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## 2 On diagnosing complement-taking roots

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### 8 1 Introduction

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10 Harley (2014) (henceforth H) presents an interesting and coherent account of  
11 roots in current grammatical theory. She argues compellingly that roots can be  
12 identified in syntax neither phonologically nor semantically. This does not mean,  
13 however, that they are completely featureless or radically underspecified (as  
14 proposed among others by Belder and Craenenbroeck (to appear)). Instead, roots  
15 are individuated throughout the syntactic derivation by means of an index (as  
16 originally proposed by Acquaviva (2008) and Pfau (2009)). In a sense, then, they  
17 behave like ordinary, run-of-the-mill terminal nodes. Accordingly, H argues that  
18 roots show default syntactic behavior in being able to project and take comple-  
19 ments. In this short reply I focus on this last point, i.e. the ability of roots to take  
20 complements. I examine three arguments provided by H in support of this posi-  
21 tion and show that they do not always unequivocally point to the same conclu-  
22 sion, thus weakening the strength of the argumentation and leaving room for an  
23 alternative in which it is not the root but a (low) functional head that introduces  
24 the arguments.

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### 27 2 Three arguments for roots taking complements

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#### 29 2.1 Introduction

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31 In the following three subsections I introduce and illustrate three arguments pre-  
32 sented by H in support of the claim that roots can take complements.<sup>1</sup> In so doing,  
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36 <sup>1</sup> One argument I will have nothing to say about here concerns the triggering environment for  
37 root suppletion in Hiaki (Harley, 2014, 25ff). For relevant discussion, see Alexiadou and Lohndal  
(2014).

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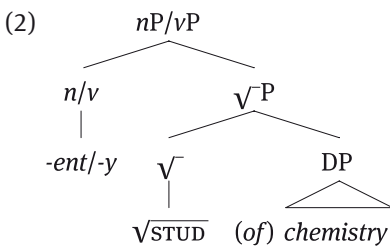
I draw not only on H's paper itself, but also on two of the sources she uses (in particular Harley (2005) and Punske and Schildmier Stone (2014)), thus broadening the scope of the discussion somewhat. Moreover, in subsection 2.5 I discuss an alternative analysis of the relevant data considered – and rejected – by H herself (Harley, 2014, 22–23fn22).

## 2.2 Cross-categorial argument selection

If roots are acategorial and if they can select arguments, then argument selection should be category-neutral. That, in a nutshell, is H's first argument. Consider in this respect the examples in (1).

- (1) a. John is a student of chemistry.  
 b. John studies chemistry.

Given that the semantic relation between the noun *student* and its complement *of chemistry* is identical to that between the verb *studies* and its direct object,<sup>2</sup> it seems likely there is only one instance of argument selection at stake here. In H's own words: "If both verbal *study* and nominal *student* share the same root (realized as *stud-*), and if the semantic interpretive properties of that root are responsible for imposing selectional restrictions on its sister DP, the identical argument selection properties of the related noun and verb can be captured at the root level, below  $n^{\circ}$  or  $v^{\circ}$ " (Harley, 2014, 21). The tree structure in (2) makes clear what H has in mind.



In short, cross-categorial argument selection – as in: the occurrence of the same arguments with the same basic meaning relations across different cate-

<sup>2</sup> This in itself is not uncontroversial: as Jonathan Bobaljik (p.c.) points out, one can study chemistry – as in: have an intellectual interest in it – without being a student of chemistry – i.e. without being enrolled in a specific university program.

1 gories – is a first diagnostic for detecting the argument-selection properties of  
 2 roots.

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### 5 2.3 Pronominalization

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7 The second argument is based on the traditional constituency test of pronominal-  
 8 ization. H starts out from the well-known contrast in (3).

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10 (3) a. \*John is a student of chemistry and Mary is one of physics.

11 b. John is a student of chemistry with long hair and Mary

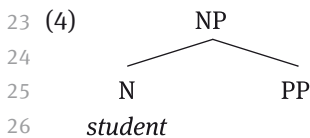
12 ... is one with short hair.

