

# On (apparently) synonymous affixes: A contrastive analysis of Catalan *des-* and *es-*\*

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## Abstract

It is commonly assumed that the Catalan prefixes *des-* and *es-* are synonymous, since they can be found attached to the same base in change of state verbs with an apparently identical meaning; cf. *desgranar* and *esgranar* ‘to extract the grain’. The aim of this paper is to show that these two prefixes are non-trivially different, as suggested by the fact that only the latter, but not the former, is attested with an ingressive (or Goal-oriented) meaning; cf. *estovar* ‘to soften’. Following a nanosyntactic approach to grammar, I claim that the trees lexicalized by *des-* and *es-* are not composed of the same morphosyntactic features, which accounts for their different morphosyntactic behaviour as well as for their semantic contrasts. It is proposed that *des-* lexicalizes a Source Path, whereas *es-* lexicalizes a Goal Path in addition to a root node. The paper is also a contribution to the long-standing debate of how morphemes with similar meanings compete for insertion.

**Keywords:** prefixes; roots; complex verbs; change of state; Goal Paths; Source Paths; Nanosyntax; Catalan

**Resum.** *Afixos (aparentment) sinònims: una anàlisi contrastiva de des- i es- en català*

Se sol assumir que els prefixos catalans *des-* i *es-* són sinònims, ja que es poden trobar adjuntats a la mateixa base en verbs de canvi d'estat amb un significat aparentment idèntic; cf. *desgranar* i *esgranar*. L'objectiu d'aquest article és mostrar que els dos prefixos esmentats són crucialment diferents, com suggereix el fet que només el darrer, però no el primer, pugui utilitzar-se amb un valor ingressiu (orientat a la Meta); cf. *estovar*. Seguint una aproximació nanosintàctica a l'anàlisi gramatical, defensem que els arbres lexicalitzats per *des-* i per *es-* no compten amb els mateixos trets sintàctics, cosa que explica les diferències observades en el seu comportament morfosintàctic, així com els seus contrastos semàntics. Es proposa que *des-* lexicalitza una Trajectòria d'Origen, mentre que *es-* lexicalitza una Trajectòria de Meta a més d'una arrel. L'article també

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és una contribució al debat sobre com els morfemes amb valors semblants competeixen entre ells per a la inserció.

**Paraules clau:** prefixos; arrels; verbs complexos; canvi d'estat; Trajectòries de Meta; Trajectòries d'Origen; Nanosintaxi; català

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## 1. Introduction

A series of prefixes are used in Catalan to create change of state verbs out of nominal, adjectival, or (to a lesser extent) verbal bases, among which the most representative ones are *a-*, *en-*, *des-*, and *es-* (IEC 2016: 437):<sup>1</sup>

### (1) Nominal bases

- avinagrar(-se)* 'to (make) become sour like vinegar' (cf. *vinagre* 'vinegar')
- enamorar(-se)* 'to (make) fall in love' (cf. *amor* 'love')
- desterrar* 'to exile someone from his/her land' (cf. *terra* 'land')
- espomar* 'to pluck, to remove the feathers' (cf. *ploma* 'feather')

### (2) Adjectival bases

- aprimar(-se)* 'to (make) become thin' (cf. *prim* 'thin')
- emmalaltir(-se)* 'to make ill, to fall ill' (cf. *malalt* 'ill')
- desbravar(-se)* 'to (make) lose the ferocity/fury/strength' (cf. *brau* 'fierce, wild')
- esbraveir(-se)* 'to (make) lose the ferocity/fury/strength' (cf. *brau* 'fierce, wild')

### (3) Verbal bases

- adormir(-se)* 'to put to sleep, to fall asleep' (cf. *dormir* 'to sleep')
- desfer(-se)* 'to undo, to become undone' (cf. *fer* 'to do')

1. For the moment, I remain theory-neutral and accordingly describe the prefixed verbs studied as involving nominal, adjectival, or verbal bases. However, and as will be explained in detail in Section 3.2, I assume that the complex verbs analysed do not typically involve the addition of the prefix to a categorized base, but its addition to an uncategorized root.

The label *change of state* not only encompasses pure change of state events, but also change of place and change of possession ones.<sup>2</sup> The defining characteristic of complex change of state verbs like the ones analysed here is that they take an internal (or Theme) argument that is understood to undergo a change with regard to the state identified by the base, which may denote a property (1a; 2), a state (1b; 3), a place (1c), or a located object (i.e., a possession) (1d) (Acedo-Matellán 2006a: 44).<sup>3</sup> This can be illustrated with the denominal verbs exemplified in (1): *avinagrar(-se)* ‘to (make) become sour like vinegar’ (1a) and *enamorar(-se)* ‘to (make) fall in love’ (1b) describe pure change of state events by means of which the internal argument acquires the property (1a) or state (1b) denoted by the base, i.e., that of ‘being sour like vinegar’ (1a) and that of ‘being in love’ (1b); *desterrar* ‘to banish, to exile’ encodes a change of place by means of which the internal argument stops being in the place denoted by the base *terr-* ‘land’ (so it is understood to undergo a change of state from being to not being in the land) (1c); and *esplomar* ‘to pluck’ encodes a change of possession in the internal argument, which is understood to lose the possessed (or located) object denoted by the root *plom-* ‘feather’ (and thus to undergo a change of state) (1d). Seemingly, in the deadjectival verbs included in (2) and the deverbal verbs exemplified in (3), the base identifies the final or initial state of an event of change.

The prefixes *a-* and *en-* are usually labelled *ingressive* because they give rise to verbs encoding entry or arrival to a Goal state, whereas the prefixes *des-* and *es-* are called *egressive* on the idea that their basic value is that of egress or detachment from a Source, hence encoding exit from a state when embedded in change of state verbs (Grossmann 1994). This paper focuses on the so-called *egressive prefixes*, i.e., *des-* and *es-*, which have usually been assumed to encode the same meaning (cf. Fabra 1956: 146; Cabré 2002: 764) and the uses of which have been mixed up from Old Catalan onwards (Casanova 2010); cf. *desgranar/esgranar* ‘to extract the grain’, *desfullar/esfullar* ‘to strip the leaves off’ (IEC 2016: 437).<sup>4</sup> In fact,

2. This is in accordance with the localist hypothesis (Gruber 1965; Anderson 1971; Lyons 1977; Jackendoff 1990; Talmy 2000; among others), which states that the schema inherent to spatial relations (i.e., movement or location) is also used to represent more abstract non-spatial relations (e.g., change of state or change of possession).
3. This internal argument typically emerges as a direct object (i a), but it can also be realized as a subject (i b). In fact, many complex change of state verbs enter the causative alternation, as illustrated below with Acedo-Matellán’s (2006a: 44) examples:
  - (i) a. El pas del temps ha a-vinagr-at *el vi*.  
the passing of.the time has A-vinegar-PTCP the wine  
‘The passage of time has soured the wine.’
  - b. *El vi* s’ha a-vinagr-at.  
the wine REFL.has A-vinegar-PTCP  
‘The wine has turned sour.’
4. Both prefixes come from Latin preverbs related to the idea of separation (on Latin preverbs, see García Hernández 1980). *Des-* emerged in Romance from the confluence of the Latin dissociative preverb *dis-* and the separative (or ablative) preverbs *de-* and *e(x)-* (cf. DECat and Casanova 2010; see Brea 1976; Rodríguez Rosique 2011; Pujol Payet 2012; DRAE 2014; Gibert-Sotelo 2017b, and García Sánchez 2018 for Spanish). *Es-*, in turn, is the evolution of the Latin preverb *e(x)-* (cf. GDLC, s.v. *es-*).

