How roots do and don't constrain the interpretation of Voice [1]

Jim Wood

Yale University

Abstract

A long-standing issue in syntactic theory, and argument structure in particular, involves the relationship between particular lexical items and the syntactic structures they are embedded in. Lexical roots seem to be choosy about the structures they are able to appear in, but are at they same time very flexible. Complicating the matter further, roots are in some cases able to appear in certain structures only with a certain special meaning. In this paper, I focus on the causative alternation in Icelandic, and propose that we can understand root distribution (the inability of certain roots to appear in certain structures) as a special case of root allosemy (the special interpretation of certain roots in certain structures). This allows for a model where roots have no formal features whatsoever, even if they appear to select for particular structural features, and offers an explanation for cases where it is shown that the putative features of a root cannot be responsible for the interpretation of external arguments directly.

1 Introduction

The goal of this paper is to address a question that spans a variety of frameworks: what is the relationship between a particular "verb word" and the syntactic rules of a language? For example, English speakers have the intuition that *grow* but not *bloom* can occur in transitive sentences like the following:

(1)   a.   Julia is growing tomato plants in our backyard.
      b.   * Julia is blooming tomato plants in our backyard.

Along similar lines, Icelandic speakers have the intuition that 'kill' but not 'murder' can occur in intransitive sentences like the following:[2]

(2) a. Hundurinn   drapst.
         dog.the.NOM killed-ST
         'The dog died / dropped dead.'
     b. * Maðurinn   myrti(st).
         man.the.NOM murdered-ST

What is responsible for contrasts like (1) and (2)? In this paper, I will address this question in a way that divides it into two kinds of issues. On the one hand, there is the distribution and interpretation of lexical roots in different structures. On the other hand, there is the interpretation of Voice in the context of different verb phrases. I will propose that the burden of explanation for both of these issues lies in the rules for interpreting syntactic structures in the semantics.

The specific proposal is as follows. Roots bear no structural features related to argument structure. From a syntactic perspective, any root can merge in any structure. However, the rules that interpret syntactic structure restrict the distribution of roots, and the interpretation of verbs and verb phrases. The interpretation of a root can be sensitive to surrounding syntactic features. The distribution of a root across structures is derived by the absence of an "elsewhere" interpretation. Finally, the interpretation of Voice is determined by the overall interpretation of the vP, but not any specific root or feature within the vP.

The paper is organized as follows. In §2, I discuss the causative alternation in Icelandic. In §3, I introduce the issue of non-alternating roots—that is, roots that can only be anticausative, and generally not causative. In §4, I discuss the idiosyncratic interpretation of roots in particular structures. In §5, I discuss how contextual allosemy of roots is responsible for the phenomena discussed in the

---

[2]Abbreviations/symbols used: γ = web-attested example (Horn, 2013), ACC = accusative, AGR = agreement morphology, COS = change of state, DAT = dative, EXPL = expletive, F = feminine, INTR = intransitive, NA = -*na* morphology, NOM = nominative, PASS = passive, PST = past, REFL = reflexive, SBJV = subjunctive, ST = -*st* morphology, TR = transitive.

previous two sections. In §6, I turn to the interpretation of Voice, focusing first on the agentive *vera með* 'be with' construction, and second on the interaction between Voice and roots in the causative alternation. §7 concludes.

2   The causative alternation in Icelandic

The causative alternation is an argument structure alternation whereby a verb can take either an agent/causer and a theme, as in (3a), or just a theme, as in (3b).

(3)   a.   John broke the window.
      b.   The window broke.

Following a long line of work, I assume that the causative alternation is a Voice alternation, having fundamentally to do with whether or not an external argument is projected (Alexiadou and Anagnostopoulou, 2004; Schäfer, 2008; Alexiadou et al., 2015). More specifically, assuming with Kratzer (1996) and much subsequent work that the external argument is projected syntactically by a Voice head, I propose that Voice comes in two syntactic flavors (Wood, 2015):
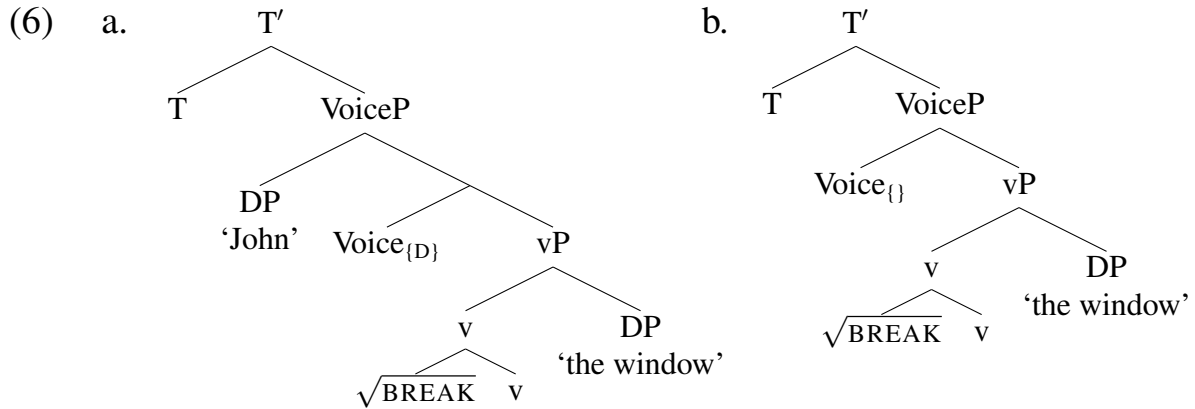
(4)   a.   **Voice$_{\{D\}}$** has a D-feature that must be checked—usually by merging something of category "D" in SpecVoiceP.
      b.   **Voice$_{\{\}}$** has no D-feature, and may not take a specifier.

