

Functional structure in the noun phrase: revisiting Hebrew nominals

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1. Introduction

Bruening (2010, 2020) and Bruening, Dinh & Kim (2018) (henceforth BBDK) have recently advanced a series of arguments for the claim that nominal phrases are not headed by a functional projection. These works take particular aim at the DP Hypothesis (Abney 1987; see also Szabolcsi 1983), but their claim is stronger than a mere rejection of that hypothesis. Their claim is that the outermost layer in a nominal phrase is projected by the noun itself, not by any functional structure surrounding the noun.

In this short paper, I wish to revisit Ritter's (1991) findings and show that BBDK's claims are incompatible with the evidence she adduces from (modern) Hebrew.¹ Ritter's paper takes for granted that DPs exist, and concentrates on how Hebrew nominals motivate the existence of an *additional* projection in between DP and NP (namely, *NumP*). What I would like to show here, however, is that if one harbors doubts that there are *any* functional projections above the projection of the noun, Ritter's work provides clear evidence that such functional projections exist.

The data herein is based on Ritter's data but not identical to it. The changes are intended to address potential alternatives that did not seem available in 1991 but may seem available now, in particular as it regards the derivation of deverbal nominals in syntax.

2. NSO orders in Hebrew nominal phrases

Consider the Hebrew noun *nicaxon* ("victory"). Because this will prove important in the discussion to follow, let us establish that *nicaxon* is not a deverbal noun. First, the nominal template *CiCaCon* is not one of the templates Hebrew uses to form deverbal nouns (see Arad 2005:31–36, 71–78 for discussion). The morphologically closest verb, formed of the same tri-consonantal root (\sqrt{ncx}), is *niceax* ("won"; but also: "conducted" in the orchestral sense). As a verb in the *Ci(C)CeC* template, *niceax* is expected to form its deverbal noun using the template *Ci(C)CuC*. The resulting form, *nicuax*, is indeed attested—but crucially, it picks out only the orchestra-conducting meaning of the verb from which it is derived. Taken together, these facts indicate that *nicaxon* ("victory") is derived by placing the tri-consonantal root \sqrt{ncx} directly into the nominal template *CiCaCon*. (See also (4–6) and the surrounding discussion.)

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¹BBDK cite Ritter's (1991) work in a handful of places, mostly in the context of enumerating existing proposals for N-to-D movement. In at least one instance, the work of Shlonsky (2004) is cited as an alternative to Ritter's N-to-D analysis (Bruening, Dinh & Kim 2018:37), despite the fact that Shlonsky's account has not just one or two but, by my count, *six* functional projections above the NP layer (Shlonsky 2004:1483).

This noun can form nominal phrases like the following:^{2,3}

- (1) a. CONSTRUCT STATE
 nic(a)xon ha-miflaga al yerive-ha (Hebrew)
 victory.cs the-political.party(F) on rival.PL.CS-3SGF.POSS
 ‘the victory of the political party over its rivals’
 b. NON CONSTRUCT STATE
 ha-nicaxon fel ha-miflaga al yerive-ha
 the-victory.NCS of the-political.party(F) on rival.PL.CS-3SGF.POSS
 ‘the victory of the political party over its rivals’

If the phrases *ha-miflaga* (“the-political.party(F)”) and *al yerive-ha* (“on rival.PL.CS-3SGF.POSS”) are the External and Internal Arguments of *nicaxon* (“victory”), respectively, then what we have here is NSO order (a term chosen by parity with VSO in the clausal domain).

This case is not unique. Like *nicaxon* (“victory”), the nouns *milxama* (“war”) and *maxsor* (“lack”) are also not deverbal (see, once again, *Arad 2005*:31–36, 71–78). They too can form NSO nominal phrases:

- (2) a. milxemet ha-mevaker ba-foxitut ha-mimsad-i-t
 war.cs the-inspector.general in.the-corruption(F) the-institute-ADJ-F
 ‘the war of the inspector general against institutional corruption’
 b. ha-milxama fel ha-mevaker ba-foxitut ha-mimsad-i-t
 the-war.NCS of the-inspector.general in.the-corruption(F) the-institute-ADJ-F
 ‘the war of the inspector general against institutional corruption’
 (3) a. maxsor ha-iriya be-ovd-im
 shortage.cs the-municipal.government in-worker-PL(M)
 ‘the municipal government’s shortage in employees’
 b. ha-maxsor fel ha-iriya be-ovd-im
 the-shortage.NCS of the-municipal.government in-worker-PL(M)
 ‘the municipal government’s shortage in employees’

