Colour Verbs in English and Romanian

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1. Aim

The aim of this paper is to take a comparative look at verbs derived from colour names in two languages: English (a Germanic language) and Romanian (a Romance language), pointing out the differences between them. In addition, the paper provides a syntactic representation of colour verbs in the spanning framework, a refined Distributed Morphology framework which assumes that a word is a span, i.e. a sequence of complement heads in an extended projection (Svenonius 2012, 2014), along with Brody's idea that there are no intermediary heads (no X-bar). This makes the analysis both economical and elegant. I will try to show that the spanning framework manages to account quite well, even better than incorporation (Hale & Keyser 2002), for the differences between colour verbs in the two languages, for instance, the difference between the English verb *to blacken*, where *–en* is a suffix, being positioned at the end of the word, and the Romanian *a înnegri* (lit. *to in-black-verbal suffix*), where there is a prefix *în-* preceding the colour name.

2. Remarks on Colour Verbs

Colour verbs have not received much focused attention in the generative grammar literature. They have been listed under the label *deadjectival verbs* and *change of state* verbs (Hale & Keyser 2002), and treated accordingly; however, no GG study has explicity dealt with them in an extensive and specific way.

In fact, even the labels that they have been put under are problematic. First of all, it is not that clear that colour verbs are derived from adjectives. Is a verb such as *to yellow* derived from an adjective or from a noun: the noun *yellow*[71], or the silent noun COLOUR followed by the adjective *yellow*, in a silent item theory à la Kayne (Kayne 2003)? Moreover, if one looks more in depth, one realizes that even this question starts from the assumption that colour verbs should be derived from

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[71] In a sentence such as *I like yellow*, *yellow* may be taken to be a noun, so one might assume the verb *yellow* is derived from the noun *yellow* rather than from the adjective. Moreover, if considered a noun, *yellow* could even be argued to have the thematic role Goal or Endpoint in a sentence such as *The wall turned yellow*.

categories (noun, adjective). However, there is an alternative to that, namely, arguing that they are derived from roots (Levinson 2007), which, in their turn, can be categorial or naked, bearing no information whatsoever. Such matters are very hard to establish in the case of English, where the verb and the noun/ the adjective (and the root) so often have the same form, as in the case of the verb *to blue*, for instance[72]. Romanian differs from English in that denominal/deadjectival verbs present a verbal suffix at the end, indicating the verbal conjugation, as one can note for *a albăstri* (lit. *to blue-verbal suffix*). A verbal suffix may be argued to be present in English as well, although in the form of a null morpheme. While the presence of the verbal suffix creates a clear difference between verbs and nouns/ adjectives, it is still difficult to establish whether the verb comes from the N/A, and the N/A may come from a root, or whether both the verb and the N/ A come from the same root. One might very well argue that *albăstri* (V) comes from *albastru* (N/A), and the last vowel was elided, or that *albăstri* and *albastru* have the common root *albastr-*.

As for the *change of state* label, it is again debatable whether it can capture the complex behaviour of colour verbs. Essentially, colour verbs have two meanings, both telic: (a) to become/ to turn a certain colour (an inchoative meaning) (b) to make smth become a certain colour (a causative meaning). *To blue*, for instance, can mean either (1a) to turn blue, or (1b) to make smth blue.

(1)   a. The sky blued as the sun rose.
        b. She wants to blue her hair.

Similarly, both meanings can be expressed not only by a verb whose form is identical to the adjective/ noun it derives from, but by a suffixed verb like *to whiten* (2).

(2)   a. Her hair whitened with the passing of time.
        b. The toothpaste whitens your teeth.

Syntactically, these two meanings correlate with two different syntactic configurations: an intransitive configuration (unaccusative) and a transitive configuration. In Romanian, the first meaning can be expressed by means of the verb (3a) or by means of the verb and a reflexive pronoun/ clitic (3b).

(3)   a. Fata a roşit   la vederea lui Ion.
        Girl-the has reddened/ blushed   at   sight   of John.
        The girl blushed at seeing John.'
        b. Fata s-a înroşit   la vederea   lui Ion.
        Girl-the reflexive 3rd sg-has in-red-Past Part at sight-Art Fem, sg of John.
        The girl reddened at seeing John.'