A typical causative alternation, such as that in (5), will then look like (6):[3]

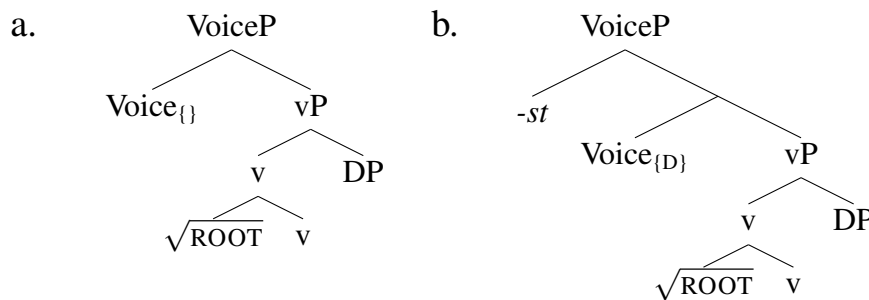(5)   a.   John broke the window.
      b.   The window broke.

---

[3]In this paper, I follow Marantz (2013b) in assuming that a verbal root is generally adjoined to v, and not merged in the complement of v; the major points do not hinge on this, however.

(6) a.

```
                T′
          ┌──────┴──────┐
          T           VoiceP
                  ┌──────┴──────┐
                 DP
                'John'   Voice_{D}      vP
                              ┌──────┴──────┐
                              v            DP
                         ┌────┴────┐    'the window'
                       √BREAK    v
```

b.

```
                T′
          ┌──────┴──────┐
          T           VoiceP
                  ┌──────┴──────┐
                Voice_{}        vP
                           ┌──────┴──────┐
                           v            DP
                      ┌────┴────┐   'the window'
                    √BREAK    v
```

In (6a), Voice_{D} merges and a DP merges in its specifier, deriving the causative variant. In (6b), the defective Voice_{} merges, which takes no specifier, deriving the anticausative variant.[4]

There is, however, at least one other way to derive an anticausative: by merging an "expletive" in the specifier of Voice_{D} (Schäfer, 2008). In Icelandic, the *-st* clitic serves this function (Sigurðsson, 2012; Wood, 2015).

(7) Two kinds of anticausative structures in Icelandic

a.

```
              VoiceP
          ┌──────┴──────┐
        Voice_{}        vP
                    ┌────┴────┐
                    v        DP
               ┌────┴────┐
             √ROOT     v
```

b.

```
              VoiceP
          ┌──────┴──────┐
        -st            
                  ┌──────┴──────┐
               Voice_{D}        vP
                            ┌────┴────┐
                            v        DP
                       ┌────┴────┐
                     √ROOT     v
```

The structure in (7a) is realized morphologically in at least three different ways in Icelandic. These are illustrated in (9a).

(8) Voice_{} is realized as *-na /-nu*

  a.   Jón   **braut**   gluggana.
       John.NOM break.PST   windows.the.ACC
       'John broke the windows.'

---

[4]An alternative would be to say that in the anticausative variant, no Voice head is merged at all. See Wood (2015, 152–155) for reasons not to adopt this approach.

b. Gluggarnir **brot-⟨nu⟩-ðu**.
windows.the.NOM break-NA-PST
'The windows broke.'

(9) Voice_{} conditions distinct stem morphology

a. Þeir **brenndu** bókina.
they.NOM burn.TR.PST book.the.ACC
'They burned the book.'

b. Bókin **brann**.
book.the.NOM burn.INTR.PST
'The book burned.' (Sigurðsson, 1989, 277)

(10) No morphological distinction

a. Fólk **dýp-ka-ði** skurðinn.
people.NOM deep-en-PST ditch.the.ACC
'People deepened the ditch.'

b. Skurðurinn **dýp-ka-ði**.
ditch.the.NOM deep-en-PST
'The ditch deepened.' (Thráinsson, 2007, 299)

The structure in (7b) is realized morphologically in one way: with transitive stem morphology (cf. (9a)) and *-st* encliticized to the verbal complex.

(11) a. Hún **opna-ði** hurðina.
she.NOM open-PST door.the.ACC
'She opened the door.'

b. Hurðin **opna-ði-⟨st⟩**.
door.the.NOM open-PST-ST
'The door opened.'

As proposed more generally in Alexiadou et al. (2015), there seem to be no consistent semantic differences between the two anticausative structures (Wood, 2015). Given that, we still need some way to understand how roots "choose" which anticausative structure to occur in.

Before concluding this section, it is important to note that "inherent *-st* verbs" are not inherent reflexives. In Icelandic, inherent (and "natural") reflexives

involve a case-marked reflexive pronoun, and not *-st*. Nor can naturally disjoint verbs, which ordinarily form reflexives only with the complex 'self' morpheme, form reflexive *-st* verbs. These facts are illustrated in (12)–(14) below.

(12) **Inherent Reflexive**

    a. Jón hegðar sér vel.
       John behaves REFL.DAT well
       'John behaves well.'

    b. * Jón hegðast vel.
       John behaves-ST well

(13) **Natural Reflexive**

    a. Jón rakaði sig.
       John shaved REFL.ACC
       'John shaved.'

    b. * Jón rakaðist.
       John shaved-ST

(14) **Naturally Disjoint**

    a. Jón elskaði sjálfan sig.
       John loved self.ACC REFL.ACC
       'John loved himself.'

    b. * Jón elskaðist.
       John loved-ST

This shows that *-st* is not a general "reflexive marker" in Icelandic. See Wood (2014) and Wood (2015, 171–204,283–298) for discussion of the cases where *-st* does appear on a limited class of verbs with apparent reflexive meanings.

3 Non-Alternating Roots

The problem of how roots choose an anticausative structure is nowhere more pronounced than in cases of non-alternating anticausatives. For alternating anticausatives, one can identify various factors that affect the choice. Verbs that are more frequent in the causative use will tend to take Voice$_{\{D\}}$+-*st* in the anticausative (Haspelmath et al., 2014). This is part of a more general phenomenon of "marking the unexpected form." We might then expect that non-alternating anticausatives would always appear with Voice$_{\{\}}$, but this is in fact not the case. While some non-alternating roots indeed occur with *-na* morphology or without anticausative morphology, others occur with *-st* instead.

