A nanosyntactic approach to Dutch deadjectival verbs

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There are three ways of deriving verbs in Dutch: through zero marking, through suffixation, and through prefixation. We focus on prefixed deadjectival verbs, contrasting two views. According to the first view, prefixed verbs are left-headed: the prefix is responsible for the change in category, i.e. [$_V$ ver [$_A$ breed]]. The second view holds that prefixed verbs are right-headed, and involve a zero verbalizing suffix, i.e. [$_V$ ver [$_V$ [$_A$ breed] ∅]]. We argue in this paper for a mixed, nanosyntactic, approach. We adopt Ramchand's (2008) decomposition of the verb and argue that the prefix spells out part of the verbal structure and the verbal root spells out another part.

Keywords: deadjectival verbs, change-of-state verbs, causative-inchoative alternation, nanosyntax, phrasal spellout

1. Introduction

The goal of this paper is to account for the data pattern in Table 1. The table shows three different groups of adjectives: (a) adjectives that convert to verbs without any morphological marking, (b) adjectives that need *ver* to become a verb, and (c) adjectives that cannot become a verb through either conversion or *ver*-prefixation.[1]

Which class an adjective falls into is unpredictable, i.e. it is a matter of lexical idiosyncrasy. It is the aim of this paper to show how we can model this idiosyncrasy as a result of the interaction between a fine-grained universal syntactic structure and language-specific lexical entries.

1. There are also a limited number of adjectives that fall into both the first and the second category (e.g. *drogen-verdrogen* 'dry'). We leave these aside for now, hoping to return to them in future work.

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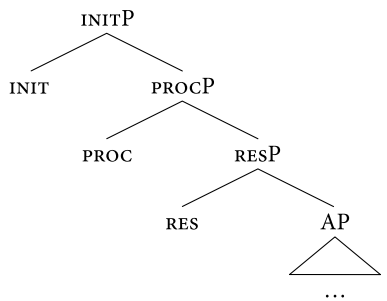
Table 1. Three classes of deadjectival verbs

	A	Gloss	V	Gloss
a.	open	'open'	open	'open'
	leeg	'empty'	leeg	'empty'
	rijp	'ripe'	rijp	'ripen'
b.	breed	'wide'	ver-breed	'widen'
	strak	'tight'	ver-strak	'tighten'
	mooi	'pretty'	ver-mooi	'beautify'
	geel	'yellow'	ver-geel	'yellow'
c.	echt	'real'	–	
	blits	'flashy'	–	
	alert	'alert'	–	
	gul	'generous'	–	
	gaaf	'perfect'	–	

Specifically, we follow an approach according to which the syntactic structure of deadjectival verbs can be decomposed into a number of smaller syntactic/semantic components that are hierarchically arranged. The specific proposal we adopt is in (1), which is a slight modification of the proposal in Ramchand (2008). The tree has the adjectival base at the bottom, dominated by three verbal projections called Init(iation), Proc(ess) and Res(ult) (Ramchand 2008).

(1)



Our main proposal is that each adjective class in Table 1 is lexically different and realizes a different subset of these features, which ultimately determines whether and how each adjective can be verbalised. Specifically, the root of the zero-derived verbs can pronounce all the ingredients in (1), and therefore needs no additional verbalising morpheme. Roots that require a prefix to become verbs

cannot pronounce the RES projection, while roots that do not form verbs at all realize only AP.

In developing this account, we shall not discuss the wider class of prefixes that *ver* belongs to, which also includes its 'sibling' prefixes *be* and *ont*. These three prefixes share a number of properties, as is well-known from the literature (see Haeseryn et al. 1997; De Haas & Trommelen 1993 for a more exhaustive description of Dutch verbal derivational morphology). It is our hope that the analysis of *ver* will lay the ground for an analysis of its sibling prefixes.

The paper is structured as follows. Section 2 provides some background on the morphology of derived verbs in Dutch. Section 3 introduces the ingredients of our analysis, and provides an account of zero-derived adjectives. In addition to Ramchand's verbal decomposition (1), we rely on the Nanosyntax model of phrasal spellout (Starke 2009 et seq.). Section 4 shows how the combination of these two proposals derives the other two patterns we find.

2. Background: Derived verbs in Dutch

2.1 Deriving Dutch verbs

Let us begin by showing that the derivational processes seen in Table 1 are attested in Dutch more generally. This is illustrated in Table 2. We can see here that Dutch features three different ways to derive verbs: (1) by prefixation, (2) by conversion (zero-marking), or (3) by suffixation. The horizontal lines separate these three broad categories. Within each category, the letters (a-f) mark the specific affixes used. Most of the affixes attach to nominal and verbal bases as well as adjectives.