Grossmann (1994: 38) considers the distribution of *es-*, the less productive of the two prefixes, to be included in the distribution of *des-*, which means that *es-* could be substituted by *des-* in all its uses, but not the other way around. However, the uses of *es-* are not always equivalent to those of *des-*. Thus, whereas *des-* always encodes an egressive meaning or a meaning which involves (physical or abstract) detachment from a Source (cf. Rodríguez Rosique 2011 and Gibert-Sotelo 2017b for Spanish), *es-* tends to encode an ingressive meaning when attached to adjectival bases in the creation of change of state verbs; cf. *estovar* ‘to soften’ or *esgrogueir* ‘to turn yellow/to pale’.

In this study, I argue that *es-* is not an egressive (or Source-oriented) prefix, but an ingressive (or Goal-oriented) prefix (like *a-* and *en-*). I base my claim on the crucial differences observed between *des-* and *es-*, which are examined in depth in Section 2. The core proposal, formalized in Section 3 on the basis of a nanosyntactic approach to the syntax-lexicon interface, is that *des-* lexicalizes a structure encompassing Source, Path, and Place (a Source Path; cf. Pantcheva 2011), and so it encodes separation from a Source, whereas *es-* lacks the Source feature and lexicalizes instead a configuration containing Path and Place (a Goal Path) and a root denoting ‘outness’, which results in the encoding of outward motion. Therefore, the apparently Source-oriented meaning of *es-* is an inference from its conceptual semantics, which defines the final point of the Path it lexicalizes as an outside location. The main findings of the paper are summarized in Section 4.

The empirical basis of the study builds on data collected from the main Catalan dictionaries and corpora (DIEC2; GDLC; DCVB; CTILC), as well as from the information contained in the reference Catalan grammars (Fabra 1956; IEC 2016; Cabré 2002) and in the works devoted to these Catalan prefixes (Grossmann 1994; Acedo-Matellán 2006a; Casanova 2010).<sup>5</sup>

## 2. *Des-* vs. *es-*

Within the prefixes classified as change of state markers (IEC 2016), *des-* and *es-* are usually assumed to encode separation or removal, and hence egression from a state (Grossmann 1994); e.g., a verb like *destronar* ‘to dethrone’ would encode the exit from a state of ‘being in the throne’, and a verb like *esboirar* ‘to remove the fog’ would encode the exit from a state of ‘being with fog’. The examples below show how these prefixes are sometimes attested as attached to the same base, giving rise to pairs of verbs with an (almost) identical meaning:

5. For the study of the correlates of these prefixes in other Ibero-Romance languages, see, among others, Neira (1968) for Leonese; Neira (1969) for Aragonese; Brea (1976), Vañó-Cerdá (1990), Martín García (2007), Rodríguez Rosique (2011, 2013), Morera (2013), and Gibert-Sotelo (2017b, 2018) for Spanish; and Pharies & Pujol Payet (2015) for a historical and comparative study of Spanish, Catalan, Asturian, Leonese, and Extremaduran.

(4) Tallades les rames s’havien de *des-branc-ar*, és a dir, separar  
 cut.PTCP the branches REFL.had to DES-limb-INF is to say separate.INF  
 els troncs més gruixuts, o branques, dels branquillons [...].  
 the trunks more thick.PL or limbs from.the twigs  
 ‘Once the branches were cut, they had to be delimbed, that is, the thicker trunks, or limbs, had to be separated from the twigs.’ (CTILC: 2003, Northwestern Catalan)

(5) El vent ha *es-branc-at* les figueres.  
 the wind has ES-limb-PTCP the fig.trees  
 ‘The wind has delimbed the fig trees.’ (DIEC2, s.v. *esbrancar*)

As observed by Casanova (2010: 390), the existence of pairs of verbs with *des-/es-* containing the same base and having a synonymous meaning must not necessarily entail that the prefixes are equivalent, but rather that their meanings (which according to Casanova 2010 are closely related) can give rise to a similar interpretation, which has caused the confusion between both prefixes since the Middle Ages. In fact, even though both *desbrancar* (4) and *esbrancar* (5) can be translated as ‘to delimb’, there are subtle distinctions between these formations that allow telling them apart in certain contexts. Hence, whereas the use of *desbrancar* tends to focus on the idea of separation (cf. 4), *esbrancar* is more often used to encode the idea of loss (5; 6a). Besides, *esbrancar* is sometimes attested with the secondary sense ‘to bifurcate, to divide’ (6b), an acceptance which tends to focus on the final state, with PPs specifying the result (cf. *en recs* ‘into irrigation channels’ in 6b). This meaning is not shared by *desbrancar*, which by contrast has developed the secondary use *desbrancar-se* ‘to be distinguished’ (7), more focused on the idea of separation from an initial state/place (cf. the PP *del teatre religiós* ‘from religious theatre’, headed by the Source-oriented preposition *de* ‘from’).

(6) a. [...] al bosc es glaça la saba, i s’ *es-branqu-en*  
 at.the forest REFL freeze.3SG the sap and REFL ES-limb-3PL  
 els cimals.  
 the tree.tops  
 ‘In the forest the sap freezes, and the tops of the trees lose their limbs.’  
 (CTILC: 1950, Balearic Catalan)

b. Els canals s’ *es-branqu-en* en recs.  
 the channels REFL ES-limb-3PL in irrigation.channels  
 ‘The channels get divided into irrigation channels.’ (DIEC2, s.v. *esbrancar*)

(7) [...] l’evolució teatral profana [...] es *des-branc-a* definitivament  
 the.evolution theatre profane REFL DES-limb-3SG permanently  
 del teatre religiós.  
 from.the theatre religious  
 ‘The evolution of profane theatre was permanently detached from religious theatre.’ (CTILC: 1970, Balearic Catalan)

This section aims at showing that, despite the apparently synonymous meaning conveyed by these prefixes in examples like the ones reproduced in (4) and (5), *des-* and *es-* show a series of distinguishing properties in their distribution and in their meaning that suggest that their nature is non-trivially different.

First, *des-* is available in verbal, adjectival, and nominal derivation (i.e., the outcomes of *des-* prefixation can be verbs, adjectives, and nouns), even though it is mainly involved in the creation of new verbs. In contrast, *es-* is only available in verbal derivation – a property shared with the ingressive (Goal-oriented) prefixes *a-* and *en-*, which can give rise to new verbs, but not to new adjectives or nouns.<sup>6</sup>

(8) *Des-*

- a. Verbs: *desviar* ‘to deviate’, *descarrilar* ‘to derail’, *destronar* ‘to dethrone’, *desossar* ‘to debone’, *desmentir* ‘to deny, to refute’, *desvestir* ‘to undress’, *desconèixer* ‘not to know’, *desagradar* ‘to dislike’
- b. Adjectives: *desigual* ‘unequal, different’, *descortès* ‘rude, impolite’, *deshonest* ‘dishonest’, *deslleial* ‘disloyal’
- c. Nouns: *desamor* ‘lack of love, heartbreak’, *descontrol* ‘lack of control’, *desgana* ‘lack of appetite, apathy’, *deshonor* ‘dishonour’

(9) *Es-*

- a. Verbs: *esbrassar* ‘to clear of rubbish’, *escuar* ‘to cut the tail off’, *esplomar* ‘to pluck’, *estossegar* ‘to cough’, *espedregar* ‘to remove the stones/to throw stones’, *esblanqueir* ‘to whiten, to bleach’, *escolar* ‘to strain, to filter’
- b. Adjectives: \**escortès* (cf. *descortès* ‘rude, impolite’), \**eslleial* (cf. *deslleial* ‘disloyal’)
- c. Nouns: \**esventura* (cf. *desventura* ‘lack of fortune, misfortune’), \**esgana* (cf. *desgana* ‘lack of appetite, apathy’)

Second, within verbal derivation, *des-* is very productive in the creation of deverbal verbs, and it is also productive in the creation of denominal verbs, its presence in deadjectival verbs being extremely scarce. By contrast, *es-* is mostly attested in denominal verbs, secondarily, in deadjectival ones, and only a few deverbal verbs contain this prefix.

