VP-fronting in Imere and the stranding problem

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1. VP-fronting and the stranding problem. It has been argued for a number of languages that basic word order may involve an operation of VP-fronting (e.g. Kayne 1994; Massam 2001). However, many such analyses face an overgeneration problem: not all VP-internal material can appear in the fronted VP (Chung 2005, Massam 2010). The first contribution of this talk is to provide a novel case of VP-fronting, in an SVO language, the understudied Polynesian outlier Imere (Vanuatu). Imere has a set of postverbal adverbial particles (1), which are placed before all objects but occur in **inverse order**, scoping right-to-left:

(1)　　mii-nufine　　　rat　　[$_{VP}$ kai-na **sorookina kee**] oofi　t_{VP}.
　　　　AFF.PL-woman 3NSG　　eat-TR all　　　　NEG yam
　　　　'The women didn't eat all the yams.'

Inverse order creates an apparent paradox, because objects and other postverbal modifiers appear to be ordered left-to-right. I interpret inverse order before direct order as evidence for an operation of ***VP-fronting***, represented in (1), of a VP containing all adverbial particles. Like other VP-fronting analyses, this proposal runs into the "stranding problem": VP-fronting must strand all other VP-internal material. This issue is particularly pressing in SVO Imere, since Imere offers no evidence of vacating movements or an unorthodox base-generated structure.

The second contribution of this talk is to develop an account of this stranding problem. I propose that, in Imere and other VP-fronting languages, the fronted VP undergoes ***distributed deletion*** at PF (Fanselow and Ćavar 2001), driven by a constraint that favors realization only of the element bearing the movement-driving feature, the predicate (as in Massam and Smallwood 1997; Collins 2017). I present a comparison of Imere with eight other VP-fronting languages (from five families). What fronts with the verb is always a structurally reduced dependent of the verb, like a reduced object or adverbial particle. In contrast, full DPs, PPs, and CPs always strand. Building on Clemens (2014, to appear), I adopt a constraint that requires non-phasal dependents of a head to remain adjacent, allowing such material to escape distributed deletion.

2. Imere is SVO with an English-like VP. Imere (or Mele-Fila) is a Polynesian outlier, spoken in Vanuatu by about 3,500 speakers (Paxton and Lynch 2001). Previous work is limited to a short grammar sketch by Clark (2002). At first glance, Imere is a familiar strict SVO language. As in English, adverbs and PP modifiers follow DP objects (2). Imere also has a ditransitive alternation analogous to the English one, between a double object construction and prepositional dative, in which objects are ordered left-to-right, as diagnosed by scope (3), and binding.

(2)　　avau kai-na oofi **naanafi**.　　　　(3)　　avau nagaia [$_{DP}$ nufine] [$_{DP}$ atusi eweji].
　　　　1SG eat-TR yam yesterday　　　　　　　　1SG give　　　 woman　　book every
　　　　'I ate yams yesterday.'　　　　　　　　　　'I gave a woman every book.' ($\exists > \forall$;*$\forall > \exists$)

3. Adverbial particles in inverse order. But, like many verb-initial Oceanic languages, Imere has a set of adverbial particles, immediately after the verb and before any objects. These particles encode low adverbial meanings but also include *wh*-adverbs like *nefea* ('when'):

(4)　　avau ounu **tlasia　kee** a-vai.　　　(5)　　akoe k-ounu　　　　**nefea** a-vai?
　　　　1SG drink enough NEG PL-water　　　　　2SG 2SG.NFUT-drink when PL-water
　　　　'I didn't drink enough water.'　　　　　　'When did you drink water?'

Surprisingly, adverbial particles must scope right-to-left, always occurring in **inverse order**, as in (1) and (4). Inverse order means that adverbial particles must be in a right-attached position. But this conclusion seems to lead to an ordering problem. If postverbal particles are attached on the right, they should follow all objects too, since objects are ordered left-to-right. I interpret the existence of inverse order before direct order as evidence for an operation of ***VP-fronting***. A VP constituent containing all adverbial particles moves to a clause-medial position:

(6)　　Subj . . . [$_{VP}$ V Adv Adv] . . . t_{VP}

But this VP-fronting analysis runs into the "stranding problem". It must be stipulated that adverbial particles remain in the fronting VP, while DPs, PPs, and CPs vacate in some fashion.