Table 2. Derived verbs in Dutch

	AFX	base		Gloss	Verb	Gloss
a.	ver	A	breed	'wide'	ver-breed	'widen'
		N	vel	'skin'	ver-vel	'molt'
		V	doe	'do'	ver-doe	'waste'
b.	be	A	vuil	'dirty'	be-vuil	'dirty'
		N	bos	'forest'	be-bos	'afforest'
		V	giet	'pour'	be-giet	'water'
c.	ont	A	bloot	'nude'	ont-bloot	'uncover'
N	hoofd	'head'	ont-hoofd	'decapitate'		
V	ken	'know'	ont-ken	'deny'		

Table 2. *(continued)*

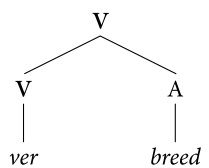
	AFX	base		Gloss	Verb	Gloss
d.	∅	A	open	'open'	open	'open'
		N	adem	'breath'	adem	'breathe'
		P	uit	'out'	uit	'utter'
e.	eer	A	blond	'blonde'	blond-eer	'bleach'
		N	asfalt	'asphalt'	asfalt-eer	'bituminise'
		√	domin		domin-eer	'dominate'
f.	ig	N	steen	'stone'	steen-ig	'stone'

As stated in the introduction, we are only concerned here with a subset of these facts, namely with deadjectival verbs derived (a) by prefixation with *ver*, or (b) by conversion. These two cases correspond to the first line of compartments (a) and (d) of Table 2, respectively. We shall also address the fact that some adjectives cannot be turned into verbs at all.

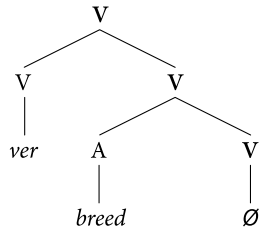
2.2 Prefixed verbs and Right-Hand Head Rule

The verbs derived by prefixes have been noted in the literature because, on the face of it, they violate the Right-Hand Head Rule (RHHR). RHHR stipulates that in morphologically complex words, the head is on the right (Williams 1981). Two different views on the role of prefixes in verbalisations can be distinguished. On the one hand, the left-headed view treats prefixes like *ver* as verbalising prefixes, i.e. as prefixes that change the category of the base, in violation of the RHHR. This position is illustrated in (2) (see e.g. De Haas & Trommelen 1993). On the other hand, the right-headed view holds that the prefixes are not the verbalising morpheme, but that a verbalising ø-suffix is responsible for changing the category of the base. The prefix subsequently modifies a base that is already verbal, and so does not change the category. This analysis is shown in (3) (see e.g. Neeleman & Schipper 1993).

(2)



(3)



Our account of the data is somewhat intermediate between these two approaches. Recall that we adopt a more fine-grained view of the internal structure of verbs as depicted in (1). Under this view, there is no single verbalising projection, since the verb is decomposed. As a result, verbalisation involves (up to) three heads, namely INIT, PROC and RES. Due to the possibility of portmanteau realisation (which we shall technically implement as phrasal spellout), such 'verbalising' features can either (i) reside entirely in the root (giving the appearance of zero marking or conversion), or (ii) be distributed over both the prefix and the root (as in cases of *ver*-prefixation). In other words, we shall develop an alternative which adopts a mixture of both the left-headed and the right-headed perspective: on the one hand, the prefix is going to be involved in the process of creating a verb, but there will also be additional heads involved. These additional heads will be present in the structure in addition to the prefix, as in Neeleman & Schipper's (1993) proposal, but our reliance on portmanteau realisation (phrasal spellout) will allow us to capture these facts without the need to resort to zero morphemes.

2.3 Resultative semantics

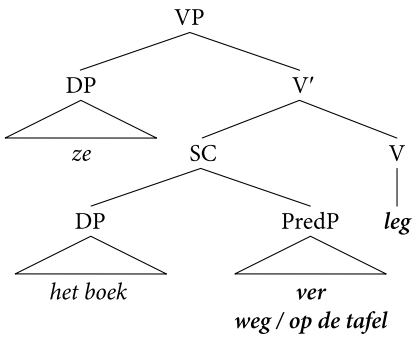
An important property of prefixes *ver, be*, and *ont* is that they are in complementary distribution with resultative predicates (Hoekstra et al. 1987). This is shown by the sentences in (4) and (5). The a-sentences contain a resultative predicate, the b-sentences contain a prefix. The c-sentences show that the resultative and the prefix cannot cooccur.