(10) *Des-* prefixed verbs

- a. Deverbal: *desfer* ‘to undo’ (cf. *fer* ‘to do’), *descosir* ‘to unstitch’ (cf. *cosir* ‘to sew’), *desvestir* ‘to undress’ (cf. *vestir* ‘to dress’), *descongelar*
6. The prefix *es-* is also attested in adjectival participles, but they are in fact derived from the corresponding verbs; cf. *espitregat* ‘bare-chested’ (< *espitregar* ‘to show the chest’), *esboirat* ‘without fog’ (< *esboirar* ‘to remove the fog’), *esdentegat* ‘without teeth’ (*esdentegar* ‘to remove the teeth’). In some cases, the corresponding verb is not included in the reference dictionaries, but it is in fact inferable from the meaning of the participle: *esmaixellat* ‘without teeth/without cheek’ (*esmaixellar* ‘to remove the teeth/the cheek’).

- ‘to defrost’ (cf. *congelar* ‘to freeze’), *desobeir* ‘to disobey’ (cf. *obeir* ‘to obey’), *desagradar* ‘to dislike’ (cf. *agradar* ‘to like’)
- b. Denominal: *desviar* ‘to divert’ (cf. *via* ‘path, way’), *destronar* ‘to dethrone’ (cf. *tron* ‘throne’), *desherbar* ‘to weed’ (cf. *herba* ‘grass’), *desinsectar* ‘to clear of insects’ (cf. *insecte* ‘insect’)
- c. Deadjectival: *desbravar* ‘to make lose the ferocity/fury/strength’ (cf. *brau* ‘fierce, wild’)
- (11) *Es-* prefixed verbs:
- a. Deverbal: *escórrer* ‘to pour off’ (cf. *córrer* ‘to run’), *escolar* ‘to strain, to filter; to pour out a liquid’ (cf. *colar* ‘to strain, to filter’)
- b. Denominal: *esbarbar* ‘to shave’ (cf. *barba* ‘beard’), *espuçar* ‘to remove fleas’ (cf. *puça* ‘flea’), *espinyolar* ‘to pit, to remove the pit’ (cf. *pinyol* ‘pit, fruit seed’), *esteranyinar* ‘to remove the cobwebs’ (cf. *teranyina* ‘cobweb’)
- c. Deadjectival: *esbraveir* ‘to make lose the ferocity/fury/strength’ (cf. *brau* ‘fierce, wild’), *esclarir* ‘to clear up’ (cf. *clar* ‘clear’), *estovar* ‘to soften’ (cf. *tou* ‘soft’)

Third, *des-* may give rise to a reversative (*desfer* ‘to undo’, *deslligar* ‘to untie’) or to a negative (*desconèixer* ‘not to know’, *desobeir* ‘to disobey’) value when affixed to verbal bases, but these values are never available for *es-* deverbial verbs, which typically encode movement towards the outside of an enclosure (*escórrer* ‘to pour off’, *escolar* ‘to pour out a liquid’). The reversative and the negative values of *des-* deverbial verbs can be derived from the basic Source-oriented meaning of this prefix. The reversative value emerges if the base verb encodes change and allows for a telic reading (a fact that has been observed in studies dealing with Spanish *des-*; cf. Varela & Martín García 1999; Martín García 2007; Rodríguez Rosique 2011, 2013), since in these cases the result state denoted by the base verb is understood to be abandoned.<sup>7</sup> As for the negative value, it emerges when *des-* is embedded in non-dynamic or stative constructions. In such contexts, the idea of separation from a Source involved by the prefix is statically interpreted as opposition on a scale, thus giving rise to contrary negation semantics (Gibert-Sotelo 2017b, 2021a; cf. Horn 1989 and Rodríguez Rosique 2011).<sup>8</sup>

7. In line with Marchand (1973), Brea (1976), Grossmann (1994), Horn (2002), Rodríguez Rosique (2011, 2013), and Gibert-Sotelo (2017b, 2018), I contend that the basic meaning of reversative verbs is not that of undoing a previous process, but that of reversing a given state that may be, or not, the result of a previous process. Accordingly, the verbal root of these predicates is abstractly interpreted as the initial state of a transition, and hence *des-* reversative verbs express the egress of the internal argument (the Theme) from the state denoted by the root. See Section 3.2 for a formalization of this idea.
8. See Horn (1989: chapter 5) for the distinction between contrary and contradictory opposition. In a nutshell: contrary terms are those that allow for a middle term, i.e., “an entity satisfying the range of the two opposed terms but falling under neither of them” (Horn 1989: 270); e.g., Cat. *agradar* ‘to like’ and *desagradar* ‘to dislike’ (cf. *No m’agrada, però tampoc em desagrada* ‘I don’t like

Fourth, in the creation of deadjectival verbs, *es-* can produce an ingressive meaning of entrance into a state, a meaning unattested for *des-* prefixed predicates. The prefix *des-* shows very low productivity in deadjectival verbal derivation, but the few deadjectival verbs attested always encode the exit from the state denoted by the root (the egressive meaning); cf. *desbravar(-se)* ‘to (make) lose the strength’ (a meaning which involves exit from a state of strength). Crucially, several *es-* deadjectival verbs express ingressive meaning: *estovar* ‘to soften’ (entrance into a state of softness), *escurçar* ‘to shorten’ (entrance into a state of shortness), *esgrogueir* ‘to turn yellow, to pale’ (entrance into a state of yellowness), *esclarir* ‘to clear up’ (entrance into a state of being clear), among others.<sup>9</sup> Other verbs with an ingressive meaning are those of the type *esmollar* ‘to crumble’ or *esquarterar* ‘to quarter’, the roots of which denote an effected object. Besides, a denominal verb like *espedregar* (cf. *pedra* ‘stone’) can mean ‘to remove the stones’ but also ‘to throw stones’ (an acceptance that this verb shares with *apedregar*, created upon the same nominal root by means of the ingressive prefix *a-*), the second of these meanings being clearly Goal-oriented. This is unexpected if *es-* is an egressive prefix.

Fifth, in denominal verbs, *des-* can give rise to an ablative (12) and to a privative (13) value; *es-*, on the other hand, is available in the privative reading but not in the ablative one (14). The ablative/privative distinction (Marchand 1969) is a subtype of the location/locatum one (Clark & Clark 1979): ablative verbs incorporate a root which corresponds to the location from which a given entity (encoded in the internal argument) is removed, whereas in privative verbs the removed entity corresponds to the root, and the internal argument expresses instead the initial location.<sup>10</sup> As mentioned, *des-* allows for both readings when attached to nominal roots, but *es-* disallows the root to be interpreted as a location.

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it, but I don’t dislike it either’). Contradictory terms, by contrast, exclude any middle term; e.g., *black/nonblack* (cf. \**This object is neither black nor nonblack*). Notice that contrariety evokes the idea of distance on a scale: two contrary terms are placed on the opposite poles of the scale (and hence allow for a middle term in between) (cf. Aristotle [*Categories* 6a15-19], *apud* Horn 1989: 37).

9. Acedo-Matellán (2006a: 58, footnote 21) suggests that in these cases the prefix can also be argued to encode exit from a state, even though this state does not correspond to the one denoted by the root, but to the opposite state (see also Grossmann 1994: 98). According to this, *esblanqueir* not only involves that an entity turns *blanc-* ‘white’, but also that it loses its colour and, hence, that it goes out from a previous state in which it was coloured. As noticed by an anonymous reviewer, this is in contrast with *emblanquir* ‘to whiten’, in which this idea of exit is completely absent, and the final state clearly corresponds to that encoded in the root *blanc-* ‘white’. As will be further formalized in Section 3.2, the idea of exit inherent to *es-* prefixed verbs can be inferred from the meaning of the prefix, which encodes arrival to a Goal but also outside location.
10. In both cases, hence, the internal argument identifies the Undergoer: it corresponds to a participant which undergoes a change of state from being to not being in the location encoded in the root (the ablative reading) and from having to not having the possession encoded in the root (the privative reading). See Labelle (2000) and Mateu (2002) for related discussion concerning location and locatum verbs.