4. Against head movement and base generation. We cannot solve this issue by appealing to head movement or an unorthodox base-generated structure. Adverbial particles are not heads picked up by successive head movement (*cf*. Clemens 2014). Morphophonological diagnostics distinguish adverbial particles from affixes (particles don't shift stress or count for word minimality). Also, particles attach to phrasal non-verbal predicates (7) (*cf*. Massam 2001).

(7) avau [_PredP_ gaia Ifate **ana**]   (8) avau seia ***(kee)** se-tama.
    1SG   to Efate still   1SG see   NEG NPI.SG-child
    'I am still from Efate.'   'I didn't see any children.'

Another option is to say that adverbial particles are base-generated lower. But adverbial particles in fact outscope arguments to their right. The negative particle *kee* licenses an NPI object, as in (8). Similarly, the floating quantifier particle *sorookina* ('all') requires a DP in its scope, either an object, as in (1), or the subject of an unaccusative. Thus, although postverbal particles only outscope other particles to their *left*, they scope above other VP-material to the *right*.

5. Distributed deletion. I argue that the stranding problem arises because the fronted VP undergoes ***distributed deletion*** at PF (Fanselow & Ćavar 2001). VP-fronting is assumed to be driven by features of the predicate (Massam & Smallwood 1997; Coon 2010; Collins 2017). I propose a PF constraint REALIZE GOAL that forces deletion of all material in a moved phrase that does not carry the movement-driving feature (see also Richards's 2016 Probe-Goal Contiguity). REALIZE GOAL effects distributed deletion in an OT calculus, outranking a faithfulness constraint that favors contiguity, on the assumption that PF constraints may influence copy deletion (Nunes 2004; Landau 2006). No vacating movements are necessary.

6. VP-fronting crosslinguistically. The stranding problem arises in at least eight other VP-fronting languages, from five language families (Oceanic, Mayan, Tsimshianic, Tupí-Guaraní, Zapotec). I present a comparison of these systems and demonstrate that, in all these languages, what can remain in the fronted VP is always a **structurally reduced dependent**, like an adverbial particle or a determinerless object. In contrast, all full DPs, PPs, and CPs are stranded.

This structural difference is not a difference between heads and phrases. Like Imere, most of these languages allow non-verbal predicates to front as a phrase. In addition, both adverbial particles and determinerless objects can be phrasal, as in Imere (9) and Niuean (10):

(9) ka feefe [**maruuruu fefea**] atusi?   (10) Ne inu [**kofe kono**] a   Mele.
    DEP read slowly   how   book   PST drink coffee bitter ABS Mele
    'How slowly did you read the book?'   'Mary drank bitter coffee.'

Following Clemens (2014, to appear) on the correlation between stranding and the presence of an article in Niuean, I propose that fronted dependents are **non-phasal**, while stranded material, like a DP, PP, or CP, projects a phase boundary. Clemens posits a constraint ARGUMENT-φ that requires a complement of a head that **spells out in the same phase to be adjacent**. I propose to generalize this constraint to the relationship between an adverb and a verb as well, so that non-phasal modifiers are subject to the same pressure. This constraint can outrank REALIZE GOAL, allowing such dependents to survive deletion. Independent evidence for a structural difference between adverbial particles and other elements in Imere comes from the distribution of word minimality and the observation that adverbial particles do not project their own phonological phrase, diagnosed by a HL pitch accent. I link both properties to phasal status.

7. No stranding with non-verbal predicates. Another generalization that emerges is that no stranding occurs with non-verbal predicates (7). Crosslinguistically, there is no pattern in which only a preposition or determiner moves, stranding other DP or PP material. I show that REALIZE GOAL explains this asymmetry if such movement is driven not by features of P or D, but a larger phrase PredP, Merged with such predicates to embed them in the extended verbal projection.