

## Gerundive nominalization is (still) syntactic: An argument from the FOFC

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**Claim:** Chomsky (1970) distinguished between two types of nominalization: *syntactic* (e.g. for gerunds), and *lexical* (for derived nominals). We provide new evidence that the former type (gerunds and synthetic compounds) contain a VP projection to which a nominalizer attaches. On the basis of a typological survey, we show that nominalized VPs show only 3/4 possible word orders cross-linguistically. It is argued that this follows from the *Final-over-Final Condition* (FOFC) (Biberauer et al. 2014), which is a syntactic constraint ruling out a head-final over head-initial structure, the pattern of nominalization that appears unattested.

**Data:** Many West African languages require overt nominalization of VPs in certain contexts (e.g. VP fronting and embedding under certain predicates/aspects). When a suffixal nominalizer attaches to a head-initial VP, we frequently find a switch in word order. For example, in Dagaare the order in the VP switches to head-final when nominalized under fronting (1b) (Hiraiwa & Bodomomo 2008). The same can be seen with Gengbe (Manfredi 1997): when a head-initial VP is nominalized in perfective clauses, it switches to OV order (2b).

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| <p>(1) <i>Dagaare</i> (VO → OV-NMLZ):</p> <p>a. Ñ dà [VP dá lá bóó ].<br/>1SG PST buy FOC goat<br/>'I bought a goat.'</p> <p>b. [VP Bóó dáá ]-ó lá ká ní dà dà.<br/>goat buy -NMLZ FOC C 1SG PST buy<br/>'It is buying a goat that I did.'</p> | <p>(2) <i>Gengbe</i> (VO → OV-NMLZ):</p> <p>a. Mù [VP ðù nú ].<br/>1SG eat thing<br/>'I ate (something).'</p> <p>b. Kwésí lè [VP mólú ðù ]-ò.<br/>Kwesi AUX rice eat -NMLZ<br/>'Kwesi is eating rice'</p> |
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There are also VO languages with a nominalizing prefix, this is the case for Mani (3) and Yoruba (4). In each of these languages, the order inside the VP remains head-initial in the nominalized forms (3b), (4b).

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| <p>(3) <i>Mani</i> (VO → NMLZ-VO):</p> <p>a. Û ká [VP tók òmò mí ].<br/>1SG PST wash shirt 1SG<br/>'I washed my shirt.'</p> <p>b. Û- [VP bán wóm ] kó mbòm<br/>NMLZ- build boat PRO.FOC Mbom<br/>wò bán-yè.<br/>3SG build-STAT<br/>'It is building a boat Mbom built a boat.'</p> | <p>(4) <i>Yoruba</i> (VO → NMLZ-VO):</p> <p>a. Ajé [VP ra iwé ].<br/>Aje buy paper<br/>'Aje {is buying/bought} {a book/books}.'</p> <p>b. Rí- [VP rà iwé ] ni Ajé ra iwé.<br/>NMLZ- buy paper FOC Aje buy paper<br/>'It is book-buying that Aje {is doing/did}.'</p> |
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Furthermore, we find VO languages in which we find an order switch to OV with a nominalizing prefix. One

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| <p>(5) <i>Krachi</i> (VO → NMLZ-OV):</p> <p>a. ɔkyɪ wɔ [VP ɛ-dikɛ i-gyɔ ].<br/>woman the PST-cook PL-yam<br/>'The woman cooked yams.'</p> <p>b. <b>Ke</b>-[VP dikɛ i-gyɔ ] yɪ ɔkyɪ wɔ ɛ-dikɛ.<br/>NMLZ- cook PL-yam FOC woman the PST-cook<br/>'The woman only cooked yams (i.e. she did nothing else).'</p> <p>c. <b>Ke</b>-[VP i-gyɔ dikɛ ] yɪ ɔkyɪ wɔ ɛ-dikɛ.<br/>NMLZ- PL-yam cook FOC woman the PST-cook<br/>'It was COOKING YAMS that the woman did (not eating rice).'</p> | <p>such language is Krachi, which allows for optional OV order after a head-initial nominalizer, as shown in (5c) (Kandybowicz &amp; Torrence 2016). This pattern can also be found in Igbo (Manfredi 1997). Igbo ordinarily has VO order in infinitival complements (6a). However, when this complement is nominalized under</p>  |
| <p>(6) <i>Igbo</i> (VO → O NMLZ-V):</p> <p>a. Ó kúzhi-ri m [VP i-gbá igwè ]<br/>3SG teach-ASP 1SG INF-move iron<br/>'S/he taught me to ride a bike.'</p> <p>b. Ó mára-na [VP igwè a-gbá ]<br/>3SG know-PERF iron NMLZ-move<br/>'S/he knows how to ride a bike.'</p>   | <p>perfective aspect (7b), then the order switches to OV. The slight complication here is that the initial nominalizer does not 'lean' onto the VP as in Krachi, but rather is an affix to the verb. We suggest this is the result of postsyntactic lowering, but it is clear that the switch from VO to OV inside the complement is independent of this fact, which seems to be a language-specific property of the nominalizer. The generalization we arrive at, which is shown for a selection of the</p> |

languages studied in (7), is that the order VO-NMLZ is not found across languages, even in cases when it would be expected. In other words, what motivates the VO→OV switch only with suffixal nominalizers?