- (12) a. Ha *des-carril-at* el tren.  
has DES-rail-PTCP the train  
'The train has derailed.' (CTILC: 1959, Balearic Catalan)
- b. Actualment resideix a Amèrica perquè algú va  
currently lives at America because someone AUX.PST.3SG  
*des-terr-ar-lo* d'Alemanya.  
DES-land-INF-him from.Germany  
'He is currently living in America because someone banished him from Germany.' (CTILC: 1939, Northwestern Catalan)
- (13) a. Van trobar un rusc que havien *des-abel·l-at*.  
AUX.PST.3PL find.INF a hive which had DES-bee-PTCP  
'They found a hive that had been emptied of bees.' (DIEC2, s.v. *desabellar*)
- b. *Des-oss-eu* l'ànec.  
DES-bone-IMP.2PL the.duck  
'Debone the duck.' (CTILC: 1968, Septentrional Catalan)
- (14) a. Hi ha contrades en què és costum *es-cu-ar* les cabres.  
there are places in which is customary ES-tail-INF the goats  
'There are places in which it is customary to cut the tail off goats.' (DIEC2, s.v. *escuar*)
- b. [...] les branques s'*es-full-aven* [...].  
the branches REFL.ES-leaf-PST.IPFV.3PL  
'The branches lost their leaves.' (CTILC: 1947, Northwestern Catalan)

The verbs *espenyar(se)* 'to throw over a cliff, to fall from a height' and *estimbar(se)* 'to throw over a cliff, to fall from a height' seem to contradict this observation, since in them the root identifies a location from which a downward movement takes place (cf. *penya* 'cliff, crag' and *timba* 'precipice, cliff'). Notice, though, that these verbs involve a downward value that is typically encoded by Latin *de-* (García Hernández 1980), one of the predecessors of Romance *des-* (cf. footnote 4). The Latin predecessor of *es-*, which is *ex-*, does not have this downward entailment, which suggests that this is a case of *es-/des-* confusion. Besides, the comparison of *espenyar* and *despenyar* in their contexts of use shows that the *des-* prefixed variant tends to focus more on the idea of separation from a Source than the *es-* prefixed variant. As exemplified in (15), *despenyar* usually co-appears with a PP headed by *de* or *des de* 'from' that emphasizes the Source (from the 39 attestations in the CTILC, 9 contain this type of PP). On the contrary, *espenyar* does not co-appear with Source-oriented PPs (none of the 32 attestations in the CTILC combines this verb with PPs headed by *de* or *des de*), but it co-appears with PPs or adverbial phrases which rather focus on the Goal (16).



In sum, *des-* and *es-* show a crucially different behaviour that suggests that their structural nature is not the same. In the following section, a formal account is offered which derives the contrasts observed between these two (apparently) synonymous affixes from the fact that they are not composed of the same morpho-syntactic features.

### 3. Accounting for the divergences between *des-* and *es-*

This section provides a formal analysis of *des-* and *es-* and the change of state verbs they give rise to. The theoretical framework I adopt is basically that of Nanosyntax, combined with the syntactic decomposition of the event/argument structure domain and a view of roots as elements devoid of category features (Section 3.1). The analysis proposed naturally accounts for the contrasting behaviour of *des-* and *es-* and, in addition, unifies the different uses of each prefix (Section 3.2). The adequacy of the proposal is also supported by the fact that it allows predicting the (in)compatibility of *des-* and *es-* with other change of state prefixes and the position they occupy if stacked, among other properties (Section 3.3).

#### 3.1. Theoretical assumptions

In this paper I assume a syntactic decomposition approach to argument/event structure that adheres to the neo-constructionist view of roots as elements devoid of category features and follows the principles of Nanosyntax.

As conforming to a neo-constructionist perspective, the analysis proposed is based on a crucial distinction between structural (syntactically built) meaning and conceptual content (cf. Mateu 2002). Within the verbal domain, this is translated into event structure configurations, which combine subeventive features to build the structural meaning of verbal predicates, and roots ( $\sqrt{\quad}$ ), which are grammatically opaque (and hence lack category features) and only contribute conceptual content to the construction (Marantz 1997, 2001). If roots lack grammatically relevant information, they are unable to determine the structure of the constructions they appear in, and accordingly their structural interpretation (e.g., as defining the final state of a change of state predicate) depends solely on the position they occupy in the configuration, and not on their conceptual (grammatically irrelevant) semantics (Acedo-Matellán & Mateu 2014).<sup>11</sup>

11. This crucial distinction between structural and conceptual content is also embraced by projectionist approaches such as Levin & Rappaport Hovav's (1995) and Rappaport Hovav & Levin's (1998), who have proposed a decomposition of verbal meaning into event structure templates and roots, with the difference that in their system event structure templates are of lexical-conceptual nature and not syntactically built. Besides, their model has also postulated root ontologies that lexically determine the distribution of these elements depending on their semantic content (cf. Rappaport Hovav & Levin 1998, 2010), in contrast to the syntactic and non-deterministic view adopted here, which basically corresponds to that postulated by Acedo-Matellán & Mateu (2014) and according to which roots are interpreted depending on the position they take in the syntactic configuration.

For the syntactic decomposition of the argument/event structure domain, I adopt the First Phase Syntax model developed by Ramchand (2008). According to Ramchand, verbal predicates can be decomposed into three subeventive projections that syntax combines to create the different verb classes: a stative Init(iation) subevent that introduces causation and licenses the external argument in its specifier (interpreted as an Initiator), a dynamic Proc(ess) subevent that introduces eventivity and licenses the internal argument in its specifier (interpreted as an Undergoer), and a stative Res(ult) subevent that introduces the result state and which also licenses an argument in its specifier (which in this case is interpreted as a Resultee, i.e., as the holder of the result state). Init and Res are in fact the same stative head, which is interpreted as involving causation or as involving result depending on its selecting Proc as complement (Init) or on its being selected as complement by Proc (Res).<sup>12</sup>

(20) [<sub>InitP</sub> [<sub>DP<sub>3</sub></sub>] [<sub>Init'</sub> Init [<sub>ProcP</sub> [<sub>DP<sub>2</sub></sub>] [<sub>Proc'</sub> Proc [<sub>ResP</sub> [<sub>DP<sub>1</sub></sub>] [<sub>Res'</sub> Res]]]]]]]

Within Ramchand's model, in addition to the subeventive heads just presented, the First Phase domain is also composed of Rhemes, that is, material in the complement of a subeventive projection that establishes a relation of identification or homomorphism with it. For example, if a Proc subevent combines with a Rheme corresponding to a Path-denoting phrase, the latter is understood to map its part-whole structure to the temporal ordering of the subevent, and hence the (a)telicity of the predicate depends on the (un)boundedness of the Path complement.

As will be further explained in the following subsection, change of state prefixes (and, in particular, *des-* and *es-*) are Path-denoting elements that contribute to defining the structure of the predicates they appear in.

The lexicalization of the structure is governed, I assume, by the principles of Nanosyntax (Starke 2009; Baunaz et al. 2018), a recent neo-constructionist model that assumes an architecture of grammar in which the lexicon is accessed after syntax to provide lexical material that matches the syntactic configuration to be spelled out. Unlike other neo-constructionist models which also assume late insertion (e.g., Distributed Morphology), in Nanosyntax the relation between syntax and the lexicon is direct (without an intermediate morphological level): lexical exponents are directly inserted in the syntactic configuration in order to replace it by a format able to be processed at the phonological and semantic levels (Fábregas 2016: 46). As a consequence, lexical items may associate not only with terminal nodes, but also (and mainly) with phrasal nodes encompassing multiple morpho-syntactic features, a mechanism known as Phrasal Spell-Out (Starke 2009; Caha 2009; Pantcheva 2011).