(15) **No anticausative morphology**

    a.   * María   hefur grænkað bílinn.
             Mary.NOM has   greened car.the.ACC

    b.   Bíllinn   hefur **grænkað**.
             car.the.NOM has   greened
             'The car has become more green.'   (Sigurðsson, 1989, 272)

(16) *-na* **morphology on anticausative**

    a.   * Aldurinn   stirðir höndina.
             age.the.NOM stiffens hand.the.ACC

    b.   Höndin   **stirð-na-r**   (með aldrinum).
             hand.the.NOM stiffen-NA-AGR (with age.the)
             'Your hand stiffens with age.'   (Sigurðsson, 1989, 273)

(17) *-st* **morphology on anticausative**

    a.   * Sólin   hefur blómgað seljuna.
             sun.the.NOM has   bloomed sallow.the.ACC

    b.   Seljan   hefur **blómgast**.
             sallow.the.NOM has   bloomed-ST
             'The sallow has bloomed.'

    A list of some verbs that occur in each class is given in (18).

(18)   a. **Like *grænka/stirðna*:** *blána* 'turn blue', *bruma* 'bud', *fölna* 'wilt/pale', *freyða* 'foam', *roðna* 'blush', *rotna* 'rot', *ryðga* 'rust', *slakna* 'become slack', *visna* 'wither', *þrútna* 'swell'.

      b. **Like *blómgast*:** *daprast* 'worsen (eyesight)', *fiðrast* 'get feathers', *fullorðnast* 'grow up', *gerjast* 'ferment', *horast* 'become emaciated', *reiðast* 'become angry', *tærast* 'corrode', *veslast upp* 'wither away'.

The question, then is how is it that verb roots are able to "choose" between (7a) and (7b)? Moreover, why would there be a class of roots that don't take an external argument, but nevertheless prefer to form their anticausatives with Voice$_{\{D\}}$?

    Before beginning to address these questions, I should briefly address the question of whether these roots really are non-alternating—that is, whether they really do not allow an external argument. Recent work has shown that many roots

once thought to be non-alternating in fact do alternate, sometimes under restricted circumstances (Rappaport Hovav, 2014; Alexiadou, 2010, 2014). In this respect, the examples in (19) are of some interest:

(19) a. γ ef hún er ræktuð   og **gerjuð**   af   natni.
          if it.F is cultivated and fermented with care
          'if it (=the Malbec grape) is cultivated and fermented with care.'[5]

      b. γ bakteríur í   munni **gerja**   sykurinn
          bacteria   in mouth ferment sugar.the

          í   matvælum sem við neytum.
          in foods   that we consume
          'bacteria in our mouths process the sugar
          in the foods that we consume.'[6]

Ordinarily, *gerjast* 'ferment' appears as an intransitive *-st* verb. But in (19a), the modifier *af natni* 'with care' suggests an agentive passive, and (19b) appears in the transitive active. Examples like this seem to be rare in Icelandic, possibly because Icelandic generally restricts the types of external arguments it allows. (See Barðdal 2001, 73 on the oddness of instrument subjects, and see also Svenonius 2002, 200 on several other types.) Not all speakers I have consulted accept the attested examples in (19). Though further research is needed, we will see below that they are in principle compatible with the proposal below, since I will propose that external arguments cannot be "lexically banned" or "syntactically banned" in the first place. Therefore, since there is no principled lexical or syntactic reason why a particular root fails to occur with an external argument, the occasional, restricted appearance of external arguments with roots that are ordinarily non-alternating is entirely expected.

---

[5]http://goo.gl/mgmj9P
[6]http://goo.gl/GxAse0

4   Idiosyncratic Root Interpretation

In some cases, the same root may form two kinds of anticausatives, one in the (7a) structure and another in the (7b) structure. In such cases, the root tends to contribute a special, idiosyncratic meaning in one of the structures. Consider first the example in (20).

(20) a. γ Hún   **gleður** mig   með tónlist sinni.
           she.NOM gladdens me.ACC with music REFL.POSS
           'She gladdens me with her music.'[7]

     b. γ Ég   **gleðst**   yfir að sjá þig.
           I.NOM gladden-ST over to see you
           'I gladden over seeing you.'[8]

     c. γ Himinn **glað-na-ði**.
           sky.NOM glad-NA-PST
           'The heavens cleared.'[9]

     d. Það **glað-na-ði**   yfir honum.
           EXPL glad-NA-PST over him
           'His face brightened up.'

In (20a–b), we see that *gleðja(st)* 'gladden' can occur in the transitive causative or the intransitive anticausative, with basically the same meaning when *-st* marks the anticausative. In (20c), we say that when *-na* marks the anticausative, the verb gets a special meaning, distinct from the meaning found in (20a–b). In (20d), we see another special meaning of the *-na* anticausative. There, the meaning is not that he becomes glad, necessarily, but that his face changes visibly. Assuming that *-na* and *-st* markings reflect distinct syntactic structures, this shows that the interpretation of the root can be affected by the structure it is embedded in.

     We see another of this kind of difference in the sentences exemplified in (21) and (22).

---

[7] http://goo.gl/feVr0C (adapted; originally *Hún gleður mig líka með tónlistinni sinni*)
[8] http://goo.gl/PLONxl
[9] http://goo.gl/4T6Xie

(21)   a.   Þú **beygir** orðið   svoleiðis.
           you bend   word.the like.this
           'You inflect the word like this.'

       b.   Orðið   **beygist** svoleiðis.
           word.the bends-ST like.this
           'The word inflects like this.'

(22)   a.   Þú **beygir** hilluna.
           you bend   shelf.the
           'You bend the shelf.'

       b.   Hillan   **bog-na-r**.
           shelf.the bend-NA-AGR
           'The shelf bends.'

(21a) and (22a) show that *beygja* 'bend' can occur, in the transitive forms, with at least two distinct meanings. In (21a) it means 'inflect'. In (22a) it means, more literally, 'bend'. In the (b) examples we see that in the anticausative, the different interpretations are marked differently. The 'inflect' meaning takes the *-st* clitic, while the 'bend' meaning takes the *-na* suffix.

Cases like this show that we need to allow roots like $\sqrt{\text{GLAÐ}}$ and $\sqrt{\text{BEYG}}$ to occur in both structures, but get a special interpretation in one of them. So in this case, it is not about which structure does a root pick for the anticausative, but rather, which structures does it pick with certain meanings. I will argue in the next section that this fact is crucial to understanding the phenomenon of non-alternating roots discussed in the previous section because it is actually part of the same phenomenon.