(4) a. *dat ze het boek* ***{weg / op de tafel}*** *legde.*
that she the book away / on the table put
'… that she put the book away / on the table.'
b. *dat ze het boek ver-legde.*
that she the book ver-put
'… that she put the book elsewhere.'
c. **dat ze het boek* ***{weg / op de tafel}*** ***ver****-legde.*
that she the book away / on the table ver-put

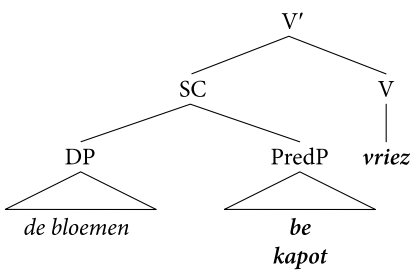
(5) a. *De bloemen zijn* ***kapot*** *gevroren*
the flowers are broken frozen
'The flowers have frozen (to pieces).'
b. *De bloemen zijn* ***be****-vroren*
the flowers are BE-frozen
'The flowers have frozen.'
c. **De bloemen zijn* ***kapot*** ***be****-vroren*
the flowers are broken BE-frozen
'The flowers have frozen.'

To account for this, Hoekstra et al. (1987) argue that Dutch verbal prefixes are predicates of resultative small clauses, as illustrated in the tree structure in (6) and (7), based on Hoekstra et al. (1987:72):

(6)



(7)

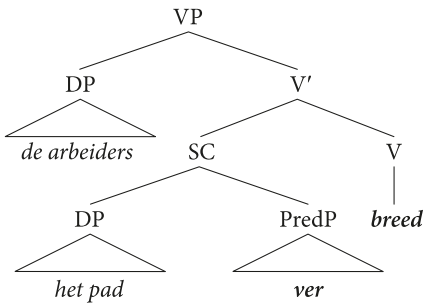


While the analysis provided above captures the complementary distribution, it is not clear how it extends to the class of *ver*-prefixed deadjectival verbs that are the focus of this paper. An example with the verb *verbreden* 'widen' is given in (8).

(8) *De arbeiders* ***ver-breed-de-n*** *het pad.*
the workers VER-wide-PST-PL the path
'The workers widened the path.'

Transposing the model of (7) onto the deadjectival *ver*-verb of (8) yields the structure in (9).

(9)



The main problem with (9) is that intuitively, the noun *het pad* 'the path' is understood as an argument of the adjective *breed* 'wide', i.e. the road gets wide as a result of the verbal activity. But that semantic relationship is not at all represented in (9). Second, and related to the previous issue, it is also not clear how the verb in (9) is to be related to the adjective it is derivationally related to.

At the same time, the deadjectival *ver*-verbs share with the other prefixed verbs the property that they do not combine with resultative predicates. This is shown in (10).

(10) *De bloemen zijn (*kapot) ver-droog-d*
the flowers are broken VER-dry-PTCPL
'The flowers have dried up.'

We conclude from this that the *ver*-prefix includes a resultative meaning component, but it is not so clear that it is a predicate heading a small clause. In our analysis, the prefixes will be analyzed as the spellout of the Ramchandian RES head, and they will be needed with adjectival roots that do not spell out RES on their own.

2.4 The inchoative-causative ambiguity

The final property of the relevant verbs that we aim to account for is their inchoative-causative ambiguity. This means that these verbs can refer either to a

pure change of state (inchoative), or the causation of a change of state (causative). This is illustrated in (11) for the zero-marked verb *open-en* 'to open', and in (12) for the prefixed *ver-breed-en* 'to widen'.

(11) a. *De deur **open**-de met een piepend geluid.* INCHOATIVE
the door open-PST with a squeaking sound
'The door opened with a squeaking sound.'

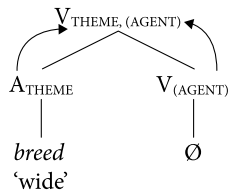
b. *Ze **open**-de het raam.* CAUSATIVE
she open-PST the window
'She opened the window.'

(12) a. *Het pad **ver-breed-t** in de vallei.* INCHOATIVE
Het pad VER-wide-AGR in the valley
'The path widens in the valley.'

b. *De arbeiders **ver-breed-d-en** het pad.* CAUSATIVE
the workers VER-wide-PST-AGR the path
'The workers widened the path.'

Neeleman & Schipper (1993) account for this ambiguity by assuming that the zero verbalising suffix of (3) contributes an optional Agent argument: if the Agent is present, the derived verb is causative, if it is absent, the verb is inchoative. This idea is depicted in (13) (the tree ignores the prefix, as it is not relevant to the point we wish to make).

(13)

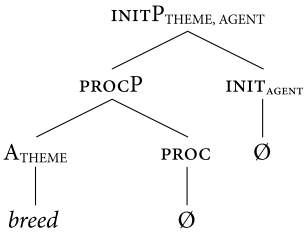


However, what this analysis does not explain is the fact that the inchoative-causative meaning difference goes beyond the argument structure, and also involves the meaning of the verb itself: in the a-sentences of (11) and (12), the meaning is 'become A', whereas in the b-sentences, it is 'cause to be(come) A'. We take this to imply that the internal structure of the adjective-derived verb is different across the two cases.