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[72] However, this is not so in the case of *to blacken, to whiten, to redden*, where the verb makes use of the suffix *–en*.

From an aspectual point of view, verbs denoting colour processes are telic. However, the change of state they express is often gradual. They display both telic and atelic properties, combining with *for*-phrases and *in*-phrases alike (4).

(4)   a. I reddened the wall in 5 minutes.
       b. I reddened the wall for an hour.

For this reason, rather than arguing that colour verbs are change of state verbs, one might assume they are *degree achievements* (Dowty 1979, Hay, Kennedy & Levin 1999).

3. Colour Verbs in English versus Colour Verbs in Romanian

English makes use of three types of verbs/ verbal constructions to denote processes related to colour: (i) verbs whose form is identical to that of the adjective/ noun they are derived from (such as *to blue, to gray, to yellow, to brown, to green*), (ii) verbs created with the suffix *–en* (such as *to whiten, to blacken, to redden*), (iii) verbal paraphrases (such as *to turn pink/ orange,* or *to make something pink/ orange*). Most English colour verbs have the same form as the noun/ adjective they derive from, which is in line with the general observation that English tends to use identical denominal/ deadjectival verbs (Hale & Keyser 2002).

In Romanian, this is not the case; one can note that the verb and the N/ A never have identical forms, as there is always a verbal suffix at the end of the word, indicating the verbal declension (i) *a albi* lit. 'to white-verbal suffix', *a (se) roşi* 'to red-verbal suffix', *a gălbeni* 'to yellow-verbal suffix', *a albăstri* 'to blue-verbal suffix'. One also uses (ii) verbal paraphrases such as *a face ca ceva să fie roz/ gri/ maro/ portocaliu* 'to cause that something should be pink/ gray/ brown/ orange', and (iii) verbs created with the prefix *în-* (*a în-ălb-i* 'to prefix-white-verbal suffix'- *to whiten, a în-negr-i* 'to prefix-black-verbal suffix'- *to blacken, a în-roş-i* 'to prefix-red-verbal suffix'- *to redden, a în-gălben-i* 'to prefix-yellow-verbal suffix', *a în-verz-i* 'to prefix-green-verbal suffix') (5b, 6b).

(5)   (a)

Colour	Verb(s) in English (http://www.oxforddictionaries.com)
white	to whiten - to become white or whiter: *She <u>gripped</u> the handle until her <u>knuckles</u>* **whitened**. - to make smth white or whiter: *Snow* **whitened** *the mountain tops.*
grey	to grey - (of hair) to become grey: *Her hair* **greyed**.
pink	to pink - (of a car engine) to make knocking sounds because the fuel is not burning correctly (it does not come from the colour *pink*)
red	to redden - to become red: *The sky is* **reddening**. - to make smth red: *<u>bare</u> arms* **reddened** *by sun and wind* - to blush: *Lyn* **reddened** *at the description of herself.*

		- (of the eyes) become pink as the rims as a result of crying: *The **reddened** eyes filled afresh.*
brown	to brown	- to become brown: *Grill the pizza until the cheese has **browned**.* - to make smth brown: *a skillet in which food has been **browned**.*
orange	missing	
yellow	to yellow	- to become yellow, especially with age: *The cream paint was beginning to yellow.*
green	to green	- to become green: *The roof was **greening** with lichen.* - to make (an urban or desert area) more verdant by planting trees or other vegetation: *They will continue **greening** the many treeless and dusty suburbs.* - to make less harmful to the environment: *tips on how to **green** your home*
blue	to blue	- to turn blue: *The day would haze, the air **bluing** with afternoon.* - to make smth blue: *The light dims, **bluing** the retina.* - to heat metal so as to give it a greyish-blue finish (as adjective *blued*): *nickel-plated or **blued** hooks* - **historical** wash (white clothes) with bluing: *They **blued** the shirts and starched the uniforms.*
black	to blacken	- to turn black, especially as a result of burning, decay, or bruising: *Stone blackened by the soot of ages.* - to make smth black: *He set light to the paper, watching the end **blacken** as it burned.* - to dye or colour (the face or hair) black for camouflage or cosmetic effect: *Paras in full combat gear with **blackened** faces.* - to damage or destroy (someone's reputation) by speaking badly of them: *She won't thank you for **blackening** her husband's name.*
violet	missing	