5   Contextual Allosemy and Roots

In this section, I propose that the existence of non-alternating roots and special interpretations of roots are reflexes of the same phenomenon: root alloseme selection. The idea stems from a line of work going back at least to Arad (2003, 2005), and explored in depth in recent work (Marantz, 2013a; Anagnostopoulou

and Samioti, 2014; Myler, 2014). Harley (2014, 244), for example, describes the various interpretations of the English word *throw* as a set of post-syntactic interface instructions.[10]

(23)   <u>PF Instructions</u>   <u>LF Instructions</u>

$\sqrt{77} \leftrightarrow$ /θrow/ $\sqrt{77} \leftrightarrow$ "vomit"   / [v [[__]$_\sqrt{}$ [up]$_P$]]$_{vP}$

                               $\leftrightarrow$ "a light blanket" / [n [__]$_\sqrt{}$]

                               {...other meanings in other contexts...}

                               $\leftrightarrow$ "throw"   / elsewhere

On the PF side, the root $\sqrt{\text{THROW}}$ is given the phonemic representation /θrow/. On the LF side, the interpretation of that root is determined on the basis of surrounding structure. Now, notice that $\sqrt{\text{THROW}}$ has an elsewhere interpretation that applies when none of the more specific syntactic configurations are present. Harley (2014) argues that some roots have no elsewhere interpretation. For example, the word *cahoots*, in English, is only interpretable in a very specific context, the phrase *in cahoots*.

(24)   a.   He was in cahoots with them.

        b.   * Those were some stunning cahoots.

        c.   * That was a useful and productive cahoot.

Harley (2014, 244) proposes the following interface interpretive rules for $\sqrt{\text{CAHOOT}}$.

(25)   <u>PF Instructions</u>   <u>LF Instructions</u>

$\sqrt{548} \leftrightarrow$ /kəhut/ $\sqrt{548} \leftrightarrow$ "conspiracy" / [in [[[_]$_\sqrt{}$ n] PL]$_{DP}$]$_{PP}$

                               No Elsewhere Interpretation

Given this much, we have the means to explain how roots will have a limited syntactic distribution without having any specific syntactic selectional features;

---

[10]The notation $\sqrt{77}$, instead of $\sqrt{\text{THROW}}$, is due to the fact that Harley (2014) argues that roots do not contain any inherent phonological content, but are, like functional heads, subject to late insertion. The same idea and notation is found in Sigurðsson 2006. I gloss over this issue, which is orthogonal to the issues discussed in this paper.

selectional features are, essentially, recast as sets of LF interpretative functions. The interpretation of $\sqrt{\text{GLAÐ}}$, then, will be something like (26):

(26) | PF Instructions | LF Instructions |

$\sqrt{32} \leftrightarrow$ /klað/ $\sqrt{32} \leftrightarrow$ "bright" / [Voice$_{\{\}}$ [[__]$_{\sqrt{}}$ v] PP]

$\leftrightarrow$ "clear"   / [Voice$_{\{\}}$ [[__]$_{\sqrt{}}$ v]]

{...other meanings in other contexts...}

$\leftrightarrow$ "glad"   / elsewhere

The interpretation of $\sqrt{\text{BLÓM}}$, however, will look something like (27):

(27) | PF Instructions | LF Instructions |

$\sqrt{42} \leftrightarrow$ /plom/ $\sqrt{42} \leftrightarrow$ "bloom (lit.)"   / [Voice$_{\{D\}}$ [[__]$_{\sqrt{}}$ v]]

$\leftrightarrow$ "bloom (met.)" / [Voice$_{\{D\}}$ [[__]$_{\sqrt{}}$ v]]

$\leftrightarrow$ "flower"   / [[__]$_{\sqrt{}}$ n]

{...other meanings in other contexts...}

No Elsewhere Interpretation

As a bonus, this proposal provides a kind of explanation for why Icelandic but not English allows anticausatives for words like 'kill' and 'destroy'.

(28) a. * The dog killed.   (* under relevant reading)
      b. * The chair destroyed.

(29) a. Hundurinn   drapst.   b. Stóllinn   eyðilagðist.
          dog.the.NOM killed-ST   chair.the.NOM destroyed-ST
          'The dog died.   'The chair (became) destroyed.'

Rappaport Hovav (2014) proposes that *kill* and *destroy* lexically select an external argument. Here, this means that $\sqrt{\text{KILL}}$ and $\sqrt{\text{DESTROY}}$ (or maybe just $\sqrt{\text{STROY}}$) find no interpretation in the context of Voice$_{\{\}}$. In Icelandic, this just means that Voice$_{\{D\}}$ must be paired with *-st* to derive an anticausative. In English, however, there is no *-st*, so merging Voice$_{\{D\}}$ necessitates a DP external argument

that needs to be integrated semantically.[11]

6   The Interpretation of Voice

In this section, I would like to provide initial support for the idea that the interpretation of Voice is determined by the overall interpretation of the vP, but not any specific root or feature within the vP. That is, like lexical roots, functional heads like Voice are subject to allosemy at the semantics: their interpretation is determined post-syntactically by rules such as (30).

(30)   a. $\text{Voice}_{\{D\}} \leftrightarrow \lambda x_e \lambda e_s.\ \text{AGENT}(x,e)\ /$ __ (agentive vP)
       b. $\text{Voice}_{\{D\}} \leftrightarrow \lambda x_e \lambda s_s.\ \text{HOLDER}(x,s)\ /$ __ (stative vP)

       {. . . other meanings in other contexts. . . }

       c. $\text{Voice}_{\{D\}} \leftrightarrow \lambda P_{\langle s,t \rangle}.\ P$ / __ elsewhere

These rules say that when the vP complement of $\text{Voice}_{\{D\}}$ is interpreted as denoting an agentive event, $\text{Voice}_{\{D\}}$ gets the 'AGENT' alloseme. When the vP complement of $\text{Voice}_{\{D\}}$ is interpreted as denoting a stative eventuality, $\text{Voice}_{\{D\}}$ gets the 'STATE-HOLDER' alloseme.[12] (30c) is essentially the Ø interpretation, which is "expletive voice." That is, it means that in this case, $\text{Voice}_{\{D\}}$ introduces no thematic interpretation at all.[13] It is the alloseme that appears in anticausative contexts.