To regulate the way in which Phrasal Spell-Out takes place, i.e., the way in which a lexical entry matches a syntactic tree, a series of principles are postulated within Nanosyntax, among which one of them is of special relevance for this paper:

12. In the most recent development of this model (Ramchand 2018), Init, unlike Res, does not project a specifier position anymore and its only function is to introduce causation, the external argument being introduced in the specifier of an EvtP (Event Phrase) that closes the First Phase.

the Superset Principle (Ramchand 2008; Starke 2009; Caha 2009; Pantcheva 2011). According to the Superset Principle, for a lexical exponent to match a syntactic node, its lexical entry must contain a superset of the features contained in the syntactic node. This means that lexical exponents can spell out the whole set of features they are specified for, but also that they can leave unmatched features and spell out only a subpart thereof. Following Ramchand (2008: 97-99), I further assume that the Superset Principle is constrained by conditions on Underassociation. Hence, a lexical item can leave an unmatched feature only if this feature is independently identified by another lexical item within the same domain.

The implementation of these principles will be developed in the following two subsections, which offer a nanosyntactic analysis of the differences observed between the Catalan prefixes *des-* and *es-*.

### 3.2. Analysis

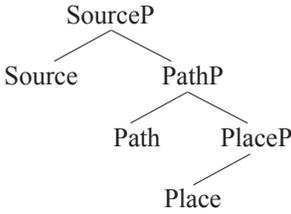
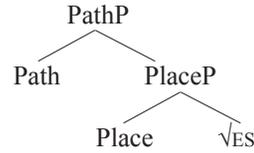
Taking into account the properties of the Catalan prefixes *des-* and *es-* mentioned in Section 2, I propose that these two prefixes are structurally different: *des-* is a Source (egressive) marker, but *es-* is not (in contrast to the general view; cf. Grossmann 1994; Acedo-Matellán 2006a), since it can encode ingressive meaning.

As conforming to a nanosyntactic approach to grammar in which morphemes spell out phrasal nodes containing multiple morphosyntactic features (Phrasal Spell-Out; cf. Section 3.1), I assume, following Gibert-Sotelo (2017b), that *des-* lexicalizes a Source Path, i.e., a configuration encompassing a Place feature expressing location, a Path feature encoding transition, and a Source feature reversing the directionality of the Path feature (Pantcheva 2011) (21a).<sup>13</sup> As for *es-*, I propose that it lacks the reversative Source feature, lexicalizing instead a Path feature (Goal-oriented by default), a Place feature, and a root node ( $\sqrt{ES}$ ) in the complement of Place that contributes conceptual content and identifies the final location/state as ‘out’ (21b).<sup>14</sup>

13. On the basis of a cross-linguistic investigation of Path expressions, Pantcheva (2011) concludes that Source Paths embed Goal Paths and, accordingly, that they are structurally more complex. In her analysis, Goal Paths are decomposed in the standard structure of a dynamic Path head (which she labels *Goal*) that defines a transition (i.e., a change) and a static Place head that defines a location, the former taking the latter as complement (cf. Jackendoff 1983; Koopman 2000; Svenonius 2010). In these configurations, the element merged in the complement of Place is structurally identified with a final location (a Goal). Source Paths, by contrast, involve an extra head, Source, the function of which is to reverse the direction of the transition encoded by the Path head in its complement, in such a way that the element merged as the complement of Place is no longer understood as a final location, but as an initial location (a Source):

- (ii) a. Goal Path: [<sub>PathP</sub> Path [<sub>PlaceP</sub> Place [XP (= final location)]]]  
 b. Source Path: [<sub>SourceeP</sub> Source [<sub>PathP</sub> Path [<sub>PlaceP</sub> Place [XP (= initial location)]]]]

14. Notice that, if *es-* contains a root encoding conceptual meaning (21b) but *des-* does not (21a), it follows that *des-* is a more ‘functional’ prefix (it only identifies functional nodes) and *es-* a more ‘lexical’ one (it spells out both a root and the functional projections dominating the root).

(21) a. Tree lexicalized by *des-*b. Tree lexicalized by *es-*

This analysis unifies all the uses of *des-*, which are derived from a single lexical entry of the prefix (without the need to postulate one lexical entry for each use), and the different uses of *es-*, which can also be obtained from the proposed decomposition.

Regarding the Source prefix *des-*, the assumption that this prefix is in fact the lexicalization of a Source Path explains why it encodes egress from a state when embedded in change of state predicates: if the prefix contains a Source feature, it cannot give rise to Goal-oriented readings of entrance into a state. As explained, the ablative, the privative, and the reversative uses of this prefix all involve a Source-oriented change of state event by means of which a given entity (the internal argument) departs from a given initial state (identified by the root of the verb). Hence, the ablative predicate exemplified in (22a) receives a parallel analysis to the privative predicate exemplified in (22b) and to the reversative predicate exemplified in (22c), as formalized in (23).

- (22) a. La reina va *des-terr-ar* el duc.  
 the queen AUX.PST.3SG DES-land-INF the duke  
 ‘The queen exiled the duke.’
- b. En Pere ha *des-oss-at* el pollastre.  
 the Pere has DES-bone-PTCP the chicken  
 ‘Pere has deboned the chicken.’
- c. La Marta *des-lliga* els cordons.  
 the Marta DES-ties the laces  
 ‘Marta unties the laces.’



(and not a spatial one), and which is claimed to be VP-external because it does not change the argument and event structure of the verb. However, and as shown in Gibert-Sotelo (2017b, 2018, 2021b), *des-* corresponds to an internal prefix also in reversative verbs, since these verbs may show a different argument and event structure from their non-prefixed counterparts. Hence, whereas *mentir* ‘to lie’ is unergative and atelic (24a), *desmentir* ‘to refute, to prove wrong’ is transitive and telic (24b):

- (24) a. L’acusat va mentir (\*totes les acusacions) (durant dues  
the.accused AUX.PST.3SG lie.INF all the accusations for two  
hores / #en dues hores).  
hours in two hours  
‘The accused lied (\*all the accusations) (for two hours / #in two hours).’
- b. L’acusat va des-mentir \*(totes les acusacions)  
the.accused AUX.PST.3SG DES-lie.INF all the accusations  
(#durant dues hores / en dues hores).  
for two hours in two hours  
‘The accused refuted \*(all the accusations) (#for two hours / in two hours).’

The telicity of these predicates, as well as their need to combine with an internal argument, depends on the presence of the prefix, which lexicalizes a Source Path that, being located in the complement of Proc (and thus being VP-internal), corresponds to a Rheme that describes the event introduced by this head as a telic change of state, and which licenses the internal argument as the specifier of the projections it lexicalizes (i.e., Place, Path, and Source): this argument is first merged in the specifier of Place, then moves to the specifier of Path, and then to the specifier of Source (and from there to the specifier of Proc), being configurationally identified with a Figure covering the Source Path that these projections define.<sup>15</sup>

The analysis of *des-* proposed in (21a) also accounts for the negative meaning that this prefix develops in stative predicates. In these cases, the Source Path lexicalized by the prefix is not dominated by a Proc feature, but by a stative feature that prevents its interpretation as a Source-oriented change, being interpreted instead as a lower closed scale (i.e., a scale closed on its initial boundary; cf. Kennedy & McNally 2005) that identifies the minimal possible degree of a given state or property. This gives rise to the denotation of contrary (and crucially not contradictory) negation in *des-* prefixed stative verbs and adjectives, which identify

15. The term *Figure* is borrowed from Talmy (1975), who, within location and motion situations, establishes a distinction between Figure (the object in motion or being located) and Ground (the reference object that allows determining the position of the Figure). These notions have been syntacticized in approaches such as Acedo-Matellán & Mateu’s (2014) and Acedo-Matellán’s (2016), where the complement of a Place-denoting P projection is configurationally identified with a Ground and the specifier of such a projection with a Figure.

the polar opposites of their non-prefixed counterparts (i.e., the states or properties placed the furthest on a degree scale; cf. Horn 1989; see also Section 2 in this paper). Hence, a verb like *desaprovar* ‘to disapprove, to condemn’ encodes the very opposite (the polar contrary) of *aprovar* ‘to approve’ (and also the minimal possible degree of approval), and the adjective *deshonest* ‘dishonest’ encodes the very opposite of *honest* ‘honest’ (and also the minimal possible degree of honesty). Seemingly, the nouns headed by this prefix encode the lack (the minimal possible degree) of the reality they denote; cf. *desgana* ‘lack of appetite, apathy’. Given that this paper is concerned with change of state verbs, I will not concentrate on the details of the analysis of non-dynamic *des*-prefixed predicates, which has been developed in Gibert-Sotelo (2017b).