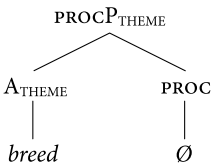
Following ideas by Ramchand (2008), we adopt here an updated version of Neeleman & Schipper's (1993) proposal with a split V head. Concretely, the V head is decomposed into the change-of-state meaning component (represented as PROC in (14)), and another one that adds causative meaning, as well as an Agent thematic role (shown as INIT). Under this updated version of Neeleman & Schipper's (1993) analysis, the causative verb would have both heads, as shown in

(14a), whereas the inchoative verb would lack the causative INIT head, and consequently also the Agent role associated with that head, see (14b).

(14) a.



b.



While our final analysis disposes of the zero suffixes, the trees in (14) represent two important ideas that we will pursue. The first idea (that we take after Ramchand 2008) is that structurally speaking, the causative verb contains the inchoative one. The second idea is that the inchoative in turn contains the adjective (an idea found already in Neeleman & Schipper's 1993 analysis). We shall further develop these ideas in the following section.

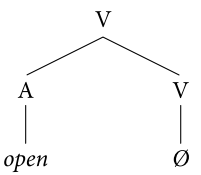
3. Ingredients for the analysis

3.1 Phrasal spellout and Nanosyntax

We discussed the fact that adjectives like *open* 'open' can convert to verbs in Section 1. A traditional way of representing this in trees would be as in (15b) (see e.g. Neeleman & Schipper 1993).

(15) a.

b.



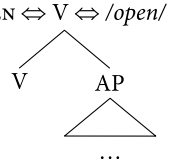
Recall now from Table 1 that not all adjectives can be turned into verbs like this. For example, there is no verb **gaaf* 'to become perfect.' Under the account in

(15), this must be because the use of the zero verbalizer is restricted to a subset of roots. In other words, the distinction between adjectives that can/cannot become verbs rests in the combinatorial restrictions associated to the zero verbalizer. Such restrictions are usually encoded by means of allomorphic statements: the zero spellout of the V head is only available in the context of selected roots.

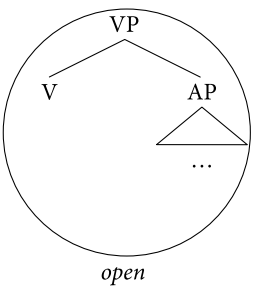
In a nanosyntactic approach, this difference is encoded as a property of the roots themselves, relying on the mechanism of phrasal spellout. The idea is that the lexical item *open* is ambiguous between the meaning of an adjective (a property) and the meaning of a verb (an event), while *gaaf* 'perfect' is only an adjective. Making this notion of lexical ambiguity more precise, we take it to be a case of syncretism, the phenomenon whereby two distinct grammatical categories have the same form. In this particular case, the adjective *open* is syncretic with the verb *open.*

Using the simplified structure (15b), we assign to the root *open* an entry as in (16) (to be updated below). The entry associates the verbal structure with the phonology *open,* and the concept OPEN. Since the concept is not relevant to our concerns, we henceforth ignore it.

(16) OPEN ⇔ V ⇔ */open/*



(17)



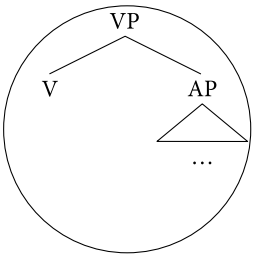
The lexical entry of *open* 'open' in (16) allows that a syntactic constituent containing a V node and an A node be spelled out as *open.* We depict the spellout of a syntactic constituent by a circle around that constituent, see (17). The tree (17) represents our alternative to the analysis in (15b).

Let us now turn to the issue of how the root *open* can also be used as an adjective. In Nano-syntax, this is ensured by the matching principle in (18), referred to as the Superset Principle.

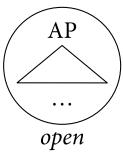
(18) *Superset Principle* (Starke 2009)
A lexically stored tree L matches a syntactic node S iff L contains the syntactic tree dominated by S as a subtree

According to (18), matching between the lexicon and the syntax is based on identity: a lexical entry only matches a given structure if it contains a constituent that is identical to this structure. The lexical tree associated to *open* in (16) contains both the structure of an adjective and that of a verb. This means that the lexical entry can lexicalise either syntactic structure. This is shown in (19), where again the circles around a syntactic node represent successful lexicalisation. The new thing here is that *open* can also spell out just the AP node, see (19b).

(19) a.



b.