    The point of this section is to argue that the choice of interpretation for $\text{Voice}_{\{D\}}$ is not encoded on any specific feature of $\text{Voice}_{\{D\}}$, or any feature within the vP or on any lexical verb root. Rather, the choice is based entirely on the semantics of the vP, which is computed on the basis of root alloseme selection, the

---

[11]This explanation is similar in nature to the explanation offered in Alexiadou (2010, 2014), but note that we still do not have any explanation for German, which, like Icelandic, has "expletive voice," but which, like English, disallows anticausatives of 'kill' and 'destroy'.

[12]This is essentially the proposal of Kratzer (1996), recast in terms of late interpretation.

[13]The consequence is that if $\text{Voice}_{\{D\}}$ has a specifier, it had better be an argument expletive like *-st*, or else whatever is in its specifier needs some other way of being integrated semantically in the vP. See Wood and Marantz (to appear) for detailed discussion of such cases.

structural semantics of the other arguments in the vP, and the overall event construal.

I will start by providing general support for this view from the *vera með* 'be with' construction in Icelandic. This construction may or may not be agentive, but the decision cannot be blamed on any specific root in the structure. I will then turn back to the causative alternation and discuss how the general idea works there.

6.1 Agentive Constructions with *No* Agentive Root

The *vera með* 'be with' construction is best known for its uses expressing certain kinds of possession (Irie, 1997; Levinson, 2011; Myler, 2014; Myler et al., in prep).

(31) a. Hann   er með rautt hár.
          he.NOM is with red   hair.ACC
          'He has red hair.'
      b. Þeir   eru með kvef.
          they.NOM are with cold.ACC
          'They have a cold.'
      c. Hún   er með fimm bækur   á sér.
          she.NOM is with five   books.ACC on her
          'She has five books on her.'

However as pointed out to me by Einar Freyr Sigurðsson (p.c.), it can also be used to express agentive activities. This is exemplified with the sentence in (32).

(32) Hann var alltaf   með einhver furðulegheit.
       he   was always with some   weirdness
       'He was always acting weird.'

Importantly, this sentence refers to active behavior. It is not enough for the subject to possess the quality of weirdness. What it describes is the subject's actions—that he is acting weird.

Strikingly, there is evidence that the subject in these constructions is not only agentive, but is actually externally merged in SpecVoiceP. The evidence comes

from the fact that the construction may be passivized, as shown in (33a). Attested passivized examples of this use are shown in (33b–c).[14]

(33) a. Það var alltaf verið með einhver furðulegheit.
    EXPL was always been with some weirdness
    'There were always people acting weird.'

    b. γ…að ekki sé verið með neinar hótanir…
    …that not is.SBJV been with any threats…
    '…that threats are not being made…'[15]

    c. γ…eins og það væri verið með kveikjara
    …like EXPL was.SBJV been with lighters
    upp við húðina á sér…
    against her skin…
    '…[felt] like lighters were being held against her skin…'[16,17]

In Icelandic, impersonal passivization is generally possible when there is an external argument and it is agentive (Sigurðsson 1989, 315–321; Thráinsson 2007, 266–269). For example, it is not enough to have a [+HUMAN] implicit argument.

(34) a. Páll blá-na-ði af bræði.
    Paul.NOM blue-NA-PST from anger
    'Paul went blue from anger.'

    b. * Það var blá-na-ð af bræði.
    EXPL was blue-NA-PASS from anger
    INTENDED: 'People went blue from anger.' (Sigurðsson, 1989, 317)

The passivization facts suggest the structure in (32) for the *vera með* 'be with' construction.

---

[14]Halldór Sigurðsson (p.c.) points out that these examples, to him, seem more "active" than agentive. I will investigate the distinction further in future work, but for now, what is important is that the interpretation of the external argument is determined by the vP meaning as a whole, and not from any one, specific root within the vP.

[15]http://goo.gl/v3ti1I

[16]https://goo.gl/2MPH0v

[17]For some context, the author here is describing his sister's account of what it feels like to have a tattoo removed with lasers.

(35)

```
                    VoiceP
                   /      \
              hann         \
              'he'   Voice_{D}   vP
                             /    \
                            v      PP
                           'be'   /   \
                                 P       DP
                                með     /   \
                               'with'  D       nP
                                     einhver  /   \
                                     'some'  n      aP
                                            -heit  /   \
                                            'ness' a    √FURÐ
                                                  -leg  'weird'
```
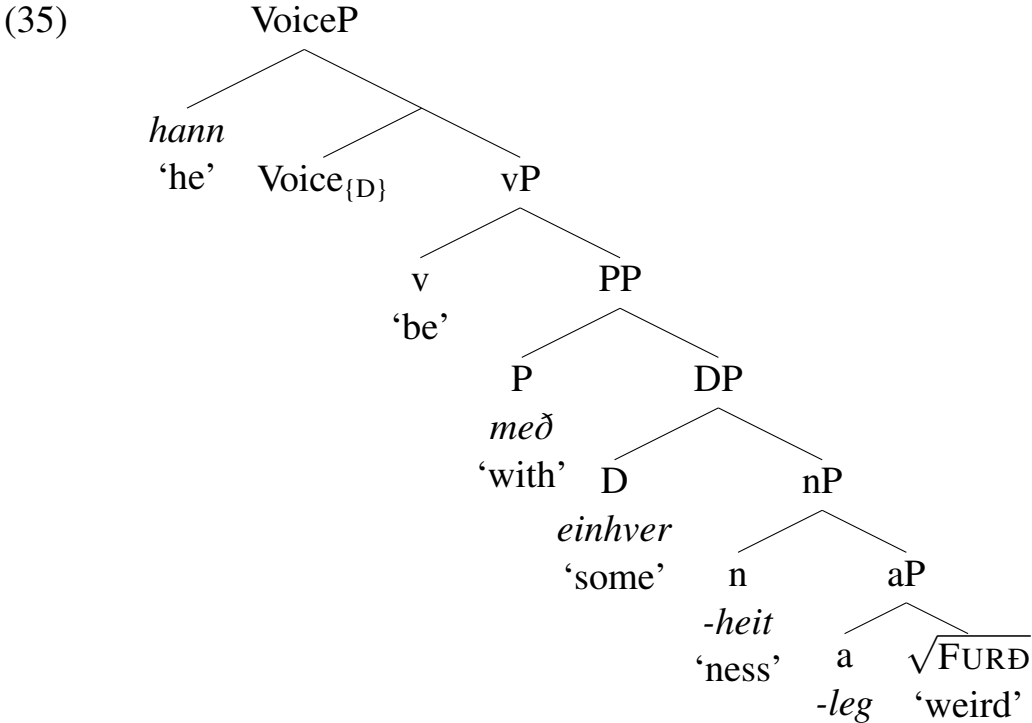
In this structure, the root is plausibly too embedded to make specific semantic demands on Voice_{D}. Moreover, in some cases, the roots build deadjectival nouns: such roots are not normally eventive, let alone agentive. So it would be odd to associate them with some diacritic specifying what kind of Voice head to combine with.