The prefix *es*-, by contrast, does not have the Source semantics of *des*- because it lacks the Source feature that reverses the directionality of the Path head. The seeming Source semantics that this prefix acquires in certain contexts, I claim, is due to the fact that, in addition to the features Path and Place, the tree it spells out also contains a root node in the complement of Place that identifies a final location/state which, by the conceptual semantics of the root ( $\sqrt{\text{ES}}$ ), is understood as an outside location (21b).

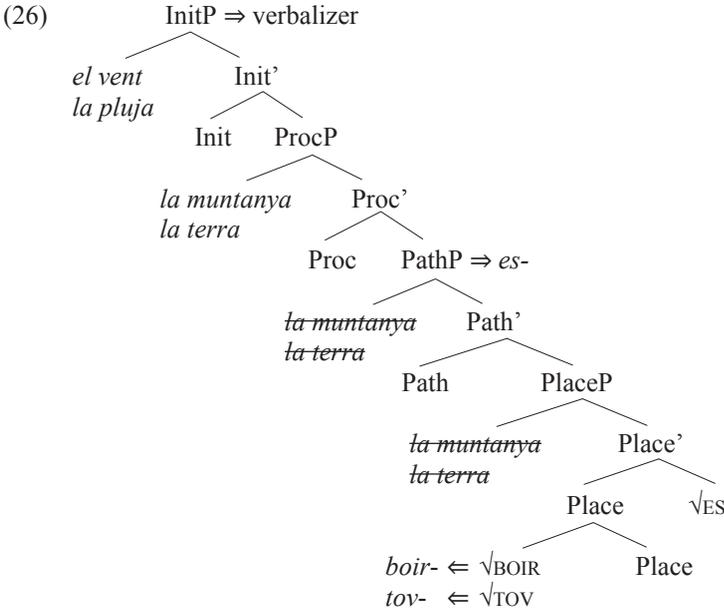
The idea that P elements may incorporate a root contributing conceptual content has been entertained by Acedo-Matellán (2016) for Latin prefixes (see also Gibert-Sotelo 2021a). When the prefix acts as an intransitive particle (i.e., as a P element that does not take a complement; cf. Cappelle 2005: 82-84), this root sits directly in the complement of Place (an approach which is compatible with Svenonius’ 1996 analysis of bare particles as incorporating their complement, which corresponds to the Ground; cf. Hale & Keyser 2002: 229-230). For *ex*-, the Latin predecessor of Catalan *es*-, Acedo-Matellán (2016: 85) states that its root  $\sqrt{\text{EX}}$  expresses ‘outness’, a conceptual notion that involves a reference point (or Ground) that is contextually obtained and which, by inference, is taken as the departure point. When this root is merged in the complement of a Place head dominated by a Path projection, though, it is structurally identified with a final location (i.e., a Goal Ground). This crucial distinction between conceptual content and syntactic-semantic construal allows capturing the double definition sometimes associated with this prefix (cf. Molinari 2005: 355), namely, that it identifies “a departing point and an arrival point that is outside the departing point” (Acedo-Matellán 2016: 85).

Even though Romance prefixes have a lexical semantics that is less rich than that of their Latin predecessors (Crocco Galéas & Iacobini 1993; Acedo-Matellán 2006b; Acedo-Matellán & Mateu 2013; Gibert-Sotelo 2017b), I assume that Catalan *es*- still keeps the root node that contributes the idea of outness (see Section 3.3 for a more detailed account of the need to posit a root node  $\sqrt{\text{ES}}$  in the tree lexicalized by the Catalan prefix *es*-). Given that the root of the prefix is structurally placed in the complement of Place, no other element can be merged in this position, and accordingly the root of the verb is merged instead as an adjunct of Place specifying the type of result (or final state) obtained. This explains why these verbs systematically reject an ablative (or location) reading: if the root of the

verb is not merged in the complement of Place, then it cannot be interpreted as a Ground (or reference object).<sup>16</sup>

The formalization proposed, illustrated in (26) with the analysis of the examples in (25), shows that *es-* prefixed verbs with a privative reading (25a) and *es-* prefixed verbs with an ingressive pure change of state reading (25b) involve the same structure.

- (25) a. El vent *es-boir-a* la muntanya.  
 the wind ES-fog-3SG the mountain  
 ‘The wind clears the mountain of fog.’ (DIEC2, s.v. *esboirar*)
- b. La pluja *es-tov-a* la terra.  
 the rain ES-soft-3SG the earth  
 ‘The rain softens the earth.’ (GDLC, s.v. *estovar*)



- 16. In Section 2 it has been shown that *es-* prefixed verbs may accept Goal PPs specifying a final location or result, as is the case of *en recs* ‘into irrigation channels’ in (6b), repeated below for convenience:
  - (iii) Els canals s’ *es-branqu-en en recs*.  
 the channels REFL ES-limb-3PL in irrigation.channels  
 ‘The channels get divided into irrigation channels.’ (DIEC2, s.v. *esbrancar*)

An Anonymous reviewer wonders whether these PPs would be merged as further adjuncts. This appears to be the case: PPs of this type, which are always omissible, would be merged as adjuncts of PlaceP (and not as adjuncts of Place, a more embedded position reserved for roots). See Acedo-Matellán (2016: 88), who suggests that this could be a possible analysis for parallel PPs co-occurring with Latin prefixed verbs, even though he finally proposes that these PPs are adjuncts to PathP.

A possible paraphrase for the structure proposed in (26) is as follows: ‘the external argument (*el vent* ‘the wind’ in [25a] and *la pluja* ‘the rain’ in [25b]) initiates (Init) a process (Proc) by means of which the internal argument (*la muntanya* ‘the mountain’ in [25a] and *la terra* ‘the earth’ in [25b]) arrives (Path + Place) at a state of outness ( $\sqrt{\text{ES}}$ ) with regard to the reality denoted by the root of the verb (the fog [ $\sqrt{\text{BOIR}}$ ] in [25a] and the softness [ $\sqrt{\text{TOV}}$ ] in [25b]).’ Because of the conceptual semantics of the root  $\sqrt{\text{BOIR}}$  ‘fog’, which denotes a locatum element that establishes a relation of temporary possession (cf. Hale & Keyser 2002: 19) with the internal argument *la muntanya* ‘the mountain’ (i.e., the mountain is understood to be with fog), the final state of outness reached by the mountain in (25a) is defined as a state in which the fog is out, which gives rise to the privative reading (i.e., the mountain is understood to be without fog). In (25b), by contrast, the root  $\sqrt{\text{TOV}}$  ‘soft’ denotes a property, and hence it is understood that the internal argument *la terra* ‘the earth’ ends up in a state of outness defined by this property, i.e., it is understood that ‘the rain makes the earth come out soft’.