(b)

verbs identical to nouns	-en verbs	verbal expressions/ constructions required
to grey, to brown, to yellow, to green, to blue	to whiten, to redden, to blacken	to make smth pink/ orange/ violet

(6)   (a)

Colour	Verb(s) in Romanian (http://dexonline.ro)
alb (white)	a albi 'to white-suffix' – (refl, intrans) to become white - (trans) to make smth white (of hair) - to turn white a înălbi 'to prefix-white-suffix'- the same as 'a albi'
gri (grey)	missing
roz (pink)	missing
roşu (red)	a (se) roşi 'to (reflexive clitic 3rd p) red-suffix' - (intrans, reflexive) to become red - (trans) to make smth red a (se) înroşi 'to (reflexive clitic 3rd p) prefix-red-suffix'

	- (refl) to become red - (transs) to make smth red; to paint smth (eggs)
maro (brown)	missing
oranj (orange)	missing
galben (yellow)	a (se) îngălbeni 'to (reflexive clitic 3rd p) prefix-yellow-suffix' - to become yellow - to make smth yellow a gălbeni 'to (reflexive clitic 3rd p) yellow-suffix' - to become yellow - to make smth yellow
verde (green)	a înverzi 'to green-suffix' - (trans) to paint green, to stain with green - (intrans, reflexive) to become green - (intrans) to turn green, to sprout
albastru (blue)	a albăstri 'to blue-suffix'- same as *a înălbăstri*, also to rinse clothes a înălbăstri 'to prefix-blue-suffix' -(intrans, reflexive) to turn blue; (about people) to turn blue out of anger -(trans)to make smth blue
negru (black)	a înnegri 'to prefix- black-suffix' - to turn black - to make smth black
violet (violet)	missing

(b)

verbs derived from nouns + the verbal suffix for the conjugation	În- verbs	verbal expressions/ constructions required
a albi, a (se) roși, a gălbeni, a albăstri	a înălbi, a înroși, a îngălbeni, a înverzi, a înălbăstri, a înnegri	a face ca ceva să fie oranj/ roz/ violet ('to cause that smth conj BE orange/ pink/ violet')

Apart from the inchoative meaning and the causative meaning, some colour verbs have acquired specialized meanings such as the verb *to green* (which may refer to creating parks and other areas with trees and plants in a city or to making somebody more aware of issues related to the environment) or the verb *to blue*, as well as the corresponding Romanian verb *a albăstri*, for instance (which may refer to rinsing clothes) (as can be seen in (5a), (6a)). Also, some Romanian verbs have both a prefixed variant and a non-prefixed one (*a înălbi, a albi; a albăstri, a înălbăstri; a gălbeni, a îngălbeni; a roși, a înroşi*). Out of these, only the verbs in the pair *a roși, a înroşi* differ: the first verb *a roși* can be used intransitively with the meaning 'to blush', while the second verb cannot.

By looking at the tables in (5) and (6), one can note that the suffix –*en* in English is used with fundamental colours (red, white, black), while, for the other colours, no suffix is used. A possible explanation for this could be related to the conclusion reached by Berlin & Kay (1969, 1973) on the basis of a study with

speakers of twenty different languages that there are eleven fundamental colours (white, black, red, green, yellow, blue, brown, purple, pink, orange, and gray) and there is a hierarchy of colour words. According to this hierarchy, all languages contain terms for black and white, and if a language contains three terms, then it contains a term for red[73]. Another explanation could be related to how old the words are in the history of language- *white, black, red* entered the language quite early in the 13th century, earlier than *green* in the 15th century or *yellow* or *pink* in the 16th century, or *blue* in the 17th century, according to The Concise Oxford Dictionary of English Etymology (1991).

In contrast, Romanian uses the prefix *în-* in almost all cases (although it allows the unprefixed variant as well e.g. *a roși* 'to blush'). Just like English, it also uses paraphrases with more recent words denoting colours (*roz* 'pink', *maro* 'brown', *portocaliu* 'orange').

4. The Incorporation Analysis

The traditional analysis of denominal and deadjectival verbs is the incorporation analysis of Hale & Keyser (2002), assuming that the noun/ adjective incorporates into the verb. A verb such as *redden* is considered a change of state verb derived from an adjectival root (7).