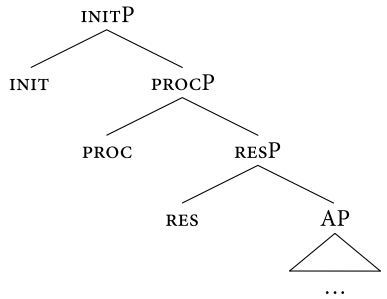


An advantage of this approach is that lexicalisation at the phrasal level avoids a proliferation of zero morphemes, which we take to be a welcome result. In the next section, we show that the same logic can be applied to the inchoative-causative ambiguity of the verbs in question.

3.2 Decomposing the verb

Recall from (1) that the full structure of the verb phrase that we rely on looks as in (20). The goal of this section is to provide some motivation for this structure and also to update our lexical entry for the root *open* in (16) accordingly.

(20)

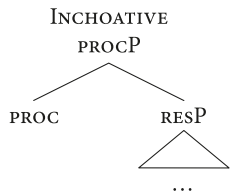


The first reason why we are using the structure (20) (with AP below the verbal projections) has to do with the meaning of the verbs. Specifically, the meaning of a verb like *open* 'open' or *ver-breed* 'widen' contains the meaning of the adjective, regardless of whether we consider the causative or the inchoative. This can be schematised as in (21). The point is that the containment relations in the syntactic structure are consonant with the intuitive semantic containment.

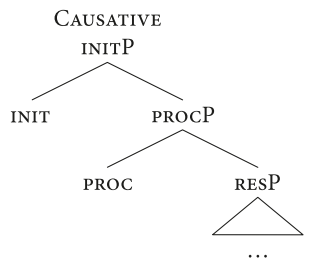
(21) $[_{V}$ ver-breed$]_{INCH}$ = [BECOME $[_{A}$ breed]]
$[_{V}$ ver-breed$]_{CAUS}$ = [CAUSE TO [BECOME $[_{A}$ breed]]]

Another point about the structure in (20) is that it has an independent causative component INIT (for initiation). Ramchand proposes that this component is absent in the structure of inchoative verbs, see (22). Only causative verbs contain this component, see (23).

(22)



(23)



Structurally, therefore, the causative verb again contains the inchoative, just like both types of verbs contain the adjective. This (intuitive) semantic containment between the causative and the inchoative translates into an entailment, which

Lundquist et al. (2016: 2) call the *Causational Entailment,* which states, informally, that sentences with causative verbs entail their inchoative counterparts.

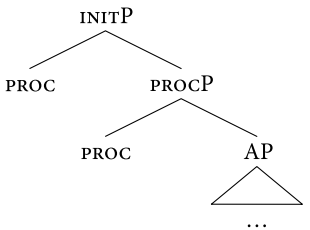
(24) Causational Entailment
$\forall_x \forall_y$[CAUSE (x, INCH(Pred(y))) ⟶ INCH(Pred(y))]

The entailment is responsible for the infelicitousness of (25).

(25) #John broke the glass, but the glass didn't break.

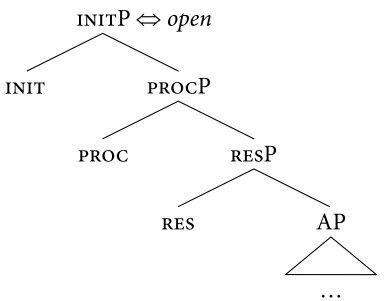
Another point that we want to explicitly mention concerns the idea that in our proposal, deadjectival verbs contain the stative RES head. In Ramchand (2008: 108), deadjectival verbs may lack RES, and contain the AP directly in the complement of PROC, as depicted in (26). We discuss our reasons for proposing RES in the structure in Section 4.

(26)



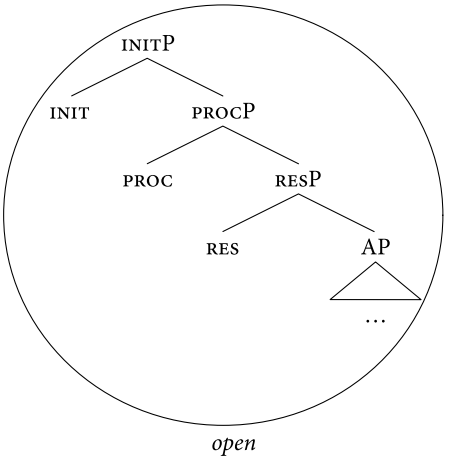
With the structure (20) in place, the lexical entry for *open* 'open' now looks as in (27), an update on (16):

(27)

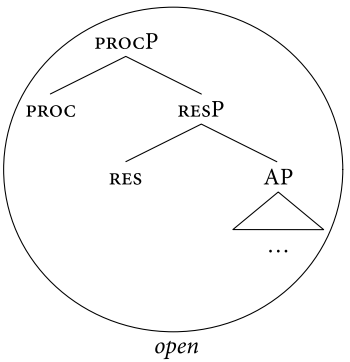


While the entry is new, the logic of insertion is the same: this lexical entry ensures that any constituent contained in it can be spelled out as *open.* As a result, we can now straightforwardly capture the three-way ambiguity of a root like *open:* it can lexicalise the syntactic structure of a causative verb (28a), an inchoative verb (28b), and an adjective (28c).