Instead, what seems to be going on is that Voice is interpreted as agentive because it is combining with a vP that is understood as agentive. In the case of the agentive *vera með* 'be with' construction, this vP meaning is constructed compositionally from its parts, but not from a specific verb that is listed lexically as forming agentive events. Rather, the lexical root builds up some kind of nP (and then DP) meaning, and that is embedded in a possessive construction, and the overall result is the agentive, eventive interpretation of the vP.

While I cannot go too deeply into the details of how the eventive interpretation of the *vera með* 'be with' construction works, a few brief remarks may help clarify what is going on. In general, the *vera með* 'be with' construction expresses accompanied possession. This typically includes (a) body parts, (b) illnesses, and (c) possessed entities currently being carried by the possessor. Naturally, body
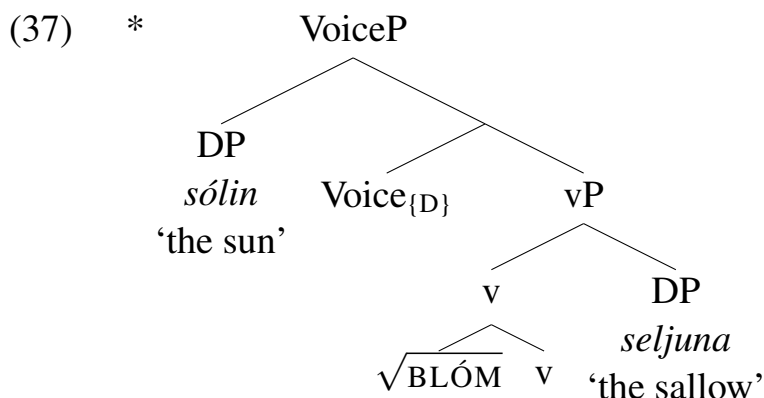
parts and illnesses accompany the possessor. As for (c), the meaning is something like English *She has got five books on her* (even when the PP is not overtly expressed). This is generally construed as temporary possession.

In the agentive *vera með* 'be with' construction, we have temporary possession of, say, "weirdness". The subject is then temporarily accompanied by weirdness, as if the subject is "bringing weirdness with him". To the extent, then, that the vP in a *vera með* 'be with' is construed as denoting an agentive event, Voice$_{\{D\}}$ will be interpreted as agentive (and passivization will be possible). But there is no lexical root that is directly to blame for the agentive interpretation of Voice$_{\{D\}}$. It is the vP that is agentive.

6.2   Voice and Roots in the Causative Alternation

Returning to the causative alternation, we are now in a position to show how the system will determine whether a root will form an alternating verb in the first place. (27), for example, says that $\sqrt{\text{BLÓM}}$ will get a meaning like 'bloom' in the context of Voice$_{\{D\}}$. But what rules out (36a) with the structure in (37)?

(36)   a.   * Sólin   hefur blómgað seljuna.
             sun.the.NOM has   bloomed sallow.the.ACC

     b.   Seljan   hefur **blómgast**.
             sallow.the.NOM has   bloomed-ST
             'The sallow has bloomed.'

(37)   *   VoiceP
           /   \
        DP   \
       sólin   Voice$_{\{D\}}$ vP
      'the sun'   /   \
                            v   DP
                          /   \   *seljuna*
                     $\sqrt{\text{BLÓM}}$ v 'the sallow'

Note that nothing, up until this point, rules this out. $\sqrt{\text{BLÓM}}$ is in the context of Voice$_{\{D\}}$, so it should well be able to get an interpretation in this structure.

One kind of explanation is that verbs like 'bloom' describe internally caused events (Levin and Rappaport Hovav, 1995). Internally caused events are events construed in such a way that external causers will be semantically odd. We see the other direction as well: agentive events only allow the transitive structure.

(38) a. Konan   myrti   manninn.
          woman.the.NOM murdered man.the.ACC
          'The woman murdered the man.'

  b. # Hraunstraumurinn   myrti   manninn.
        lava.stream.the.NOM murdered man.the.ACC

  c. * Maðurinn   myrti(st).
        man.the.NOM murdered-ST

(38b) is odd because what we typically understand about murdering events is that they are caused by an agentive, sentient being (though see below), and lava streams are normally not construed as agentive or sentient.

This basic explanation is on the right track. In the present framework, (36a) is out because Voice$_{\{D\}}$ cannot be thematic (i.e., cannot get an interpretation other than the Ø, expletive interpretation) and (38c) is out because Voice$_{\{D\}}$ must be thematic (agentive, in this case). However, the way that the root determines this is indirect. Voice$_{\{D\}}$ has no agentive features; it is in principle compatible with either an agentive interpretation or an expletive interpretation. Neither VERBS nor VERB ROOTS are categorized as "internally caused", "agentive", etc. Rather, the entire VERB PHRASE gets an interpretation that may be construed as compatible with various allosemes of Voice$_{\{D\}}$.