13 ... is one too.

14

15 While nominal complements such as *of physics* must be included in the structure  
 16 that is being pronominalized by *one*, adjuncts such as *with short hair* can – but  
 17 need not – remain stranded. Harley (2005) rightly points out that under a Bare  
 18 Phrase Structure (BPS) approach, the difference in acceptability between these  
 19 two examples is hard to account for. Given that in BPS there are no non-branching  
 20 nodes, both *student of physics* and *student with short hair* would be abstractly  
 21 represented as in (4), thus leaving little or no room for differentiating the two.

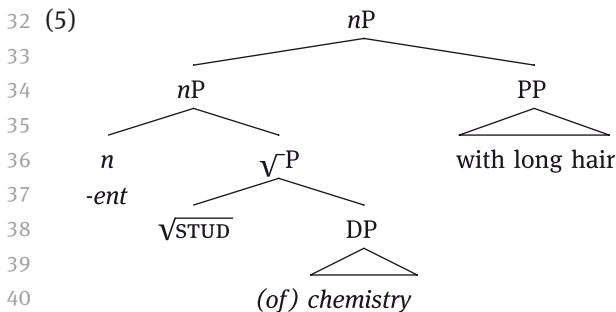
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28 The solution, H argues, lies in severing the root from its category-assigning head,  
 29 and having that root directly select its arguments. This allows us to structurally  
 30 differentiate arguments from adjuncts without the use of non-branching nodes:

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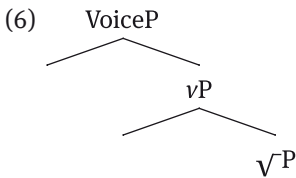


The form *one* can now be said to pronominalize *nP*.<sup>3</sup> As a result, the occurrence of this form leads to the obligatory absence of the argument of *chemistry* (which is necessarily included in *nP*) and to the optional absence of the adjunct *with long hair* (which is included in the higher segment of *nP*, but not in the lower one). More generally, H takes the contrast in (3) to be an argument in support of the argument-taking nature of roots.

## 2.4 Idiomatization

The third argument dates back to familiar data contrasts from Marantz (1984) showing that while verb-object combinations frequently lead to idiomatic interpretations to the exclusion of the subject, the opposite pattern (subject-verb idioms that freely combine with any object) are excluded. Kratzer (1996) takes this to mean that the external argument should be structurally separated from the verb, in particular by having it be introduced by a specific functional head. This in turn leads H to conclude that internal arguments *do* directly compose with roots, i.e. that roots are able to directly take complements.

The argument receives some further nuance in Punske and Schildmier Stone (2014) (cited by Harley (2014, 22–23fn22)). They point out that idiomatic constructions (non-compositional constructions or NCCs in their parlance) can contain not just the  $\sqrt{P}$  (i.e. the root and its internal argument(s)), but also additional functional superstructure. Starting from the basic clause structure in (6), they identify three types of NCCs:  $\sqrt{P}$ s, *vP*s and VoicePs.



These three types of NCCs can be distinguished based on their degree of modifiability:  $\sqrt{P}$ -NCCs (illustrated in (7)) can be both passivized and gerundized, *vP*-NCCs (cf. (8)) can be passivized but not gerundized, and VoiceP-NCCs are unmodifiable (see the examples in (9)).

<sup>3</sup> Technically, Harley (2005) takes *one* to be the pronominalization of *n°*, with the additional requirement that the rest of the *nP* be spelled out by null exponents. These technical details will not be relevant in the remainder of this paper.

- 1 (7) a. The deck was stacked by Bill.  
 2 b. Mary regretted the stacking of the deck (by Bill).  
 3  
 4 (8) a. A killing was made with inside information.  
 5 b. #The making of a killing (by the stock broker) . . .  
 6  
 7 (9) a. #The bucket was kicked by John.  
 8 b. #Mary regretted the kicking of the bucket (by John).