(7)	Base order	Nominalized	
Akan	VO	OV-NMLZ	(Hein 2017)
Buli	VO	OV-NMLZ	(Hiraiwa 2005)
Dagaare	VO	OV-NMLZ	(Hiraiwa & Bodomo 2008)
Dangme	VO	OV-NMLZ	(Ameka & Kropp Dakubu 2008)
Ewe	VO	OV-NMLZ	(Buell 2012)
Gengbe	VO	OV-NMLZ	(Aboh 2005)
Krachi	VO	NMLZ-OV	(Kandybowicz & Torrence 2016)
Igbo	VO	NMLZ-OV	(Manfredi 1997)
Krachi	VO	NMLZ-VO	(Kandybowicz & Torrence 2016)
Hausa	VO	NMLZ-VO	(Hartmann 2006)
Limbun	VO	NMLZ-VO	(Becker & Nformi 2016)
Mani	VO	NMLZ-VO	(Childs 2011)
Yoruba	VO	NMLZ-VO	(Manfredi 1993)

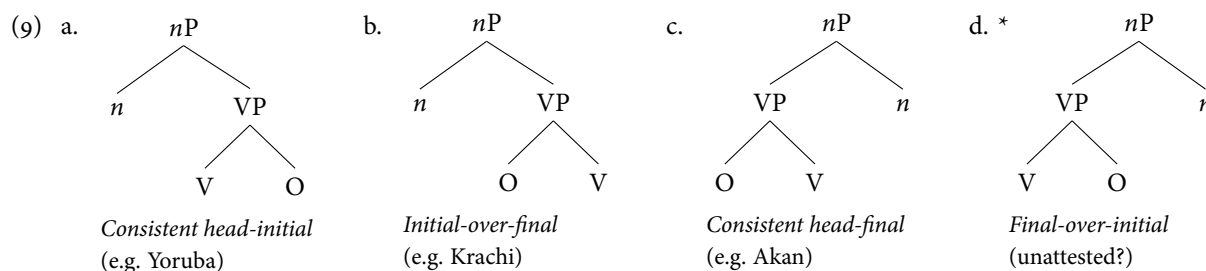
Appealing to object shift (e.g. Aboh 2005) is unsatisfactory, since it is unclear why the position of the nominalizer should matter. This does not simply seem to be an issue of adjacency between V and NMLZ. While this is frequently so (due to the affixal nature of NMLZ), we see that languages have the option of lowering affixes to their host, as in Yoruba (6). We do not find this in (7), instead it is always the order inside VP that changes.

**FOFC:** We suggest that the VO→OV shift should be viewed as a repair to the *Final-over-Final Condition* (8).

(8) *The Final-over-Final Condition* (Biberauer et al. 2014:171):

A head-final phrase  $\alpha P$  cannot immediately dominate a head-initial phrase  $\beta P$ , if  $\alpha$  and  $\beta$  are members of the same extended projection.

This general constraint has been shown to have wide empirical coverage (e.g. Sheehan et al. 2017), but has not yet been systematically applied to nominalizations. For the case at hand, we derive the classic tetrachoric (3/4) signature of the FOFC pattern, since only (9d) is incompatible with the definition in (8).



One consequence of this, however, is that we must treat  $n$  and V as part of the same extended projection, in order for (8) to hold in such cases. This constitutes an argument for treating nominalizations as ‘mixed’ extended projections (Borsley & Kornfilt 2000) and the definition (8) should be expanded to include them.

**Serial verb constructions:** In Dagaare SVcs, the direct object is shared between both verbs and surfaces linearly between them (10). Hiraiwa & Bodomo (2008) argue that this sharing is multidominance. A strong argument for this comes from constituency, namely it is possible to front each of the verbs with the DO individually (11a,b) or together (11c). In order to achieve this right constituency, we require a ‘double-headed’ structure such as (12) (cf. Baker & Stewart 1999). Importantly, the order in (11c) changes from  $V_1$ -DP- $V_2$  to  $V_1$ - $V_2$ -DP. This follows naturally if the FOFC must be respected by both VPs individually. Since  $VP_1$  is head initial, it is dominated by head-final  $n$  in violation of the FOFC.

- (11) a. [ $VP_1$  Néné séé ]-ó lá ká ó sé òò. (12)  
 meat roast -NMLZ F C 3SG roast eat  
 ‘It is roasting meat that he did and ate (it)’
- b. [ $VP_2$  Néné òò ]-ó lá ká ó sé òò.  
 meat eat -NMLZ F C 3SG roast eat  
 ‘It is eating meat that he roasted and did’
- c. [ $VP_{1/2}$  Néné séé òò ]-ó lá ká ó  
 meat roast eat -NMLZ F C 3SG  
 sé òò.  
 roast eat  
 ‘It is roasting meat and eating it that he did’