(39) a. Voice$_{\{D\}}$ $\leftrightarrow$ $\lambda x_e \lambda e_s.$ AGENT(x,e) / __ (agentive vP)
      b. Voice$_{\{D\}}$ $\leftrightarrow$ $\lambda x_e \lambda s_s.$ HOLDER(x,s) / __ (stative vP)

          {. . . other meanings in other contexts. . . }

      c. Voice$_{\{D\}}$ $\leftrightarrow$ $\lambda P_{\langle s,t \rangle}.$ P   / __ elsewhere

What it means to be "internally caused" is, essentially, to be the kind of vP that is not readily compatible with an agent, causer, state-holder, etc. So *myrða* 'murder' generally disallows anticausatives because it generally forms agentive verb phrases. That is, a vP like *[$_{vP}$ murder the man]* is generally construed as denoting a kind of event where the man dies due to agentive planning. Once this interpretation is determined, Voice$_{\{D\}}$ must get the AGENT alloseme.

However, some speakers allow an anticausative of *myrða* 'murder' with a special interpretation:

(40) a. γ Ég er að **drepast** úr spenningi, ÁFRAM ÍSLAND!!!
     I am to kill-ST from excitement, GO ICELAND
     'The excitement is killing me. GO ICELAND!!!'[18]

  b. γ ég er að **myrðast** úr spenningi!!!
     I am to murder-ST from excitement
     'The excitement is murdering me!!!'[19]

Such speakers appear to be moving from (40a), a fairly well-established metaphorical use of the word *drepa* 'kill', to (40b), by treating 'murder' not as an agentive version of 'kill', but more like a "more extreme" version of 'kill'. That is, when $\sqrt{\text{MYR}}$ 'murder' is involved in building a different kind of vP (through some extension of the root), it can occur as an *-st* anticausative. Put yet another way, (40b) is possible precisely because the vP *[$_{vP}$ [$_{vP}$ murder I] from excitement]* is not an agentive vP. So we do not want to say that $\sqrt{\text{MYR}}$ is an agentive root, at least not directly; what we say instead is that $\sqrt{\text{MYR}}$ usually forms agentive vPs. It is the vP interpretation that determines how Voice$_{\{D\}}$ is interpreted.

We see the same consideration in the other direction. The root $\sqrt{\text{BLÓM}}$ can, in fact, occur with an external argument in some cases, but only when it builds a different kind of vP from those seen above.

---

[18]https://goo.gl/fnmnSu
[19]https://goo.gl/QxuW4n

(41) a. γ peningaskorturinn [. . .] blómgaði skoskan fótbolta.
          the.money.shortage   bloomed Scottish football
          'the money shortage [. . .] bloomed Scottish football.'[20]

  b. γ [. . .]með það að markmiði að blómga gamla hafnarsvæðið.
          [. . .]with it   as goal   to bloom old   harbor.area.ACC
          '. . . with the goal of blooming the old harbor area.'[21]

In these vPs, the notion of "blooming" is metaphorical, and this metaphorical "blooming" is compatible with some kinds of external arguments: a causer in (41a) and an agent in (41b).[22]

The broader point is that we do not really categorize a root independently of the syntactic structure it is embedded in. Putting this together with the previous observations, we have essentially the following flow of information:

(42) a. **Step 1**: Build the vP.

  b. **Step 2**: Merge VoiceP layer.

  c. **Step 3**: Spellout vP (assign its terminals a phonological and a semantic interpretation).

    i. **Step 3.1** Determine the "structural semantics" ("COS event").[23]

    ii. **Step 3.2** Determine the set of root allosemes available.

    iii. **Step 3.3** Choose the root alloseme based on 3.1 and 3.2.

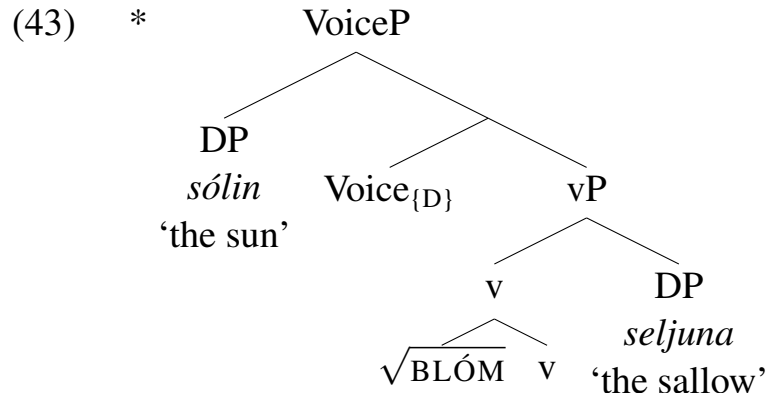 d. **Step 4**: Choose the appropriate alloseme of Voice, given the overall meaning computed in Step 3.

---

[20]http://goo.gl/7ugEqT

[21]http://goo.gl/qoaVTo

[22]I have not yet found examples of transitive 'bloom' with an "ambient conditions" type of subject (Rappaport Hovav, 2014); initial investigations suggest that this kind of subject is not as readily available in Icelandic as in English (see also Svenonius 2002, 200), but more research is needed.

[23]See Wood and Marantz (to appear) for a detailed analysis of how the semantics of change-of-state vPs are read off of the tree.

Applying (42) to (43), we can now see where things go wrong.

(43) * VoiceP

```
              VoiceP
             /      \
          DP          \
         sólin    Voice_{D}    vP
      'the sun'           /      \
                        v          DP
                       / \        seljuna
                  √BLÓM  v     'the sallow'
```

a. **Step 3.1**: "COS" event; little v denotes a change of state on the DP complement.

b. **Step 3.2**: In the context of Voice$_{\{D\}}$, $\sqrt{\text{BLÓM}}$ is compatible with a literal or metaphorical "blooming".

c. **Step 3.3**: Given that the COS applies to a sallow tree, the literal alloseme is selected.

d. **Step 4**: Since the vP denotes an internally caused event, Voice$_{\{D\}}$ is interpreted as "expletive" ($=\lambda P_{\langle s, t\rangle}$. P).

What goes wrong is that Step 4 has consequences: if Voice$_{\{D\}}$ is expletive, then the DP in SpecVoiceP cannot be integrated into the semantics of Voice′ (cf. Alexiadou et al., 2015, 110). In (41a), things go differently. Given that the change of state applies to Scottish football, the metaphorical meaning is chosen, so that the overall vP denotes an event of Scottish football "coming into its own"; this is not necessarily internally caused, so for that vP, Voice$_{\{D\}}$ can introduce a causer.