(7)   English inchoative *redden* (as in *The sky reddened*) (Hale & Keyser 2002: 48)
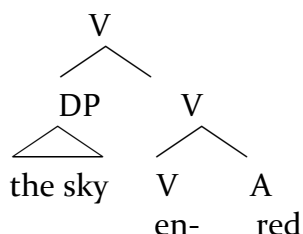
The causative is derived from the inchoative by combination with a phonologically null causativizing functional head into which the verb moves after picking up the inchoative morpheme *en-*.
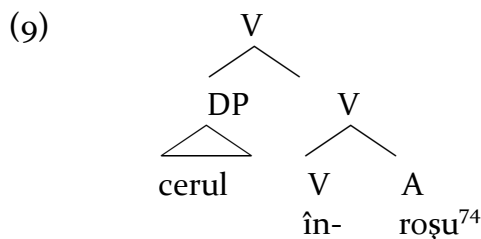
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[73]   In addition, Berlin and Kay (1969) further establish that, if a language contains four terms, then it contains a term for either green or yellow (but not both); if a language contains five terms, then it contains terms for both green and yellow; if a language contains six terms, then it contains a term for blue; if a language contains seven terms, then it contains a term for brown; if a language contains eight or more terms, then it contains terms for purple, pink, orange, and/or gray.

(8) English causative *redden* (as in *The sunset reddened the sky*) (Hale & Keyser 2002: 48)

```
            v
          /   \
        v       V
      redden   /  \
            DP      V
           /△\     / \
        the sky  V     A
```
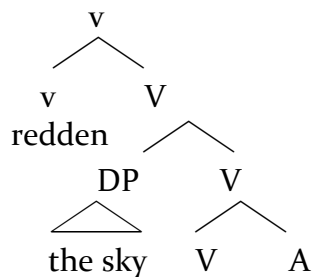
While there may be differences in morphology across languages, the derivational relations stay the same (Koontz-Garboden 2014). In contrast to English, for instance, where the inchoativizing functional head (*en-*) is considered overt, and the causativizing head is null, the reverse is assumed for Navajo: the inchoativizing functional head is assumed to be null, while the causativizing functional head is assumed to be overt.

In order to capture the difference between English *redden* and Romanian *a înroși*, one has to stipulate that *–en* is a suffix and *în-* is a prefix (9, 10).

(9)
```
              V
            /   \
          DP      V
         /△\     / \
       cerul    V    A
               în-  roşu⁷⁴
```

(10)
```
             v
           /   \
         v       V
      înroşi    /  \
            DP      V
           /△\     / \
        cerul    V     A
```
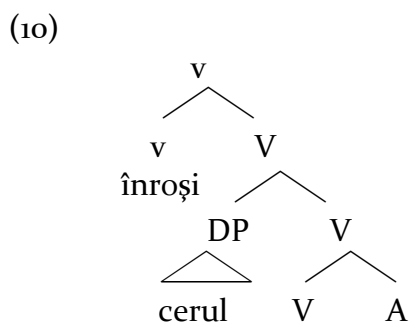
If such information is not retained in the lexicon, then one does not get the appropriate affix-root ordering. The adjective will move into the verb and incorporate, combining with the affix in accordance with its prefix/ suffix status.

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[74] While there is no verb *a înroși* with an inchoative meaning, there is a verb *a roşi* with an inchoative meaning. Also, there is a verb *a îngălbeni* (lit. ʹto in-yellow-verbal suffixʹ, *to yellow*), as well as a verb *a înverzi* (lit. ʹto in-green-verbal suffixʹ , *to green*) or *a înălbi* (lit. ʹto in-white-verbal suffixʹ, *to whiten*), hence, it is not the case that there are no prefixed colour verbs with an inchoative meaning in Romanian.
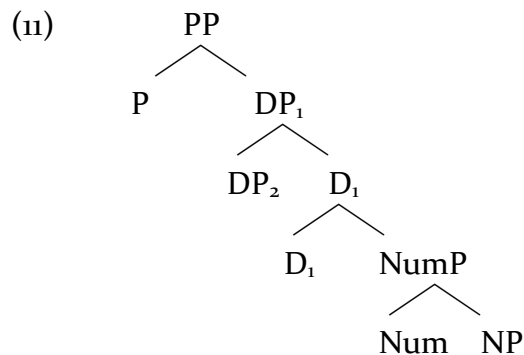
5. A Spanning Account of Colour Verbs