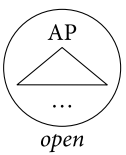
(28) a.



b.



c.



The approach predicts that the lexical item *open* can also spell out RESP. What would this RESP amount to, and in particular, how is it different from AP? What we suggest is that the RESP constituent corresponds to a resultative use of the adjective, as in *Ze duwde de deur open* 'She pushed the door open'. The reason why we consider the resultative use as different from an adjectival use is that not all languages allow adjectives to be used as resultatives (Hoekstra 1988; Snyder 1995) (and within the same language, some adjectives may occur as resultatives, while others cannot; Green 1972; Vanden Wyngaerd 2001). Languages that do not allow bare resultatives often require the use of a preposition before the adjective, such as the Czech *na* 'onto' in (29).

(29) *Vymaloval ten pokoj *(na) bílo.*
painted.3SG the room onto white
'He painted the room white.'

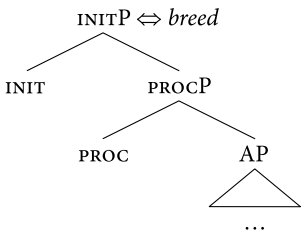
Thus, the fact that Dutch has bare resultatives is the effect of the adjective's ability to spell out RESP, differing from Czech, where a preposition is needed to spell out RES.[2]

Summarizing, this section has introduced our assumptions about spellout (the Superset Principle) and we have provided an analysis of the first class of adjectives, namely those that convert to verbs without any morphological marking. We turn to the other two classes in the next section.

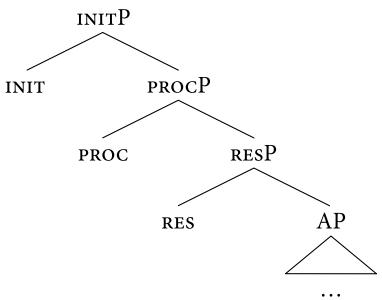
4. The account

Our analysis of verbs like *ver-breed* 'widen' is based on the idea that they have the entry in (30).

(30)



(31)



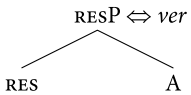
When we compare the entry (30) to the structure of a (causative) deadjectival verb given in (31), it is clear that the root *breed* 'wide' cannot lexicalise the verbal struc-

2. For reasons of space, we cannot address here the further connections of this proposal with the work by Talmy (1985) on path-framed vs satellite-framed languages, and more recent work in the generative tradition inspired by it (e.g. Den Dikken 2010; Folli & Harley 2020).

ture. This is so because the entry (30) does not contain a constituent identical to (31). In particular, (30) lacks the RES head between AP and PROC.

Our idea is that this feature is lexicalised by the prefix, whose lexical entry looks like (32). In addition to RES, the prefix in (31) has the stative adjectival feature A.

(32)



Let us first provide some independent motivation for the presence of the two features inside the prefix. After this, we explain how exactly the prefix spells out RES in verbs.

The first reason for proposing the RES feature inside the prefix is the fact that the prefix is in complementary distribution with resultatives as discussed in Section 2.3. The second reason for including RES comes from the meaning of *ver*. Deadjectival verbs with *ver* fall into the semantic category of the degree achievements, which may be telic or atelic (Hay et al. 1999). For Ramchand (2008: 90), telicity generally entails the presence of RES, but this is not so with degree achievements, where telicity arises as a consequence of contextual boundedness. A telic degree achievement with *dry* as in (33) has no RES in it, only PROC.

(33) My hair dried in just ten minutes in that weather.

However, Ramchand (2008: 90–91) accepts that deadjectival degree achievement verbs can optionally also realise RES, but only in so far as they have a punctual reading, as in (34).

(34) a. The gap widened (suddenly).
b. John froze (in his tracks).

In Dutch, both zero-derived and *ver*-prefixed verbs are compatible with punctual adverbials.

(35) a. *De deur open-de plotseling.*
the door open-PST suddenly
'The door suddenly opened.'
b. *De weg ver-breed-de plotseling in het dal.*
the road VER-wide-PST suddenly in the valley
'The road suddenly widened in the valley.'

To the extent that we accept this diagnostic test, these data suggest that *ver* contributes a bound to the property scale denoted by the adjective, i.e. the feature RES.

