

Allomorphy in Semitic discontinuous agreement: Evidence for a modular approach

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Discontinuous agreement refers to agreement with a single argument that is expressed in more than one position on the verb, as in Şanġānī Arabic *ti-gambir-ayn* ‘you (f.pl.) sit’ (2-sit-F.PL). Assuming that subject φ -agreement is bundled on a single node in the syntax (i.e. Asp or T), postsyntactic approaches face at least two puzzles: (i) how can there be multiple affixes corresponding to a single syntactic terminal; and (ii) what regulates the order of the affixes relative to each other and to the stem? Previous approaches have been *vocabulary-centric*: they propose that the quantity and position of verbal agreement affixes is fixed largely by a single operation—Vocabulary Insertion (VI; Noyer 1992, Halle 1997, Harbour 2008). I argue instead for a modular view of postsyntax (Arregi & Nevins 2012) in which distinct operations are responsible for feature splitting (Fission), displacement, and exponence (VI). My argument is based on a novel set of allomorphic alternations from Semitic demonstrating that Fission and displacement feed, hence cannot be equated with, VI.

1. Feature splitting and impure discontinuities. Semitic subject agreement is expressed through a combination of prefixes and suffixes for 2nd and 3rd persons in certain tenses/aspects. Prefixes typically mark person, and suffixes number/gender. φ -feature exponence across discontinuous affixes does not always yield a clean split, however, sometimes resulting in an *impure discontinuity*. In (1), both the prefix and suffix index 2nd person. Assuming that φ -features originate

(1) *ti-* gambir *-ī* from the same node, most previous accounts collapse the effects of feature splitting (i.e. *Fission*) into VI and contend that the ‘you sit’ (Şanġānī Arabic) multiple exponence of 2nd person features in (1) is illusory, resulting from contextual restrictions on vocabulary entries. For instance, Harbour (2008) proposes that φ -features have syntactically represented internal structure: person features dominate number(/gender). “Fission” on this account results from cyclic iterations of VI matching sub- φ -structures with distinct phonological exponents. Impure discontinuities as in (1) arise as the result of contextual allomorphy: the Şanġānī suffix *-i* in (1) realizes feminine singular features *in the context of* local (dominating) 2nd person features before displacement (“*” = immediate precedence).

(2)
$$\left[\begin{array}{c} 2 \\ | \\ \text{SG, F} \end{array} \right] \left[\text{gambir} \right] \Rightarrow \left[\begin{array}{c} 2 \\ | \\ \text{SG, F} \end{array} \right] * \text{gambir} \Rightarrow \left[\begin{array}{c} \text{ti} \\ | \\ \bar{i} \end{array} \right] * \text{gambir} \Rightarrow \left[\text{ti} * \text{gambir} * \bar{i} \right]$$

Crucially, displacement of [SG, F] features independently of the dominating [2] features in (2) presupposes a prior step of VI splitting up the two sub- φ -structures and inserting /ti-/ and -i/; hence, Fission/VI must precede (or coincide with) suffixal displacement for VI-based approaches.

A better account emerges from the modular view of Spellout (Arregi & Nevins 2012) where Fission, displacement, and VI are logically distinct operations. These operations apply in the order Fission \prec Displacement \prec VI (to be justified below). I propose the rule in (3) for Semitic, which splits up the features [-author] and [α singular] and copies all orthogonal features according to (4).

(3) *Semitic 2nd/3rd person Fission rule* (4) *Feature preservation under Fission*

$$\left[\text{T} \left[\begin{array}{c} -\text{auth} \\ \alpha \text{ sg} \end{array} \right], \phi \right] \rightarrow \left[\text{T} \left[\begin{array}{c} -\text{auth} \\ \alpha \text{ sg} \end{array} \right], \phi \right] \left[\text{T} \left[\begin{array}{c} \alpha \text{ sg} \\ \phi \end{array} \right], \phi \right]$$
 Copy orthogonal features ϕ into both nodes.

Impure discontinuities under this view constitute true multiple exponence: [+participant] is copied into both Fissioned nodes and is subsequently matched in both at VI (matched features are bolded).

(5)
$$\left[\text{T} \text{V} \left[\text{T} \left[\begin{array}{c} -\text{auth} \\ \alpha \text{ sg} \end{array} \right], +\text{part}, +\text{sg}, +\text{fem} \right] \right] \xrightarrow{\text{Fission}} \left[\text{T} \text{V} \left[\text{T} \left[\begin{array}{c} -\text{auth} \\ \alpha \text{ sg} \end{array} \right], +\text{part}, +\text{fem} \right] \left[\text{T} +\text{part}, \left[\begin{array}{c} +\text{sg} \\ +\text{fem} \end{array} \right] \right] \right]$$

$$\xrightarrow{\text{Displacement}} \left[\text{T} \left[\text{T} \left[\begin{array}{c} -\text{auth} \\ \alpha \text{ sg} \end{array} \right], +\text{part}, +\text{fem} \right] \left[\text{T} \text{V} \left[\text{T} +\text{part}, \left[\begin{array}{c} +\text{sg} \\ +\text{fem} \end{array} \right] \right] \right] \right]$$

$$\xrightarrow{\text{Vocabulary Insertion}} \left[\text{T} \left[\text{T} \left[\begin{array}{c} -\text{auth}, +\text{part}, +\text{fem} \end{array} \right] \right] \left[\text{T} \left[\text{V} \left[\begin{array}{c} +\text{part}, +\text{sg}, +\text{fem} \end{array} \right] \right] \right] \right]$$