In what follows, I provide a different account of colour verbs in the spanning framework, which eliminates movement and generates the colour words by means of spelling out a sequence of complement heads. Adopting such a framework manages to account for the data in a much more economical and elegant way than incorporation, as no movement is required, and no prefix/ suffix information needs to be retained in the lexicon.
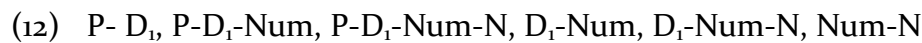
5.1. A General Presentation of Spanning as a Framework

Spanning is a version of Distributed Morphology where Spell-Out recognizes *spans* rather than terminal nodes like DM does or phrasal nodes like nanosyntax does. Following Svenonius (2012), I will assume a *span* can be defined as a complement sequence of heads in a single extended projection, where an extended projection (Grimshaw 2005) is made of a lexical head and its associated functional projections (D for N, T for V).

If, for instance, one takes a PP which contains a noun phrase DP_1 with a prenominal possessor DP_2:

(11)

```
            PP
          /    \
        P       DP₁
               /    \
            DP₂      D₁
                    /    \
                  D₁      NumP
                         /    \
                       Num     NP
```

the spans in the main projection line would be:

(12)   P- D_1, P-D_1-Num, P-D_1-Num-N, D_1-Num, D_1-Num-N, Num-N

This becomes very clear if one adopts the telescope perspective assumed in Brody's (2000) mirror theory representation, considering phrase labels redundant:

(13)

```
          P
           \
            D₁
           /  \
         D₂    Num
                 \
                  N
```
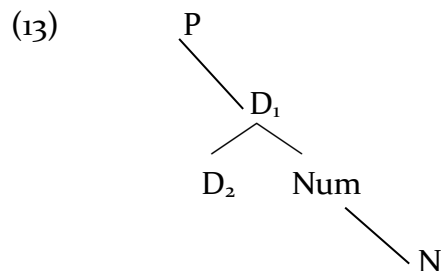
A morpheme can spell out one head (which is a trivial span), two heads or even more, on condition that the heads be in a complement relation with each other. Head-movement thus becomes a matter of where in a span the word linearizes (Brody 2000), and there is a direct linearization mechanism in Brody's Mirror Theory (2000) through which word order is read directly off the structure:

(14) *Word Mirror*: The syntactic relation 'X complement of Y' is identical to an inverse-order morphological relation 'X specifier of Y' (where the latter gives rise to the morphological strucure [X [Y] linearized from left to right)

There are no intermediate projections, and unnecessary labels should be eliminated. Given that it is always the head of a projection that selects another projection, it seems legitimate to argue that heads select heads, hence, there is no need to resort to redundant labelling X/ XP if one can make use of one label only, X (*Telescope*). In this way, by means of *Telescope*, a structure such as (15):

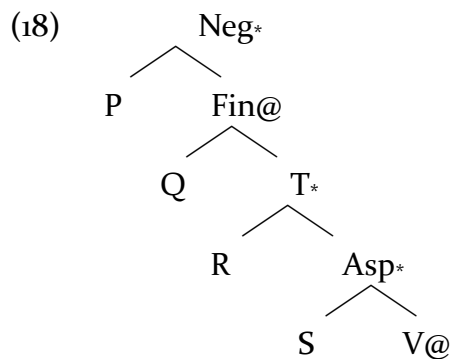(15) $[_{ZP} Q Z [_{YP} R Y [_{XP} S X...]]]$

becomes

(16)
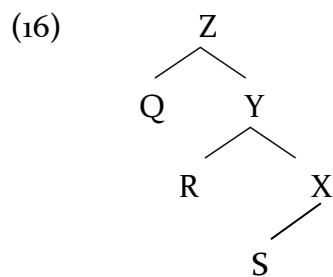
where Q, R, S are the specifiers of Z, Y, X respectively. Specifiers are linearized to the left of their heads, while heads are linearized to the left of their complements. The Brodyan approach is a direct linearization theory (DLT) where linearization is read off the structure[75]. It is thus highly innovative as it allows one to state a language specific parameter concerning where a morpheme spells out rather than resort to syntactic movement. The location is indicated by Brody by means of the diacritic @. For instance, in the example in (17):