Let us now turn to the second feature in the prefix, namely A. One part of the motivation for the A feature is theory internal. Specifically, Nanosyntax only allows for phrasal nodes to be spelled out (we will return to this shortly). Therefore, *ver* cannot lexicalise the single head RES, implying that RES must be paired with another feature inside the prefix. However, this does not mean that this feature has to be an adjectival feature A. In (32), we included A because the prefix *ver* is in complementary distribution with resultative adjectives, recall (5). However, we could have also used the label P for the additional feature, because the prefixes are also in complementary distribution with particles, recall (4). For Dutch, this type of analysis goes back at least to Den Dikken (1995), who proposes that *ver* is an "affixal particle." The analysis where particles combine the properties of RES and P (rather than RES and A) is also consonant with Ramchand (2008: §5.4), who proposes that English particles obligatorily move from P to RES, thereby intrinsically connecting these two positions.

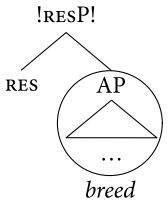
Let us now show how exactly the derivation works for *ver-breed* 'widen'. The intuition is that the root *breed* 'wide' cannot realise all the features of the verbal structure, and the prefix appears in order to spell out RES. The question now is how spelling out RES in (31) by the prefix makes matching between the syntactic structure and the lexical entry for *breed* 'wide' possible. Even if RES in (31) is spelled out by the prefix, it is still in between PROC and A, preventing matching. This issue can be resolved, however, once we adopt the Spellout Algorithm in (36).

(36) Spellout Algorithm (based on Starke 2018)
   a. Merge F and spell out FP
   b. If (a) fails, move the Spec of the complement and spell out FP
   c. If (b) fails, undo step (b) (i.e. Spec-movement), move the complement of F, and spell out FP.
   d. If (c) fails, undo (c) (i.e. complement-movement), remove F from the first workspace, merge it with F–1 in a second workspace, and spell out FP.

The algorithm implements a cyclic spellout procedure, where the verbal structure is built in steps, adding one feature at a time (this is the meaning of 'Merge F' in (36)). Always when a feature is added, the FP that is created must be 'spelled out,' which means that a matching lexical item must be found, see (36a). If it is not found, the structure is modified according to the instructions in (36b-d).

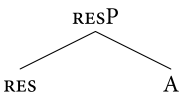
The derivation therefore starts by building an adjective, which is successfully spelled out, since the AP finds a match in the entry (30). Next, the feature RES is merged to the AP, yielding (37). According to (36a), when RES is added, RESP must be spelled out. However, the RESP is not contained in the lexical entry of the root *breed* (30), and spellout therefore fails, as indicated by the exclamation marks.

(37)



This triggers the rescue operations in (36b-d). Spec movement (36b) is undefined, since there is no Spec to move in (37). The complement movement step (36c) produces a RESP containing just RES, but we have no lexical item that matches this structure. Therefore, following (36d), RES is removed from the main spine and it is Merged with the feature A, producing the binary constituent in (38a).

(38) a.



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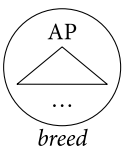
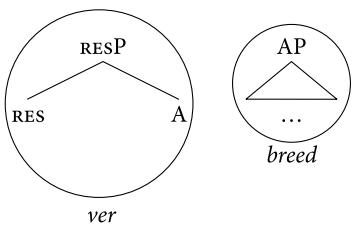


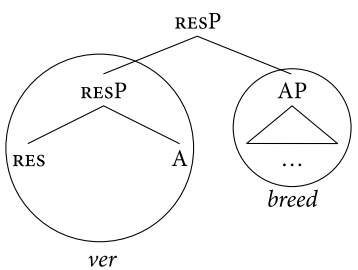
This constituent is an exact match for the lexical entry of the prefix *ver* given in (32) above, so that lexicalisation is successful. This gives rise to the two detached branches in (39).

(39)



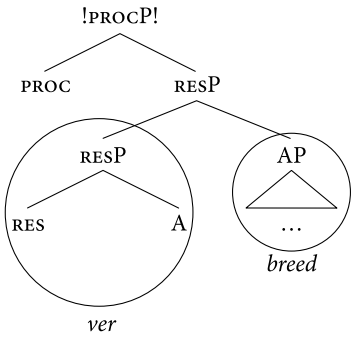
The new workspace is subsequently merged in the main workspace as a complex specifier.