9 This further subclassification of idiomatic expressions leads to a refinement of  
 10 H's original argument: it is not the case that any such expression can be used in  
 11 support of the claim that roots can take arguments, only the modifiable ones do.

## 13 2.5 A possible alternative

15 As pointed out above, the second and third argument H uses find their origin in  
 16 traditional constituency tests. This leaves room for an possible loophole in the  
 17 argumentation: the mere fact that a root and its complement form a constituent  
 18 does not warrant the conclusion that the two are sisters, i.e. that the root directly  
 19 selects and is merged with its complement. H addresses this objection in fn22 and  
 20 concludes that “the fact that selectional restrictions remain in force across the  
 21 nominal/verbal divide (*study chemistry/student of chemistry*) suggests that what-  
 22 ever low category is sister to the internal argument is not specific to the nomi-  
 23 nal extended projection. The acategorical root meets this description perfectly.”  
 24 (Harley, 2014, 22–23fn22)

25 In other words, it is the *combination* of the arguments that matters: on the  
 26 one hand, constituency tests such as pronominalization and idiomatization show  
 27 that roots and their (internal) arguments form a constituent, while on the other  
 28 the facts pertaining to cross-categorical argument selection show that the consti-  
 29 tuent in question is the  $\sqrt{\text{P}}$  (rather than some functional projection above the  
 30 root) and as a consequence that roots can take arguments. In the remainder of  
 31 this paper it is precisely this connection between the first argument and the other  
 32 two that I want to submit to some further scrutiny.

## 35 3 Mismatches between the arguments

### 37 3.1 Introduction

39 In the next two subsections I examine discrepancies or mismatches between  
 40 H's criteria for detecting argument-selecting roots. First (in subsection 3.2) I turn

to cases where on the one hand we find the same noun-verb symmetry as in (1), but which nonetheless behave like (3-b) with respect to pronominalization. Then, in subsection 3.3, I focus on  $\sqrt{P}$ -idioms which nonetheless show no cross-categorical selection properties.

### 3.2 Argument selection vs. pronominalization

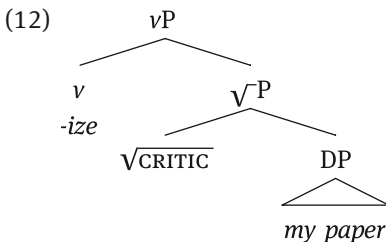
Recall from subsection 2.5 that cross-categorical argument selection plays a crucial role in H's argumentation. Consider in this respect the pair in (10).

- (10) a. Kyle criticized my paper.  
 b. Kyle's criticism of my paper.

It seems clear that to the extent that we find a noun-verb symmetry in terms of argument selection in the examples in (1), that same symmetry can be found in (10). Put differently, the semantic relation between the verb *criticized* and its direct object is mirrored by the relation between the noun *criticism* and its PP-complement. Consider now the pronominalization example in (11).

- (11) Kyle criticized my paper and Rajesh did {the same/likewise} to my book.

In this example, which is inspired by Culicover and Jackendoff (2005, 124–135) and Mikkelsen et al. (2012), only the verb is being pronominalized, and the direct object remains unaffected.<sup>4</sup> Of particular interest to us here is the question what part of the structure is being pronominalized by *the same/likewise*. A structural representation of *criticize my paper* along the lines of (5) is given in (12).

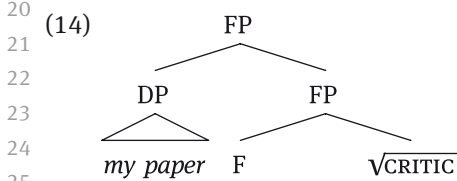


<sup>4</sup> Save for the addition of the preposition *to*, which I will not address any further here. See the sources mentioned for discussion.

1 Assuming that the agentive verb *did* in (11) pronominalizes  $v$ , that leaves only  
 2 one option for *the same/likewise*, i.e. these forms directly pronominalize the root  
 3  $\sqrt{\text{CRITIC}}$ . Put differently, the difference between *one* and *the same/likewise* is that  
 4 while the former is an  $nP$ -anaphor, the latter is a  $\sqrt{\text{ }}$ -anaphor. Plausible though it  
 5 may seem at first sight, this account runs into problems in light of examples such  
 6 as the following.