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[75] As shown by Ramchand (2014), this has a serious advantage over the Linear Correspondence Axiom (LCA) tradition (Kayne 1994 a.o). In the antisymmetrical approach, it is assumed that asymmetric c-commands means precedence. The problem is that, in a language which looks head-final on the surface, one needs to first create the appropriate c-command structures before letting the LCA linearize it, and this is done by resorting to various movement operations, many of which are unmotivated. Hence, a desirable alternative to word order movements would be DLA (direct linearization algorithm).

(17)

```
              Z
           ╱     ╲
          Q       Y
               ╱     ╲
              R       X@
                       ╲
                        S
```
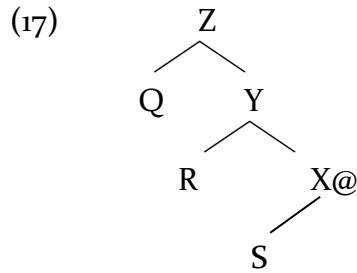
the diacritic @ indicates that the morphological word [X [Y [Z]]] spells out in the X position of the tree, and the linearization would be *Q R S [X-Y-Z]*. In addition, Ramchand makes use of a * diacritic to indicate certain language specific facts related to linearization, in particular, the fact that the head thus notated forms a word in the Brody-an sense with the head immediately below it. In Bangla, for instance, one would have something like (18).

(18)

```
              Neg*
           ╱      ╲
          P       Fin@
               ╱       ╲
              Q         T*
                     ╱     ╲
                    R       Asp*
                         ╱      ╲
                        S        V@
```

Linearized as: P Q [Fin-Neg] R S [V-Asp-T]

In the example above, Fin forms a mirror theoretic word with Neg, Asp forms a mirror theoretic word with T, and V forms a mirror theoretic word with Asp. These are language specific facts about morphological composition, and they need to be learned as such.

5.2. Spanning Applied to Colour Verbs

I propose that spanning can account for denominal and deadjectival verbs as well: a single item ('dance', 'shelve', 'hammer') spells out a span, a complement sequence involving N, V and v (<N, V, v>) in the simplest case. Starting from Ramchand's analysis of verbs (2008), in the case of the denominal verb *dance*, one can construct the following representation:
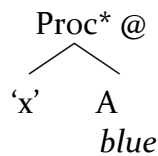
(19)

$$\begin{array}{c} \text{Init@*} \\ \diagup\diagdown \\ \text{'x'} \quad \text{Proc*} \\ \qquad \diagup\diagdown \\ \qquad \text{'x'} \quad \text{N} \\ \qquad\qquad \text{dance} \end{array}$$
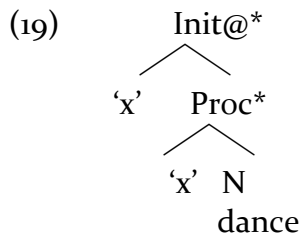
Linearized as x [N Proc Init]

At L-Match (Lexical Match)[76], this structure will give rise to the item *<dance - Ø-Ø>*. For a verb like *corral*, an <init, Proc, Goal, Place, N> (using Pantcheva's analysis of prepositions (2011)), one can assume that the structure is linearized as x [Proc-Init–Place-Goal–N] y.
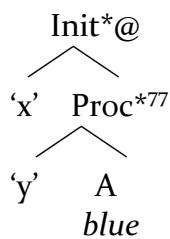
I argue that the spanning framework can account for colour verbs as well. As it does not resort to head-movement, it is more economical than incorporation and, hence, preferable. A verb like *to blue* receives the following representations:

(20)   (a) inchoative

$$\begin{array}{c} \text{Proc* @} \\ \diagup\diagdown \\ \text{'x'} \quad \text{A} \\ \qquad \text{blue} \end{array}$$

Linearized as x [A Proc]

(b) causative

$$\begin{array}{c} \text{Init*@} \\ \diagup\diagdown \\ \text{'x'} \quad \text{Proc*}^{77} \\ \qquad \diagup\diagdown \\ \text{'y'} \quad \text{A} \\ \qquad \text{blue} \end{array}$$

Linearized as x [A Proc Init] y

According to Hale & Keyser (2002), *-en* is always inchoative, and the causative meaning is a result of combining with a v (cause). Such a perspective assumes that there would be a single lexical entry for the suffix *–en* in English. This would, of
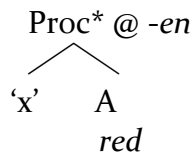
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[76] Lexical Match is the first step of Spell Out in spanning, involving syntactic categories; the second is Insert and it involves phonological information.