Mateu (2021) approaches the Latin predecessors of these constructions in similar terms. Based on Serbat (1989, 2001), Mateu claims that, in Latin *ex*-prefixed verbs with a locatum (i.e., privative) reading, the root of the verb corresponds to an adjunct, and offers a paraphrase for these verbs parallel to the one proposed here; cf. *edentare* ‘to render toothless’, which Mateu (2021: 271), translating Serbat (1989: 14), paraphrases as “to carry out a removal operation with regard to the teeth”. Besides, according to Mateu (2021: 278, footnote 8), Latin *ex*-prefixed deadjectival verbs encoding the acquisition of a property, like *effeminare* ‘to effeminate’ or *efferrare* ‘to make fierce’, can be translated to Catalan by means of constructions including the verb *sortir* ‘to go/come out’ (a translation that is analogous to the one here provided for the Catalan deadjectival verb *estovar*: ‘to make come out soft’); cf. *fer sortir algú femella* ‘to make someone come out female’ or *fer sortir algú ferotge* ‘to make someone come out fierce’.

The analysis that Mateu (2021) offers for the Latin verbs, though, is different from the one that I propose for the Catalan ones, which is expected if one adopts a syntactic approach to the satellite-framed nature of Latin vs. the verb-framed nature of Romance (Talmy 2000; see Acedo-Matellán & Mateu 2013).<sup>17</sup> Hence, while Mateu (2021) proposes that in the Latin locatum (i.e., privative) *ex*-prefixed verbs the root is adjoined to *v* (equivalent to Ramchand’s Proc) and corresponds to a Manner Co-event (as conforming to a satellite-framed pattern),

17. The satellite-framed strategy is partially recognizable in the Catalan *es*-prefixed verbs *escórrer* ‘to pour off’ (i.e., ‘to take out [*es*-] by running [*córrer*]’) or *escolar* ‘to strain out (a liquid)’ (i.e., ‘to take out [*es*-] by filtering [*colar*]’), in which the verbal root can be identified with a Manner Co-event. Crucially, these are not verbs of Catalan genesis, but verbs inherited from Latin (cf. Latin *excurrere* ‘to run out’ and *excolare* ‘to strain out’, respectively). More complex is the case of *esterrejar* ‘to clean (sth.) with soil’ (cf. *terra* ‘soil’), a verb of Catalan genesis in which the verbal root seems to encode Manner. Notice, though, that the base verb *terrejar* holds a similar meaning to that of the prefixed verb: ‘to clean (sth.) with soil’. It could be hypothesized, accordingly, that *esterrejar* receives an analysis parallel to the one proposed for the other Catalan *es*-prefixed verbs, in which the prefix identifies the final state and the root of the verb further describes the type of final state obtained.

I propose that in the Catalan *es-* privative constructions the root of the verb is adjoined to Place to specify the type of result state obtained (which accommodates to the verb-framed procedure). In addition, while I assume that the Catalan *es-* prefixed deadjectival/ingressive constructions involve the same structure as the privative *es-* prefixed predicates, in which the root of the verb is an adjunct to Place further describing the result state, Mateu (2021) proposes instead that in the Latin *ex-* deadjectival/ingressive verbs the root of the verb corresponds to the complement of the prefix and expresses the Goal (i.e., the result state) of the change event.<sup>18</sup>

To sum up, the analysis put forward in this section for *des-* and *es-* shows that, even though these prefixes may give rise to synonymous interpretations in certain contexts, they are non-trivially different. Whereas *des-* expresses separation from the state/place encoded by the base it attaches to, assumed to usually correspond to an uncategorized root merged as the complement of a Place head dominated by Path and by Source; *es-* expresses ingressive meaning, with the particularity that the final state/location, lexicalized by the prefix itself, is understood to be outside the Ground (contextually inferred), and the verb's root, merged as an adjunct of a Place head dominated by a Path projection, further describes the type of final state obtained. This analysis unifies, on the one hand, all the uses of *des-* in change of state verbs (that is, the ablative, the privative, and the reversative; cf., respectively, *desviar* 'to detach from the path' [i.e., 'to remove from the state of being in the path'], *desossar* 'to debone' [i.e., 'to remove from the state of having bones'], and *desfer* 'to undo' [i.e., 'to remove from the state of being done']); and, on the other hand, the different uses attested in *es-* prefixed change of state verbs (that is, the ingressive uses and the [apparently] egressive ones; cf. *esclarir* 'to clear up, to clarify' [i.e., 'to make come out with regard to the clarity' or 'to make come out clear'] and *esnargar* 'to remove the nose' [i.e., 'to make come out with regard to the nose' or 'to make come out without nose'], respectively). Besides, and as mentioned at the beginning of this section (cf. footnote 14), the lexical entries proposed show that *des-* lacks conceptual information, as it does not lexicalize a root node (it is a more 'functional' prefix), whereas *es-* is a more 'lexical' prefix that incorporates a root with conceptual information. This explains the availability of *es-* in verbs encoding expressive values, sometimes in combination with onomatopoeic roots; cf. *escaguitar* 'to splash with mud',

18. The behaviour of Latin *e(x)-* is not equivalent to that of Catalan *es-*. Whereas *es-* is mainly attested in denominal and deadjectival verbs in Catalan (cf. Section 2), *ex-* is productively adjoined to verbal bases in Latin to produce satellite-framed constructions in which the prefix codifies the main event and the verbal root corresponds to a Manner Co-event (e.g., *evolare* 'to fly out', i.e., 'to go out [*e(x)*] by flying [*volare*]'). Besides, the *ex-* denominal verbs of Latin can produce both location (or ablative) and locatum (or privative) readings (cf. *exterminare* 'to drive out of boundaries' and *exoculare* 'to deprive of the eyes or of the sight', respectively), as opposed to Catalan, where *es-* gives rise to privative verbs but not to ablative verbs (cf. Section 2). The deadjectival verbs headed by these prefixes, in turn, mainly encode ingressive change of state in both languages (cf. Lat. *emollire* 'to make soft' and Cat. *estovar* 'to make soft') (cf. Lewis & Short 1879 and Gaffiot 1934, s.vv.).

*escarramicar* ‘to exhaust oneself walking’, *esclafar* ‘to squash’, *esgratinyar* ‘to scratch’, *esquitxar* ‘to splash’.<sup>19</sup>

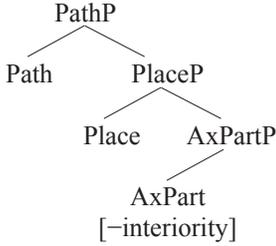
### 3.3. Further predictions afforded by the analysis

The proposed analysis also accounts for the possibility of *des-* to co-occur with *a-* and *en-* (*des-a-rriss-ar* ‘to uncurl’, *des-en-caden-ar* ‘to unchain’) vs. the impossibility of *es-* to do so (*\*es-a-rriss-ar*, *\*es-en-caden-ar*), as well as for the order in which these prefixes appear when stacked: the Source-oriented prefix *des-* always occupies a more external position than the Goal-oriented prefixes *a-* and *en-* (*\*a-des-riss-ar*, *\*en-des-caden-ar*). Crucially, *des-* and *es-* can co-appear, which is clear evidence of their different structural nature (*des-es-tov-ar* ‘to unsoften’, *des-es-muss-ar* ‘to sharpen, to make less blunt’), given that prefixes of the same type are not expected to co-occur (*\*en-a-rriss-ar*, *\*a-en-caden-ar*). When stacked, *des-* necessarily appears at a more external position than *es-* (*\*es-des-tov-ar*, *\*es-des-muss-ar*) (cf. Section 2).