7  
 8 (13) Kyle criticized my paper and Rajesh did {the same/likewise}.

9  
 10 Exactly the same pronominal forms can be used to replace not just the verb(al  
 11 root), but the verb in combination with its internal argument. Put differently, the  
 12 optional inclusion in the pronominalization site that we witnessed with adjuncts  
 13 in examples like (3-b) is replicated here, but with arguments. In the case of *one*-  
 14 pronominalization we took this optionality to mean that adjuncts should be  
 15 ‘severed’ from the root along the lines of the structure in (5). Extending this line  
 16 of reasoning to the present case would suggest that the internal argument too  
 17 should be introduced by a functional head separate from the root. Pronominal  
 18 forms like *the same* or *likewise* could then be said to pronominalize either the  
 19 lower or the higher segment of this projection:



26 Now, one could of course object that the pronominalization strategies exem-  
 27 plified in (11) and (13) differ in some fundamental way from the cases of *one*-  
 28 pronominalization discussed by H, in particular in that what looks like an argu-  
 29 ment in (11) in fact occupies an adjunct position (as is possibly also signaled by  
 30 the obligatory presence of the preposition *to*, cf. fn 4). It is for this reason that I  
 31 now turn to a different set of data, one which is much more similar to the English  
 32 facts, but which nonetheless display the same pattern as the examples just re-  
 33 viewed. It concerns *one*-pronominalization in Frisian. First, let’s take a look at  
 34 some baseline data: the examples in (15) parallel those in (1) and (10) in showing  
 35 cross-categorial argument selection. In particular, the semantic selection relation  
 36 between the verb *besprekt* and its direct object seems completely parallel to that  
 37 between the noun *besprek* and its prepositional complement.<sup>5</sup>

39 \_\_\_\_\_  
 40 <sup>5</sup> All Frisian data in this paper are either from Corver and Koppen (2011) or from Jarich Hoekstra p.c.

- (15) a. *Jitske besprekt syn roman.* 1  
 Jitske reviews his novel 2  
 ‘Jitske reviews his novel.’ 3  
 b. *in besprek fan syn roman* 4  
 a review of his novel 5  
 ‘a review of his novel’ 6  
 7

Moreover, just like English, Frisian can use the numeral ‘one’ as a dummy noun in NP-ellipsis contexts:<sup>6</sup> 8  
 9

- (16) *Jan hie in witte auto en Geart in swarten ien.* 11  
 Jan has a white car and Geart a black one 12  
 ‘Jan has a white car and Geart a black one.’ 13  
 14

However, differently from English, arguments are optionally included in the pronominalization site in Frisian: 16  
 17

- (17) a. *Jitse wiisde him op in posityf besprek fan syn roman* 19  
 Jitse pointed him on a positive review of his novel 20  
*en Jitske op in negativen ien fan syn samle fersen.* 21  
 and Jitske on a negative one of his collected poems 22  
 ‘Jitse pointed out to him a positive review of his novel and Jitske pointed out a negative review of his collected poems.’ 23  
 24  
 b. *Jitse wiisde him op in posityf besprek fan syn roman* 25  
 Jitse pointed him on a positive review of his novel 26  
*en Jitske op in negativen ien.* 27  
 and Jitske on a negative one 28  
 ‘Jitse pointed out to him a positive review of his novel and Jitske pointed out a negative one.’ 29  
 30  
 31  
 32

In (16) the nominal argument *fan syn samle fersen* ‘of his collected poems’ either is (in the b-example) or is not (in the a-example) included in the pronominalization site. In this respect, the example completely parallels the one in (3-b), where the adjunct *with long hair* shows the same optionality. From the perspective of 33  
 34  
 35  
 36

<sup>6</sup> This is not the only NP-ellipsis strategy in Frisian. See Corver and Koppen (2011) for detailed discussion. 39  
 40