[77] One could very well place the @ diacritic at the Init level. The result would be the same.
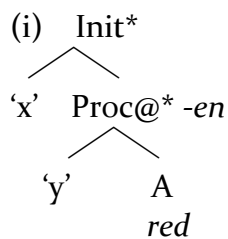
course, be an option (20a, b). An alternative to this would be to assume that *–en* has an inchoative meaning in an inchoative sentence and a causative one in a causative meaning in a causative sentence, which would lead to having two lexical entries for *-en*:
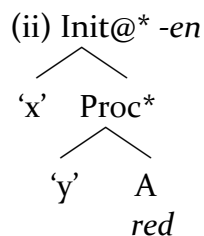
(21)   (a) inchoative

Proc* @ *-en*
‘x’   A
          red

Linearized as x [A Proc]

(b) causative

(i)   Init*

‘x’   Proc@* *-en*
          ‘y’   A
                    red

Linearized as x [A Proc Init] y

(ii) Init@* *-en*

‘x’   Proc*
   ‘y’   A
                  red

Linearized as x [A Proc Init] y

English represents a particular case among languages as there is no verbal ending suffix in the bare infinitive. This is not the case in Romanian, where verbs present a suffix indicating the verbal declension *(-a, -ea, -e, i/î)*. The question would be where to place this suffix, whether it should be placed under Proc or under Init. Given its lack of meaning, placing it under Proc would be a bit misleading perhaps and projecting a VAff immediately above A might be a better option[78]. The inchoative *a roși* (lit. ʾto red-verbal suffix’) would receive this representation:
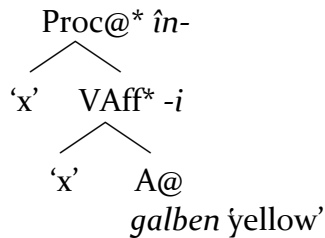
---

[78] Such a projection can be represented for English as well, with the only difference that the affix is a null morpheme.
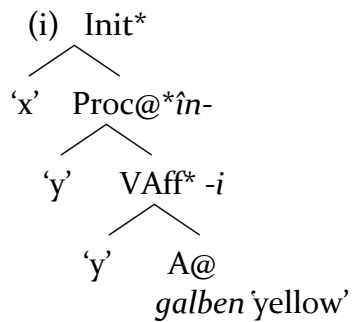
(22)   Proc@*
```
            Proc@*
           /      \
         'x'    VAff* -i
                /    \
              'x'     A
                     roșu
```
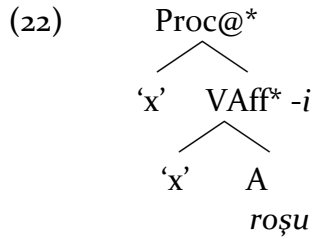
Linearized as x [A VAff Proc]

A verb such as *a îngălbeni* (lit. ʾto en-yellow-verbal suffix') would be represented as:
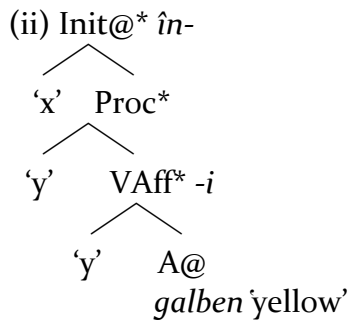
(23)   (a) inchoative

```
            Proc@* în-
           /        \
         'x'      VAff* -i
                  /    \
                'x'     A@
                       galben ʾyellow'
```

Linearized as x [[Proc] [A Vaff]]

(b) causative

(i) Init*
```
         Init*
        /     \
      'x'   Proc@*în-
             /      \
           'y'    VAff* -i
                   /   \
                 'y'    A@
                       galben ʾyellow'
```