In all three cases, the choice of preposition (*al* “on” in (1), *be-* “in-” in (2–3)) heading the PP dependent is governed by the noun. In some cases (e.g. *milxama* “war” vs. *laxam* “fight.PAST(3sg M)”), the preposition in question is shared across the complements of the different categories derived from the same root. In other cases (*nicaxon* “victory”, *maxsor* “shortage”), the preposition is unique to the noun, and does not extend to other categories derived from the same root. As *Merchant (2019)* shows, this is typical of argument PPs, i.e., those selected by the head. Moreover, the meanings associated with the prepositions in question are spatial (in the case of *al* “on”) and spatio-temporal (in the case of *be-* “in-”). But these prepositions show no vestiges of those meanings in the examples above. This all speaks to the PPs in (1–3) being c-selected Internal Arguments of their respective head nouns.

²Glossing conventions used in this paper: 3 = 3rd person; ACC = accusative; CS = construct state; F = feminine; NCS = non construct state; PL = plural; POSS = possessive; PAST = past tense; SG = singular.

³There is some dialect/register variation concerning whether the parenthesized vowel in *nic(a)xon* in (1a) is deleted in the construct state. Prescriptively, it should be deleted, but both forms are in fact acceptable.

The nominal dependents preceding these PPs in (1–3) (*ha-miflaga* “the-political.party(F)”, *ha-mevaker* “the-inspector.general”, *ha-iriya* “the-municipal.government”) are not the kind of nominals that can serve as adjuncts (cf. *ha-šavua* “this week”; *lit.*: “the-week”). They are also not ‘possessors’ in any literal sense of the term—though one could still label their grammatical function within the larger noun phrase as that of a ‘possessor’, on a par with ‘subject’ in the clausal domain. I therefore conclude that they are bona fide External Arguments of their respective head nouns (see also fn. 8).

3. Possible analyses

In this section, I consider various possible analyses of the NSO orders shown in the [previous section](#), demonstrating that none of these can be reasonably reconciled with BBDK’s claims.

3.1. Head-movement of N^0

BBDK eschew the assumption that nominals contain a nP projection, instead assuming that nouns are instances of the category N , which projects the maximal projection of the extended nominal phrase. If the NSO order seen above were to be derived via head movement of the noun (e.g. *nicaxon* “victory”), it would follow that there must be a c-commanding head which the noun could move to. Crucially, the expressions in (1–3) have the distribution of nominals, therefore this higher head would still have to be part of the extended nominal projection. Thus, there would have to be at least one projection not headed by N situated above NP in the nominal phrase, contrary to BBDK’s claims.

3.2. Base-generation in n^0

Let us consider a base-generation alternative. Suppose that nP exists, and that its head, n^0 , is where a noun like *nicaxon* (“victory”) surfaces. If this were a possible analysis of (1–3), one could maintain a conclusion that, while incompatible with BBDK’s literal claim, is broadly in the spirit of that claim. That is because if the extended nominal phrase were a projection of n , we could still see it as a projection of “the noun” in a meaningful sense.

Recall, however, that the nouns in (1–3) are not deverbal nouns. This is evident from their morphology, as already discussed in [section 2](#). Another relevant factor concerns the distribution of the direct-object marker *et*, glossed here as “ACC”.⁴ On the likely assumption that the appearance of *et* on an Internal Argument requires some amount of verbal structure, it is predicted that only deverbal nouns would allow it. This is not a bi-conditional; an Internal Argument surfacing as a PP does not necessarily indicate the absence of verbal structure, especially given the variability of idiosyncratic c-selection across categories (see [Merchant 2019](#), and in particular [Engelhardt’s 2000:66–67](#) discussion of Hebrew, in this regard). But it is at least worth verifying that none of the Internal Arguments in (1–3) take an *et*-marked Internal Argument; they all take PP comple-

⁴There is some debate in the literature whether *et* is truly an accusative case marker, or a Differential Object Marker more akin to Spanish *a*; see, e.g., [Danon \(2011\)](#). The distinction between the two does not matter for our purposes here. What is important is that it is marker that is indicative of verbal structure in Hebrew—a point which, to the best of my knowledge, is not under dispute.

ments, instead. Compare (4) with its verbal counterpart in (5), as well as with a true deverbal nominalization as in (6), where this accusative / direct-object marker can be found.⁵