1 the structure in (5), this would mean that Frisian *ien* pronominalizes either the  
 2 root (a head) or the combination of the root and its internal argument (a phrase),  
 3 not a very attractive solution. A more plausible way to approach the data in  
 4 this and the preceding section in my view is to assume that – not unlike ellipsis  
 5 – pronominalization can take place at different heights. If it targets the insertion  
 6 site of adjuncts (like English *one*), then roots and arguments are obligatorily in-  
 7 cluded in the ellipsis site, and adjuncts only optionally so. If it targets the inser-  
 8 tion site of arguments (like Frisian *ien* and English *the same/likewise*), then only  
 9 roots are obligatorily included in the ellipsis site and arguments optionally so.  
 10 Regardless of the viability of this proposal, however, the important conclusion  
 11 from this subsection in the context of this paper is that the link between cross-  
 12 categorial argument selection and pronominalization is not as straightforward or  
 13 direct as it appeared to be on the basis of H’s examples: a closer look at a broader  
 14 range of relevant facts suggests that just like adjuncts, arguments should be  
 15 ‘severed’ from the root as well.

16

17

### 18 3.3 Argument selection vs. idiomatization

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20 In this subsection I combine H’s first and third argument. Recall that Punske and  
 21 Schildmier Stone (2014) make a distinction between  $\sqrt{\text{P}}$ -idioms,  $\nu\text{P}$ -idioms and  
 22 VoiceP-idioms. The last ones are unmodifiable, the middle ones can be passivized  
 23 but not gerundized, and the first ones are fully modifiable. Moreover, if  $\sqrt{\text{P}}$ s are  
 24 acategorial and if they contain not only the root but also its internal argu-  
 25 ments, then we expect  $\sqrt{\text{P}}$ -idioms to be acategorial as well. Put differently, the  
 26 idiomatic reading should be retained under nominalization. This is the predic-  
 27 tion I focus on in this subsection.

28 The central data come from Dutch. First, let’s make sure the tripartite classi-  
 29 fication Punske and Schildmier Stone (2014) draw up for English is valid in Dutch  
 30 as well. Consider in this respect the following examples.

31

- 32 (18) a. *Ze geeft hem de bons.*  
 33 she gives him the knock  
 34 ‘She’s dumping him.’  
 35 b. *#het geven van de bons (aan hem)*  
 36 the give.INF of the knock to him  
 37 INTENDED: ‘the dumping of him’  
 38 c. *#De bons wordt hem door haar gegeven.*  
 39 the knock becomes him by her given  
 40 INTENDED: ‘He is being dumped by her.’

- (19) a. *Dat doet hem de das om.* 1  
 that puts him the tie on 2  
 ‘That is the end of him.’ 3
- b. *Hem wordt de das omgedaan.* 4  
 him becomes the tie put.on 5  
 ‘It is the end of him.’ 6
- c. *#het hem omdoen van de das* 7  
 the him on.put.INF of the tie 8  
 INTENDED: ‘the end of him’ 9
- (20) a. *Hij begraaft de strijdbijl.* 10  
 he buries the hatchet 11  
 ‘He’s burying the hatchet.’ 12
- b. *het begraven van de strijdbijl* 13  
 the bury.INF of the hatchet 14  
 ‘the burying of the hatchet’ 15
- c. *De strijdbijl wordt begraven.* 16  
 the hatchet becomes buried 17  
 ‘The hatchet is being buried.’ 18