Linearized as x [[Proc Init] [A Vaff]] y

(ii) Init@* în-
```
         Init@* în-
        /        \
      'x'      Proc*
                /   \
              'y'   VAff* -i
                     /   \
                   'y'    A@
                         galben ʾyellow'
```
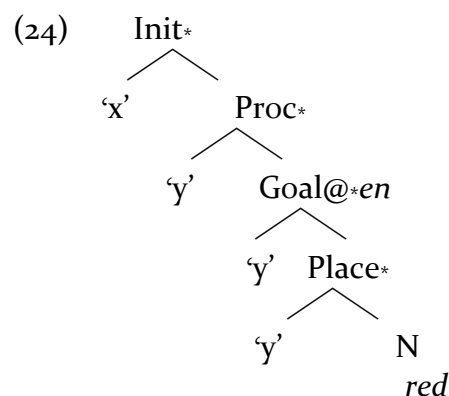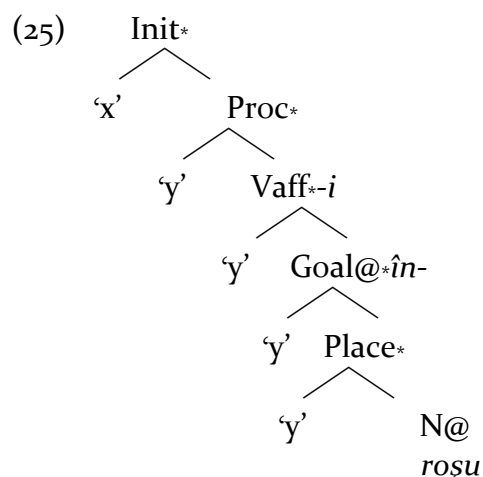
Linearized as x [[Proc Init] [A Vaff]] y

Just as in English, one can either consider *în-* as an inchoative marker both in the inchoative structure and in the causative one, or one can opt for two different lexical entries. Another variant of analysis would be to ascribe *-en* a spatial meaning. A reason for this is the fact that there are verbs which do not need this affix to express inchoative meaning or causative meaning for that matter (like *to blue* or *to green*). Another reason would be the similarity between the affix *en* and the preposition *in* (in Romanian the affix has an identical form to the preposition *în*). In this way, one would treat the verb *to redden* as a special case of change of location/state (*to redden* as 'to pass into a state of red' or 'to cause smth to pass into a state of red' (in such an analysis, the colour name is treated as a noun):

(24)   Init*
        ╱   ╲
     'x'   Proc*
            ╱   ╲
         'y'   Goal@*en
                ╱   ╲
             'y'   Place*
                  ╱   ╲
               'y'   N
                       red

Linearized as x [[N-Place-Goal] [Init-Proc]] y

A similar analysis can be provided for Romanian (@ would also appear next to the N to get the [Goal Place N] ordering):

(25)   Init*
        ╱   ╲
     'x'   Proc*
            ╱   ╲
         'y'   Vaff*-*i*
                ╱   ╲
             'y'   Goal@*în-
                  ╱   ╲
               'y'   Place*
                    ╱   ╲
                 'y'   N@
                         roşu

Linearized as x [[Goal-Place]-[N]-Vaff-Init-Proc]] y

Such a representation would be very much in line with theories of localism which consider that spatial movement operates not only in the field of (physical)

location, but also in a more metaphorical way (Gruber 1965), change of state verbs being in a sense change of location verbs.

Conclusion

In conclusion, in the spanning account, the lexicon does not need to store whether the affix is a prefix or a suffix. Spanning simply derives the right order of the morphemes by linearizing the structure according to a direct linearization (DL) mechanism. By giving up head movement, one can very elegantly account for the ordering of morphemes in colour verbs. English and Romanian provide interesting examples where the affix-root ordering is the other way round, and spanning can capture this contrast in a sensible way. As for the exact reason why certain colour verbs have affixes and others do not, I believe this can be explained by a theory of colour hierarchy (Berlin & Kay (1969, 1973), arguing that certain colours/ colour names are more fundamental than others, and/ or by the history of language(s), registering older and newer colour terms. It seems to be that, in the case of the affixed colour verbs, the affixes have combined with the names of more fundamental colours, which also entered the languages earlier.

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