(40)

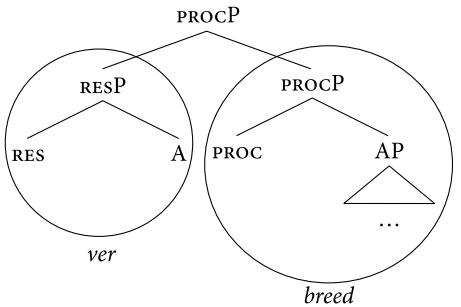


Next, we merge PROC to RESP, creating (41), which finds no match in the lexicon. In this case, movement of the spec (triggered by (36b)) is possible. We further assume that, whenever a spec is moved, its nonbranching mother node is pruned. This yields the tree in (42). In this tree, PROC can be lexicalised by the root *breed* (recall the lexical entry in (30)), as indicated by the circle.[3]

(41)



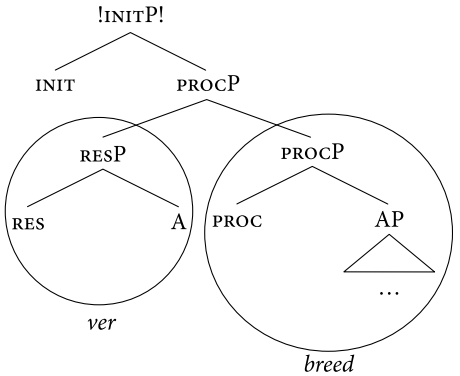
(42)



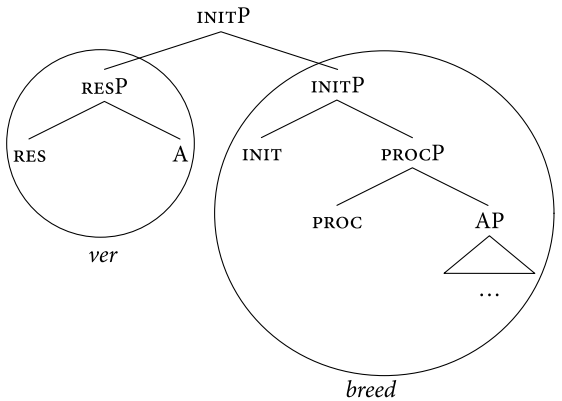
We have now derived the inchoative verb. One more feature needs to be added for the causative verb, INIT, as shown in (43). Again, the constituent so created cannot be lexicalised, and again spec-to-spec-movement will apply, so that the root can grow and lexicalise INIT, as in (44).

3. In the current Nanosyntax literature, there is no consensus on whether projecting Specs can move or not. Here we assume that projecting Specs move.

(43)



(44)



This concludes the derivation of *ver-breed,* which is a representative of adjectives that need *ver* to form a verb. These adjectives lack the RES feature in their lexical entry, which makes them unable to lexicalise RESP. In this respect, they differ from the *open* class of adjectives, which have the full sequence in their lexical entry.

The result of this proposal is that even though the *open* type of verbs and the *ver-breed* type differ in the presence/absence of a prefix, they both contain RES, and the only difference is how RES is spelled out: by the root in the case of *open,* and by the prefix in the prefixed verbs.

The analysis leads to two predictions. First, we correctly predict that a verb like *open* cannot combine with a prefix, i.e. that **ver-open* is unattested. Since this verb can lexicalise RES, the configuration (37) is going to be spelled out by the root. As a result, the formation of the prefix in (38) will not be activated, and **ver-open* cannot be derived.

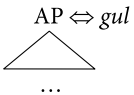
The second expectation is that verbs of the *open* class should not combine with resultatives. This is so because zero-derived verbs lexicalise RES, which should make resultatives (competing for the same RES) impossible. Empirically,

we encountered variation in that some speakers indeed do not accept resultatives with verbs like *rijpen* 'ripen', while others do.

(45) %De *peren rijpten kapot in de zon.*
the pears ripened broken in the sun
'The pears ripened in the sun to the point of being rotten.'

Note, however, that even though the resultative and the verb overlap in their RES feature, the resultative adjective has a different encyclopaedic content: it is based on a different AP node than the verb, which may lead to compatibility of *rijpen* 'ripen' and resultatives. We leave this issue for future research.

Returning to the three classes listed in Table 1 at the outset of this paper, our analysis also predicts the existence of the third adjective type, which permits no verb to be derived from it. The lexical entry of this class of adjectives, which we instantiate by *gul* 'generous', looks as in (46).

(46) 

This is the structure corresponding to an adjective. We do not need to make any further assumption beyond this one. On its own, a lexical entry like (46) cannot lexicalise a verb. But also when combined with the prefix *ver,* this is impossible. Recall from the lexical entry for *ver* in (32) above that *ver* only lexicalises A and RES, not PROC and INIT. In a verb like *ver-breed* 'widen,' the PROC and INIT features were provided by the root. In the class of adjectives of this section, the root does not provide these features. Since neither the root nor the prefix can provide them, no verb is derivable.

5. Conclusion

The paper started from the observation that Dutch adjectives fall into at least three classes: (i) those that form zero-derived verbs; (ii) those that need a prefix to form a verb; and (iii) those that do not form verbs at all. We showed that we can capture these three classes by assuming a class-invariant fine-grained syntactic decomposition, coupled with the idea that each adjective class has a different type of a lexical entry. That way, we have reduced the attested variation in the expression of deadjectival verbs to arbitrary variation in the content of lexical items, clearly a desirable outcome.

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