The examples in (18) illustrate the (lack of) modifiability of the idiom *iemand de bons geven* ‘to dump someone’. As shown in the b- and c-example, this idiom can be neither passivized nor be used as a nominalized infinitive.<sup>7</sup> As such it qualifies as a VoiceP-idiom: the verbal projections *vP* and VoiceP are part and parcel of the idiomatic meaning and so cannot be freely modified. The idiom *iemand de das omdoen* ‘to be the end of someone’ illustrated in (19) is slightly more flexible: it can be passivized, but it cannot be turned into a nominalized infinitive. This suggests that VoiceP isn’t, but *vP* is part of the structure that constitutes the idiom. In other words, *iemand de das omdoen* is a *vP*-idiom. Finally, an idiom like *de strijdbijl begraven* ‘to bury the hatchet’ is fully flexible: it can be both passivized and turned into a nominalized infinitive. H, following Punske and Schildmier Stone (2014), would take this to mean that neither *vP* nor VoiceP form part of the idiom. More generally, the idiom *de strijdbijl begraven* contains no category-specific functional heads and consists solely of the  $\sqrt{\text{P}}$ , which is itself composed of the root and its internal argument. Given that this is the type of idiom that is of central interest to us here, let us consider another example:

<sup>7</sup> I am using the nominalized infinitive as the Dutch correlate of the English gerund here. See Ackema and Neeleman (2004, 173ff) for detailed discussion.

- 1 (21) a. *Hij breekt het ijs.*  
 2 he breaks the ice  
 3 ‘He breaks the ice.’  
 4 b. *het breken van het ijs*  
 5 the break.INF of the ice  
 6 ‘the breaking of the ice’  
 7 c. *Het ijs is gebroken.*  
 8 the ice is broken  
 9 ‘The ice is broken.’

10

11 Just like *de strijdbijl begraven* ‘to bury the hatchet’, *het ijs breken* ‘breaking the ice’  
 12 is fully modifiable as an idiom, suggesting that it too squarely falls in the category  
 13 of  $\sqrt{\text{P}}$ -idioms. To the extent that this is on the right track, these data make a  
 14 clear prediction in the context of H’s first argument as discussed above: if the  
 15 idiomatic reading is not dependent upon any (potentially category-specific) func-  
 16 tional material, but rests solely on the (acategorical) root and its internal argu-  
 17 ment, the idiomatic reading of (20)–(21) should be independent of whether this  
 18 root is eventually realized as a verb or as a noun. As shown in the examples  
 19 below, this prediction is not borne out: in the cases discussed, the idiomatic  
 20 reading is lost when the root is spelled out as a noun, and only the literal reading  
 21 remains.<sup>8</sup>

22

- 23 (22) a. *#de begraving van de strijdbijl*  
 24 the bury.NOMINALIZER of the hatchet  
 25 INTENDED: ‘the burying of the hatchet’  
 26 b. *#de breking van het ijs*  
 27 the break.NOMINALIZER of the ice  
 28 INTENDED: ‘the breaking of the ice’

29

30 Once again, then, we see H’s arguments not lining up as we would expect them  
 31 to: on the one hand we have chosen our idioms such that they should not contain  
 32 any category-specific functional material along the lines laid out by Harley (2014)  
 33 and Punske and Schildmier Stone (2014), but on the other we do not see the ex-  
 34 pected accompanying cross-categorical selection effects.

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38 <sup>8</sup> For completeness’ sake, it is worth pointing out that the VoiceP-idiom in (18) does not have a  
 39 nominal counterpart either (as predicted by H’s analysis). For the vP-idiom in (19) this prediction  
 40 cannot be tested because the verb *omdoen* has no corresponding noun.

## 4 Conclusion

The main topic of this short paper has been the question of whether roots can directly take arguments. I have introduced and examined three arguments put forward by Harley (2014) in support of this position and have argued that they do not always line up or correlate as we might expect them to. In particular, if cross-categorical argument selection is an argument for directly combining a root with its argument and if optional inclusion in a pronominalization site is an argument for severing the two, then we would not expect these two phenomena to co-occur, contrary to fact. Similarly, if a high degree of flexibility is a diagnostic for detecting  $\sqrt{\text{P}}$ -based idioms, then we would expect such non-canonical meanings to survive cross-categorially, again contrary to fact. The (modest) goal of this contribution has thus been to cast some doubt on the claim that all three of the criteria put forward by Harley (2014) diagnose exactly the same phenomenon. Instead, as already anticipated in Harley (2014, 22–23fn22), there might be more functional structure in between a root and its internal argument than is currently dreamt of in our theory.

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