrasal A'-movement (Koopman, 1984; Landau, 2006; Vicente, 2009). If they use the former, which is basically phrasal VP movement just without any objects, the order of CR and HHM determines which repair occurs as in (7) and (8). The latter movement-type, however, is special. It connects two positions whose phrase structure status is different. The base position is a head position and thus minimal but not maximal, the target position is a head in a specifier position and thus minimal and maximal. The Chain Uniformity Condition (Chomsky, 1995), which demands that a chain be uniform with regard to phrase structure status, usually precludes it. In light of the growing evidence in favour of the existence of this kind of movement (Koopman, 1984; Landau, 2006; Vicente, 2007, 2009), including the Asante Twi data, I advocate the weaker interpretation that this movement can indeed take place, **it just does not lead to the creation of a chain**. CR then cannot delete the lower copy of the A'-moved head because there is no chain to be reduced. This neutralizes the influence of the order of post-syntactic operations (9) such that either order gives rise to verb doubling (independently of HM of V to *v*/T/C which may or may not take place). Thus, AT shows verb doubling (9) CR \ll / \gg HHM: $[_{CP} \mathbf{V} [_{C'} \dots [_{v'} \mathbf{v} [_{VP} \mathbf{V} \mathbf{O}]]]]$ No chain exists \rightarrow CR cannot apply

despite its CR \gg HHM order because it employs AHM in V fronting. The account cannot derive the unattested pattern of dummy verbs with V fronting and verb doubling with VP fronting because the special property of AHM neutralizes towards verb doubling, not dummy verb insertion. It can only derive verb doubling despite a CR \gg HHM order but not dummy verb insertion despite a HHM \gg CR order. All four predicted language types are attested (10)

(10)	Surface	Synt. movement	Order of post-syntactic operations		
			HHM \gg CR	CR \gg HHM	
V fronting	remnant VP	verb doubling	} Polish	<i>do</i> -support	} German
VP fronting	full VP	verb doubling		<i>do</i> -support	
V fronting	bare V (AHM)	verb doubling	} Hebrew	verb doubling	} AT

Predictions: When V fronting is brought about by AHM, the lower V copy does not need to move to *v*/T/C to evade deletion. Therefore, unlike most other accounts of verb doubling, where the lower copy only survives if it expones some inflectional feature (Landau, 2006; Aboh and Dyakonova, 2009; Kandybowicz, 2008), I expect languages where the lower V copy surfaces (obligatorily) even though the inflectional features are realized by an auxiliary or modal. Indeed, this is attested in Vietnamese, a language that shows both V and VP fronting. The lower V copy of a transitive verb is obligatory despite the presence of a modal (11a). The copy is optional with intransitives (11b) as these are ambiguous between V fronting (i.e. AHM) and VP fronting (i.e. phrasal VP movement), where CR can delete the lower VP copy.

(11) a. **doc** thi no nen *(**doc**) sach b. **den** thi no se (**den**)
 read TOP he should read book come TOP he will (come)
 ‘As for reading, he should read books.’ ‘As for coming, he will come.’ (Trinh, 2009)

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