- (4) a. CONSTRUCT STATE
 nic(a)xon ha-miflaga al/*et(/*Ø) yerive-ha
 victory.cs the-political.party(F) on/*ACC(/*Ø) rival.PL.CS-3SGF.POSS
 ‘the victory of the political party over its rivals’
 b. NON CONSTRUCT STATE
 ha-nicaxon fel ha-miflaga al/*et(/*Ø) yerive-ha
 the-victory.NCS of the-political.party(F) on/*ACC(/*Ø) rival.PL.CS-3SGF.POSS
 ‘the victory of the political party over its rivals’
- (5) ha-miflaga nicx-a et yerive-ha
 the-political.party(F) win.PAST-3SGF ACC rival.PL.CS-3SGF.POSS
 ‘The political party beat its rivals.’
- (6) a. CONSTRUCT STATE
 haris-a-t ha-cava et ha-bait
 destruction-F-cs the-army ACC the-house
 ‘the army’s destruction of the house’
 b. NON CONSTRUCT STATE
 ha-haris-a fel ha-cava et ha-bait
 the-destruction-F of the-army ACC the-house
 ‘the army’s destruction of the house’

Given that the nouns in (1–3) are not deverbal, the lowest that their External Arguments could be introduced is in [Spec,*nP*], and so the assumption that the head noun is in *n*⁰ provides no help in deriving the NSO order. The noun would have to have moved to a yet-higher head position, in opposition to even this more charitable reading of BB DK’s claims.⁶