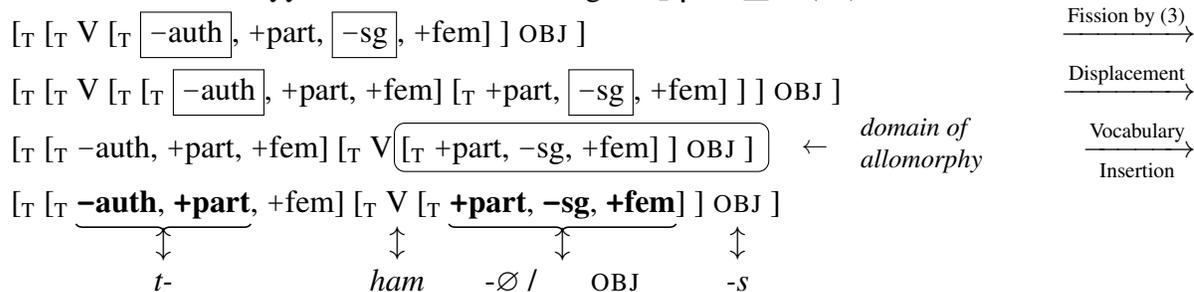
$$\leftrightarrow \text{ti-} \quad \leftrightarrow \text{gambir} \quad \leftrightarrow \text{-ī}$$

2. Allomorphy and the timing of Fission. These two approaches to discontinuous agreement make different predictions with respect to the relative timing of displacement vis-à-vis VI. Harbour’s analysis in (2) demands that splitting feed displacement; since splitting is a by-product of VI under that approach, VI must also precede displacement. I have proposed instead that Fission, displacement, and VI are distinct operations applying in that order. The main empirical contribution of this paper is the discovery of the generalization in (6): discontinuous agreement affixes in Semitic only exhibit allomorphy sensitive to linearly adjacent material.

(6) $A * X_{\varphi}^- * VERB * -Y_{\varphi}^- * B$ where A, but not B, can condition the form of prefixal X_{φ}^- , and B, but not A, can condition the form of suffixal $-Y_{\varphi}^-$.

This generalization is borne out by data from several Semitic languages. For instance, the Mehreyyet second feminine singular suffix in (7) (7) a. $t- \text{ħaym} -\bar{i}$ b. $t- \text{ħam} -\emptyset -s$ is $-\emptyset$ preceding object clitics, $-\bar{i}$ otherwise (Watson 2012). The form of ‘you (f.sg.) want’ ‘you (f.sg.) want it (f.sg.)’ the prefix, on the other hand, is never sensitive to right-peripheral material. The suffix alternation is easily captured if Fission feeds displacement and VI. (8) illustrates my analysis of (7b).

(8) Derivation of Mehreyyet second feminine singular $t-\text{ħam}-\emptyset-s$, (7b)



By contrast, the existence of suffixal allomorphy in (6) is not predicted if Fission is reduced to VI, as VI would need to both *precede* displacement (i.e. to capture alleged local allomorphy in impure discontinuities, cf. (2)) and *follow* it (i.e. to explain the linear adjacency requirement on allomorphy in (6)). Furthermore, the robust absence of long distance allomorphy of suffixes conditioned by material preceding the verb is left unexplained by theories in which the prefix and suffix undergo Fission and VI at a single underlying position in the syntax—for Harbour, the prefixal position in (2). My analysis additionally predicts that impure discontinuities should coexist with true contextual allomorphy. We see this in (8): the [+participant] feature is realized twice—once at the prefix position and once at the suffix position. Such patterns are especially problematic for theories like Harbour’s which analyze impure discontinuities as a species of allomorphy, since these theories will always require one of the triggers for suffixal allomorphy (i.e. the prefix or object clitic) to be non-local.

3. Conclusion. The range of attested variation in discontinuous agreement affixes in Semitic strongly supports a modular view of the postsyntactic component. Impure discontinuities, contrary to previous assumptions, do not involve contextual allomorphy, but rather follow naturally from the feature copying component of Fission (see (4)). True allomorphy in discontinuous agreement is always defined over linearly adjacent elements, paralleling similar findings that linear adjacency is a prerequisite for conditioning allomorphy (see Embick 2010; Arregi & Nevins 2012). This observation forms the primary basis for my claim that Fission and displacement rules are autonomous, separate from VI, and that postsyntax is serially ordered: since the form of discontinuous affixes must be determined *after* displacement, Fission and displacement must precede VI.