7 Conclusion

There are essentially two ways that semantic interpretation governs the relationship between particular roots and the structures they are embedded in. First, the root's interpretive contribution is governed by contextual allosemy. This can have at least two effects: (i) a root may make an idiosyncratic contribution in some contexts, and

(ii) a root may make no contribution at all in some contexts. Second, the overall interpretation of the vP will determine which alloseme of Voice is selected.

These two things may interact. For example, a particular internal argument (e.g. Scottish football) may affect the interpretation of the root (metaphorical). This will affect the overall interpretation of the vP (externally caused), which will in turn affect the interpretation of Voice (causer). Nevertheless, the two are, strictly speaking, distinct: nothing about the overall interpretation of the vP explains why $\sqrt{\text{BLÓM}}$ requires Voice$_{\{D\}}$ (more neutrally, the *-st* version of the anticausative). Likewise, no structural diacritic on the root $\sqrt{\text{MYR}}$ 'murder' should force Voice$_{\{D\}}$ to be interpreted as agentive; the vP interpretation alone suffices for this.

References

Alexiadou, Artemis. 2010. On the morpho-syntax of (anti-)causative verbs. In *Syntax, Lexical Semantics and Event Structure*, eds. Malka Rappaport Hovav, Edit Doron, and Ivy Sichel, 177–203. Oxford: Oxford University Press.

Alexiadou, Artemis. 2014. The problem with internally caused chase-of-state verbs. *Linguistics* 52 (4): 879–909.

Alexiadou, Artemis, and Elena Anagnostopoulou. 2004. Voice morphology in the causative-inchoative Alternation: evidence for a non unified structural analysis of unaccusatives. In *The Unaccusativity Puzzle: Explorations of the Syntax-Lexicon Interface*, eds. Artemis Alexiadou, Elena Anagnostopoulou, and Martin Everaert, 115–136. Oxford: Oxford University Press.

Alexiadou, Artemis, Elena Anagnostopoulou, and Florian Schäfer. 2015. *External Arguments in Transitivity Alternations: A Layering Approach*. Oxford: Oxford University Press.

Anagnostopoulou, Elena, and Panagiota Samioti. 2014. Domains within words and their meanings: A case study. In *The syntax of Roots and the roots of Syntax*, eds.

Artemis Alexiadou, Hagit Borer, and Florian Schäfer, 81–111. Oxford: Oxford University Press.

Arad, Maya. 2003. Locality constraints on the interpretation of roots: The case of Hebrew denominal verbs. *Natural Language and Linguistic Theory* 21: 737–778.

Arad, Maya. 2005. *Roots and Patterns: Hebrew Morpho-syntax*. Dordrecht: Springer.

Barðdal, Jóhanna. 2001. Case in Icelandic: A Synchronic, Diachronic, and Comparative Approach. Doctoral Dissertation, Lund University.

Harley, Heidi. 2014. On the identity of roots. *Theoretical Linguistics* 40 (3/4): 225–276.

Haspelmath, Martin, Andreea S. Calude, Michael Spagnol, Heiko Narrog, and Elif Bamyaci. 2014. Coding causal–noncausal verb alternations: A form–frequency correspondence explanation. *Journal of Linguistics* 50: 587–625.

Horn, Laurence R. 2013. *I love me some datives*: Expressive meaning, free datives, and F-implicature. In *Beyond Expressives: Explorations in Use-Conditional Meaning*, eds. D. Gutzmann and Hans-Martin Gärtner, 153–201. Leiden: Brill.

Irie, Koji. 1997. Possessive verbs in modern Icelandic. *Tokyo University Linguistic Papers* 16: 307–329.

Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase Structure and the Lexicon*, eds. Johan Rooryck and Laurie Zaring, 109–137. Dordrecht: Kluwer.

Levin, Beth, and Malka Rappaport Hovav. 1995. *Unaccusativity: At the Syntax-Lexical Semantics Interface*. Cambridge, MA: MIT Press.

Levinson, Lisa. 2011. Possessive WITH in Germanic: HAVE and the role of P. *Syntax* 14 (4): 355–393.

Marantz, Alec. 2013a. Locality domains for contextual allomorphy across the interfaces. In *Distributed Morphology Today: Morphemes for Morris Halle*, eds. Ora Matushansky and Alec Marantz, 95–115. MIT Press.

Marantz, Alec. 2013b. Locating the Verbal Root. Talk given at the 25th Scandinavian Conference of Linguistics, Reykjavík, Iceland, May 13th.

Myler, Neil. 2014. Building and Interpreting Possession Sentences. Doctoral Dissertation, New York University.

Myler, Neil, Einar Freyr Sigurðsson, and Jim Wood. In prep. A game of two HAVEs: Carving up Possession in Icelandic. Manuscript, Boston University, University of Pennsylvania and Yale University.

Rappaport Hovav, Malka. 2014. Lexical content and context: The causative alternation in English revisited. *Lingua* 141: 8–29.

Schäfer, Florian. 2008. *The Syntax of (Anti-)Causatives*. Philadelphia: John Benjamins.

Sigurðsson, Halldór Ármann. 1989. Verbal Syntax and Case in Icelandic. Doctoral Dissertation, University of Lund.

Sigurðsson, Halldór Ármann. 2006. Agree in syntax, agreement in signs. In *Agreement Systems*, ed. Cedric Boeckx, 201–237. Philadelphia, PA: John Benjamins.

Sigurðsson, Halldór Ármann. 2012. Minimalist C/case. *Linguistic Inquiry* 43 (2): 191–227.

Svenonius, Peter. 2002. Icelandic case and the structure of events. *Journal of Comparative Germanic Linguistics* 5 (1–3): 197–225.

Thráinsson, Höskuldur. 2007. *The Syntax of Icelandic*. Cambridge: Cambridge University Press.

Wood, Jim. 2014. Reflexive *-st* verbs in Icelandic. *Natural Language & Linguistic Theory* 32 (4): 1387–1425.

Wood, Jim. 2015. *Icelandic Morphosyntax and Argument Structure*. Dordrecht: Springer.

Wood, Jim, and Alec Marantz. To appear. The interpretation of external arguments. In *The Verbal Domain*, eds. Roberta D'Alessandro, Irene Franco, and Ãngel J. Gallego. Oxford: Oxford University Press.