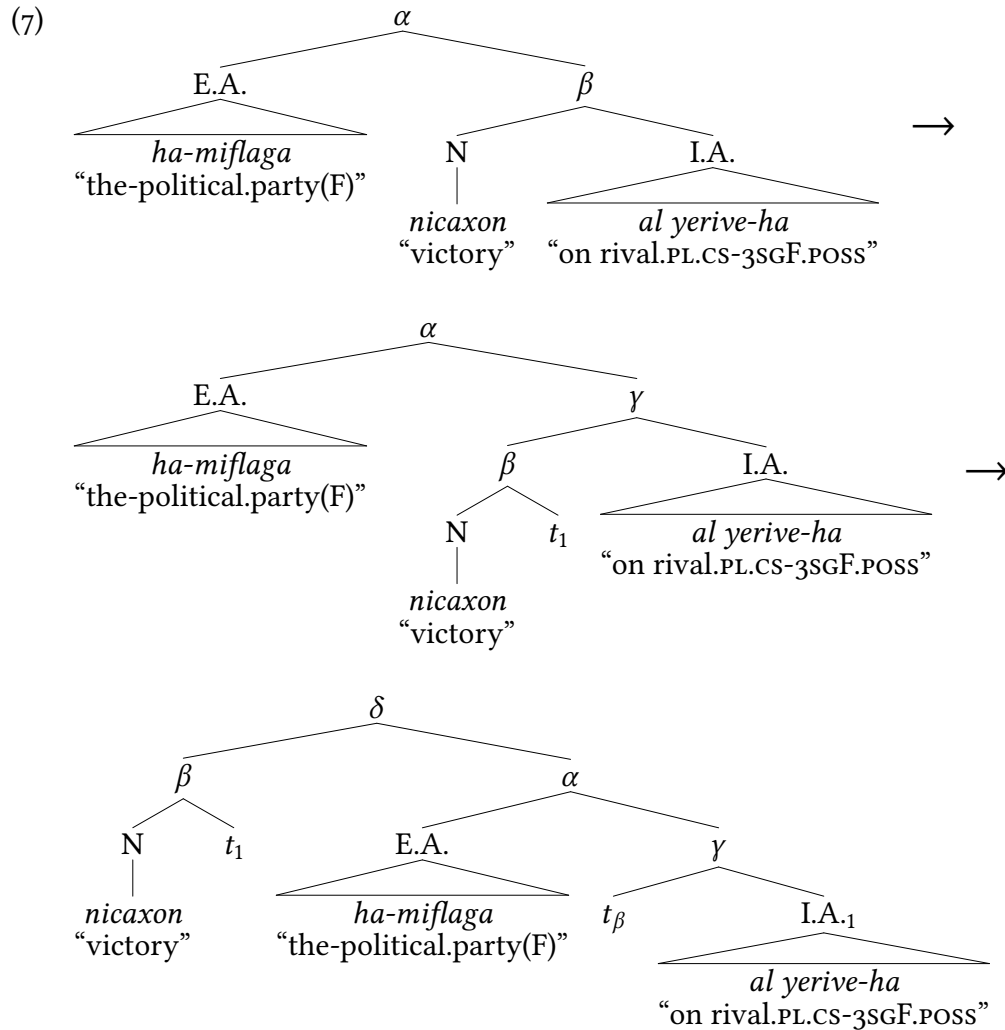
3.3. Phrasal Movement

Given the incompatibility of BB DK’s assumptions with any kind of head-movement analysis, let us consider the possibility that a noun like *nicaxon* (“victory”) moves leftward not as a head, but as a phrase—in particular, a remnant created by movement of the Internal Argument (e.g. *al yerive-ha* “on rival.PL.CS-3SGF.POSS”) out of NP. (In what follows, I will assume that the remnant is created by movement of the Internal Argument to a position that is still below the External Argument, but as far as I can tell nothing in the current argument depends on this.) For perspicuity, the following diagrams all include the position of the external argument; but there is

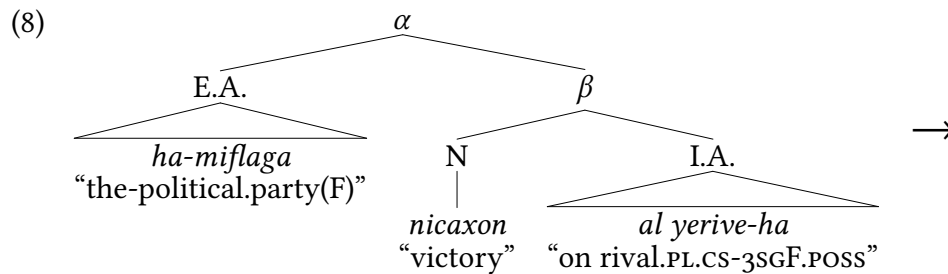
⁵Thanks to Maša Bešlin and anonymous reviewer for helpful discussion of this point.

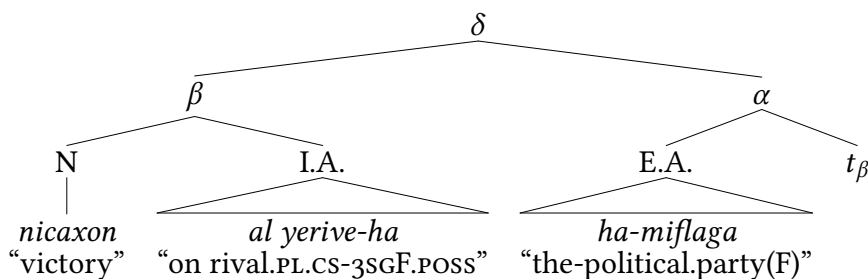
⁶Bruening (2009:33) suggests that the NP may be dominated by multiple “*nP* shells,” but states that he will not pursue the idea further in that context. This is a possibility he seems to have abandoned in later work (cf. Bruening 2020:2). Regardless, it is of course possible to rename any additional head that is above both *n*⁰ and *N*⁰—like the head *nicaxon* (“victory”) would move into to yield an NSO order—so that each of these yet-higher heads is also called “*n*⁰.” But each of these successive “*n*⁰” heads would have to be parameterized to take a different kind of element—numerals, determiners, etc.—in their respective specifiers (as the diagram in Bruening 2009:33 reveals). It would be more perspicuous, then, to refer to these so-called “*n*⁰” heads by names corresponding to their actual syntactic behavior: Num⁰, D⁰, and so forth.

no commitment here to the remnant-forming movement happening before or after the external argument is merged. (On standard assumptions, α is nP and β is NP, but again, nothing in the current argument depends on this as far as I can see.)



A phrasal-fronting account must assume that the fronted constituent is β , in order to yield the attested NSO order. But if β is a category that can be fronted, we would predict β could also be fronted when the Internal Argument has not vacated it, yielding an NOS order:





This prediction is not borne out:

- (9) * nic(a)xon al yerive-ha ha-miflaga
victory.cs on rival.PL.CS-3SGF.POSS the-political.party(F)

It is noteworthy in this regard that in the verbal domain, precisely this kind of freedom is indeed attested: one can front a verb phrase whether the internal argument has or has not vacated it (see Landau 2006 for details).

