

This is Spinal Merge!

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Introduction. Recently, many syntactic and semantic aspects of adpositions have received renewed attention: argument/adjunct (a)symmetry, P-stranding, word order, anti-locality, thematic role assignment, and beyond. This talk discusses PPs in Avatime, a Ka-Togo (>Kwa>Niger-Congo) language of Ghana. We claim that a cluster of properties in a subset of prepositions (strandability, vowel mutation under extraction, and relative ordering with other PPs) is due to those prepositions' status as argument introducers on the clausal spine, a property that fits in with their the verbal diachronic status proposed by Aboh (2010).

Not all prepositions strand. Aboh (2004, 2010) identifies two subclasses of adpositional elements (labeled P1 and P2): i) P1 are prepositions that are more directional/functional (diachronically verbal); and ii) P2 are post-positional and more spatially oriented (diachronically nominal). Aboh (2010) demonstrates that P1s can strand, while P2s cannot. McInnerney (2022) argues for a stacked PP structure in line with Abels (2003). He suggests that languages are able to idiosyncratically allow stranding of the higher P1, while stranding of P2 is only made possible if there is raising from P1 to P2, extending the phase (den Dikken 2007, Gallego 2010). We focus on the limited set of prepositions in Avatime: the locative *nĩ*; the comitative/instrumental *nì*; and the benefactive *kĩ*, which is cognate with the verb *kì* 'give.' Locative *nĩ* can always be omitted, while the other prepositions cannot (not shown). Of these, only the locative cannot be stranded (1-2). Assuming prepositions are all of category P1, it is a puzzle why some P1 elements are strandable, and one is not.

(1) *[ege se] wɔ-plɛ ke-plekpa nĩ ___? (2) *nifɔ wɔ-trɛ nĩ ___?

What under 2SG-put 2CL-book LOC where 2SG-go LOC

Int: 'What did you put the book under?' Int: 'Where did you go?'

Meanwhile, *nì* and *kĩ* can be stranded. When stranded, they surface as *nɔ̀* and *kɔ̀* (3-4). Note that this is not a general property of movement in the language: /i/ does not surface as [ɔ] when moving the complement of verbs with a final /-i/, for example.

(3) ege wɔ-tsa kidze nɔ̀ ___?

what 2SG-cut meat P

'What did you cut the meat with?'

(4) nyawe wɔ-dra opolo kɔ̀ ___?

who 2SG-open door P

'Who did you open the door for?'

(5) ege wɔ-{tsri/*tsrɔ} ___?

what 2SG-hate

'What do you hate?'

(6) ege Kofi {si/*sɔ} Ayape a-ɲa ___?

what kofi say ayape AGR-eat

'What did Kofi say Ayape ate?'

We attribute the vowel mutation to an edge feature that drives successive-cyclic movement over argument-introducing functional heads (cf. McCloskey 2001, van Urk 2015, Korsah and Murphy 2020, among others). Along with the strandability facts, this vowel mutation diagnoses a natural class containing the prepositions *nì* and *kĩ*, to the exclusion of *nĩ*.

P-stranding as argument/adjunct asymmetry. We argue that the locative *nĩ* cannot be stranded because of an adjunct island effect. Meanwhile, comitatives, instrumentals, and benefactives are introduced by heads on the clausal spine, and are not true adjuncts (Koopman 2024). We identify positions for these heads in a hierarchically differentiated domain between v/VP and T (Schweikert 2005, Buell and Sy 2005). The lowest of these positions is dedicated to a 'particle' usage of *nì*, which introduces a theme for a class of idiomatic verbs (7) and can be fronted with verbs (8), suggesting a tight relationship.

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(7) ma-tsa **nì** Ayape
 1SG-cut PART ayape
 ‘I met Ayape.’

(8) ki-tsa **nì** ma-tsa **nì** Ayape
 NMLZ-cut PART 1SG-cut PART ayape
 ‘I MET Ayape [instead of, say, avoiding him].’

We analyze these constructions as having the structure in (9). The verb head raises to *nì*, forming a morphosyntactic unit that can undergo subsequent predicate clefting. The theme is merged in the specifier, followed by subsequent verb movement into the middle field of the clause below T, which is independently motivated (Major & Torrence 2025).

(9) [_{PARTP} DP [_{PARTP} **nì** [_{VP} V]]]

Hierarchy of applicative arguments. The theme-introducing particle *nì* may co-occur with instrumental and comitative uses of *nì*, but the two are not freely ordered (10-11). Instrumental and comitative *nì* may occur together, but only in that order (12-13).

(10) ma-me [**nì** Ayape] [**nì** keplekpa] (11) *ma-me [**nì** keplekpa] [**nì** Ayape]
 1SG-VERB PART ayape INST book 1SG-VERB INST book PART ayape
 ‘I deceived Ayape with a book.’

(12) ma-tsa kidze [**nì** iha] [**nì** Ayape] (13) *ma-tsa kidze [**nì** Ayape] [**nì** ihe]
 1SG-cut meat INST knife COM ayape 1SG-cut meat COM ayape INST knife
 ‘I cut the meat with a knife with Ayape.’

The benefactive may co-occur with instrumentals and comitatives, in a free order (14-15).

(14) ma-tsa kidze [**kí** Ayape] [**nì** ihe] (15) ma-tsa kidze [**nì** ihe] [**kí** Ayape]
 1SG-cut meat BEN ayape INST knife 1SG-cut meat INST knife BEN Ayape
 ‘I cut the meat for Ayape with a knife.’ ‘I cut the meat with a knife for Ayape.’

Parallel to *nì*, there is a use of *kí* that introduces themes of idiomatic verbs. The class of verbs using *kí* is that of inherent complement verbs (Essegbey 1999, Subramony 2025), where the idiomatic unit consists of a verb and a nominal. For non-idiomatic uses of transitive verbs, *kí* is disallowed as a theme introducer. This is shown in (16-18).

(16) me-mu Ayape adzola (17) me-mu adzola *(**kí**) Ayape (18) me-mu *(**kí**) oselo
 1SG-climb ayape cheek 1SG-climb cheek PART ayape 1SG-climb PART tree
 ‘I kissed Ayape.’ ‘I kissed Ayape.’ ‘I climbed the tree.’

Taken together, we interpret these facts as showing a hierarchy of dedicated positions for argument-introducing *nì* and *kí*, shown in (19).

(19) {**kí**_{BEN}} > **nì**_{INSTR} > {**kí**_{BEN}} > **nì**_{COMIT} > {**kí**_{BEN}} > **kí**_{PARTICLE} > **nì**_{PARTICLE} >> v/VP

Impact. Our proposal contributes to the overall understanding of the region between T and v, in addition to straightforwardly explaining apparent idiosyncrasies from one preposition to the next in this language. Instead of appealing to varying stacked PP structures (a PP-internal property), we attribute relative ordering of applied arguments, availability of extraction, and vowel mutation under extraction to an external property: applied argument introducers are spinal, while other adpositional elements (in particular those that block extraction) are adjoined, and restricted to positions outside this articulated applicative domain.

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