We could of course stipulate that this particular fronting operation—which fronts β in (7–8)—is only available when a remnant has been created first (as in (7) but not in (8)). Or that the derivation in (8) is syntactically available but ruled out by some extrinsic ordering constraint particular to the construct state. But such moves would be quite stipulative, and would amount to little more than a restatement of the fact that the predictions of the phrasal-fronting account do not pan out.

Note that (9) only includes the construct-state variant of the construction. The reason is that the order of constituents in the non construct state is less restricted. Alongside the NSO order noted above, the non construct state also allows an NOS order:⁷

- (10) a. ha-nicaxon fel liverpul al mančester
the-victory.NCS of Liverpool on Manchester
'the victory of Liverpool over Manchester'
b. ? ha-nicaxon al mančester fel liverpul
the-victory.NCS on Manchester of Liverpool
'the victory of Liverpool over Manchester'

This is not the case in the construct state, where the NOS order is categorically impossible (see also (9)):

- (11) a. nic(a)xon liverpul al mančester
victory.cs Liverpool on Manchester
'the victory of Liverpool over Manchester'
b. * nic(a)xon al mančester liverpul
the-victory.cs on Manchester Liverpool
'the victory of Liverpool over Manchester'

Given this freedom of word order in the non construct state, it is harder to rule out a derivation of NSO in this construction based on rightward movement of S(=the External Argument), yielding

⁷Thanks to an anonymous reviewer for help with this point.

an NOS order, followed by optional further rightward movement of O(=the Internal Argument) across S, to yield an NSO order. Further work may reveal that this alternative can in fact be ruled out. But given this added degree of freedom, I choose to concentrate here on the construct state, where the more rigid word order cuts down on the set of possible derivations. And in the construct state, the phrasal-fronting account of NSO overgenerates unattested NOS orders.⁸

3.4. Further problems with a remnant-movement account

Even if we were to temporarily set aside the problem of overgenerating NOS orders (section 3.3), there remains the question of where exactly the fronted remnant in (7) would land. In other words: what is δ in (7)?

If the structure in question involves nP , but nothing higher (already a departure from BBDK's assumptions), then the movement of β in (7) could be adjunction of a projection of N to nP (= δ). But, crucially, what would be adjoined to nP in this scenario would be a phrasal projection of N, and n already takes a phrasal projection of N as its complement. Such movement could serve no featural purpose that is not already served in β 's base position, and would therefore be ruled out on principled grounds (Abels 2003).

If there is no such thing as an nP layer, as BBDK assume, then δ is itself NP. Therefore, the movement of β in (7) would constitute an instance of a (non-maximal, non-minimal) projection of N adjoining to another (maximal) projection of the very same N head. There has not, to my knowledge, been a single case in which such a derivation has been argued to be possible. Among other things, such a derivation would run afoul of the same considerations just mentioned: there is no featural purpose that such movement could possibly serve that is not already served before said movement.

4. Conclusion

Ritter's (1991) arguments concerning Hebrew, though originally put forth to argue for an additional functional projection (NumP) between DP and NP, argue even more forcefully against the view that the nominal phrase is a projection of the noun itself. Such a view cannot countenance any kind of head movement within the noun phrase. But given the inadequacy of a remnant-fronting account of the NSO order found in Hebrew nominals, there must be at least one head above NP for the head of the Hebrew nominal to move into. And if there is such a thing as an nP layer, there must be at least one additional head above that (given that these orders arise even for nouns that are not deverbal).

⁸A reviewer points out that, logically speaking, one could relax the assumption that the External Argument originates in a specifier position of some nominal projection. This would come at a rather steep theoretical price, given that the relation between this dependent and the head noun bears all the hallmarks of a thematic relation. Assuming that the External Argument is not generated in a specifier position would therefore throw our understanding of the structural correlates of theta-assignment into chaos.

We must therefore consider whether the payoff of such a move would justify the price. As best I can see, the answer is a resounding no. Given that the PP dependent is clearly still an argument of the head noun, the apparent External Argument would have to be generated as an adjunct—either left-adjoined to the constituent formed by the head noun and the Internal-Argument PP, or right-adjoined to it. To arrive at an NSO order, either the head noun or the PP (or both) would have to undergo movement. The necessary movements would then raise a similar set of concerns to the ones discussed in the main text. It does not seem that there is a payoff here that would justify the steep theoretical price.

Thus, we can safely conclude that nouns are enclosed in additional functional structure, and that the outermost projection in a nominal phrase is not a projection of the noun itself.

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