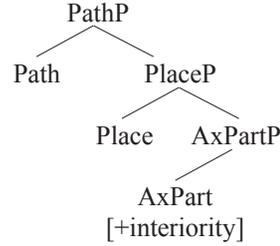
*Des-* can co-occur with *a-*, *en-*, and *es-* because it lexicalizes a functional feature that these prefixes lack: Source. Since the Goal-oriented prefixes *a-*, *en-*, and *es-* are not specified for Source, they are in complementary distribution when a Goal Path is to be spelled out, the choice among these prefixes depending on whether the features they are specified for match the features available in the structure. It has been argued here that *es-* lexicalizes Path, Place, and a root node defining the final state/location as ‘out’ (see [21b] in Section 3.2), which accounts for the idea of exit latent in the verbs containing this prefix. Concerning *a-* and *en-*, I assume that the trees lexicalized by them contain a Path feature (Goal-oriented by default), a Place feature, and an Ax(ial)Part feature (Svenonius 2006) that specifies if the Ground object is to be conceived as an enclosed space (cf. Gibert-Sotelo 2017b: 140-141). In the case of *en-*, AxPart is tagged as [+interiority] because the verbs containing this prefix specify a change of state in which a Figure (the internal argument) ends up inside a Ground (the final state/location) (cf. *en-terr-ar* ‘to bury’, i.e., ‘to put inside the earth’). The prefix *a-*, by contrast, has this feature tagged as [–interiority], which accounts for the fact that the verbs containing this prefix encode change of state events in which the Figure ends up in contact with the Ground or near the Ground, but not inside the Ground (cf. *a-terr-ar* ‘to reach land’).<sup>20</sup>

19. A question which has not been addressed in the paper is how the order of morphemes (prefix-root-verbalizer) is derived in each case. In Nanosyntax, linearization is usually obtained by means of Spell-Out driven movement (Starke 2014; Caha 2010; Pantcheva 2011), that is, a kind of evacuation movement that has no impact on syntax and which creates the right configuration for lexicalization to proceed. The exact way in which this mechanism works in *des-* and *es-* prefixed verbs in Catalan, though, is an issue beyond the scope of this work.
20. Acedo-Matellán (2006a) proposes that *a-* and *en-* involve a different conformation: INSIDE in the case of *en-* and not specified in the case of *a-*. My approach is parallel to Acedo-Matellán’s (2006a), but I by contrast assume that *a-* is specified as [–interiority], given that, in minimal pairs such as *aterrar* ‘to land’ and *enterrar* ‘to bury’, or *avinagrar* ‘to make sour as vinegar’ and *envinagrar* ‘to put in vinegar / to put vinegar into’, *a-* never gives rise to an interiority reading, being involved instead in the encoding of locative events of change by means of which

(27) a. Tree lexicalized by *a-*



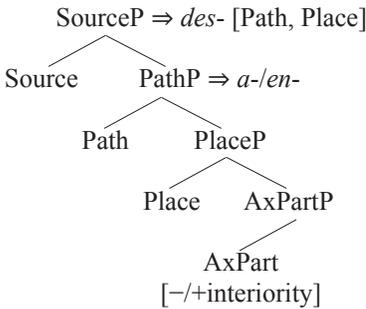
b. Tree lexicalized by *en-*



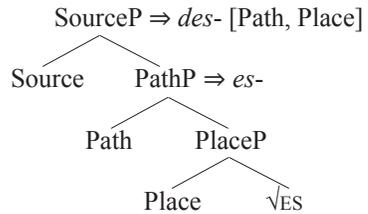
The selection of *a-*, *en-*, or *es-*, therefore, will depend on whether the structure contains an AxPart encoding [+interiority] (*en-*), an AxPart encoding [-interiority] (*a-*), or a root node encoding outness (*es-*), in addition to Place and Path.

The possibility for *des-* to stack is explained by the Superset Principle (i.e., the need for a lexical exponent to be specified for a superset of the features to be spelled out; see Section 3.1): when *des-* co-occurs with *a-*, *en-*, or *es-*, it underassociates its Path and Place features, already lexicalized by the ingressive prefixes, and only spells out Source (following Ramchand’s 2008 notation, the Path and Place features that *des-* leaves underassociated are shown in brackets in [28]). As for the more external position of *des-* when stacked, it follows from the hierarchy of the structure. Accordingly, there is no need to assume a VP-external status for *des-* (pace Di Sciullo 1997): *des-* is VP-internal (like *a-*, *en-*, and *es-*), but it occupies a more external position when stacked to Goal-oriented prefixes because it lexicalizes a Source feature that is higher in the structure than the features lexicalized by the Goal prefixes.

(28) a. Structure underlying *des-a/des-en*



b. Structure underlying *des-es*



the referent of the internal argument ends up in contact with the element encoded by the root (*aterrar*) or, more frequently, in the encoding of pure change of state events in which the referent of the internal argument is understood to acquire the external properties of the root’s denotation (*avinagar*) (Gibert-Sotelo 2017b: 141). See Acedo-Matellán (2006a) and Gibert-Sotelo & Pujol Payet (2015) for similar observations.

The two anonymous reviewers wonder why *es-* involves a root, rather than AxPart, whereas *a-* and *en-* involve AxPart, rather than a root. The different structural composition of *a-* and *en-* vs. *es-* accounts for two non-trivial differences in their behaviour. First, *a-* and *en-* can establish contrasts regarding the [+/- interiority] feature (e.g., *a-terr-ar* ‘to (make) reach land’ vs. *en-terr-ar* ‘to put inside the earth’; cf. *terra* ‘land, earth’), but *es-* does not. Notice that, even though it could be thought that *es-*, which encodes outness, is opposed to *en-*, which encodes interiority, when a contrast is to be established with an *en-* prefixed verb to encode removal from inside the Ground, the formula chosen is not to change the prefix *en-* by the prefix *es-* (cf. *en-terr-ar* ‘to put inside the earth’ vs. \**es-terr-ar*), but to add the prefix *des-* to the prefix *en-* so as to express its very contrary (cf. *en-terr-ar* ‘to put inside the earth’ vs. *des-en-terr-ar* ‘to remove from inside the earth’). This leads to the conclusion that *a-* and *en-*, which can establish contrasts regarding a [+/- interiority] feature, must structurally identify an AxPart head specifying this feature, whereas *es-*, which does not establish contrasts of this sort, does not structurally identify an AxPart projection (identifying instead a root node  $\sqrt{\text{ES}}$  that provides the conceptual information of ‘outness’). And second, in *a-* and *en-* prefixed verbs the root to which the prefix attaches corresponds to the final state/location reached by the internal argument (cf. *a-llis-ar* ‘to make become *llis* ‘smooth’; *a-canal-ar* ‘to make acquire the shape of a *canal* ‘channel’; *a-terr-ar* ‘to reach *terra* ‘land’; *en-riqu-ir* ‘to make become *ric* ‘rich’; *en-caden-ar* ‘to make become in a *cadena* ‘chain’; etc.). This is not the case for *es-* prefixed verbs, as evidenced when a minimal pair like *emblanquir* and *esblanqueir* is compared (cf. footnote 9): *emblanquir* means ‘to make become *blanc* ‘white’; *esblanqueir*, by contrast, does not mean ‘to make become *blanc* ‘white’, but rather ‘to make come out *blanc* ‘white’ (recall the idea of loss of colour conveyed by this verb). This difference is configurationally driven. In the *a-* and *en-* prefixed verbs, the root the prefix is attached to corresponds to its complement and is configurationally placed in the complement of AxPart, where it is structurally interpreted as the final state/place (since AxPart is embedded under PlaceP, which in turn is embedded under PathP). This is not the case for *es-* prefixed verbs, where the root to which the prefix is attached does not exactly identify the final state/place, which is a state of outness or loss that is rather identified by the prefix itself. Accordingly, the root of the verb cannot be structurally placed in the complement of a locative head, like Place or AxPart, dominated by a Path projection (since it would structurally correspond to a final state/location), but it must be the root of the prefix which occupies this position.

In addition, the proposal here developed may derive one of the crucial differences between *es-* and *des-*. As mentioned in Section 2, the prefix *es-*, like the Goal prefixes *a-* and *en-*, is only available in verbal derivation, in contrast with *des-*, available in nominal and adjectival derivation as well. In fact, the Goal semantics of *a-*, *en-*, and *es-* makes their use only relevant in the encoding of change of state/place, and accordingly they are mainly attested in verbal predicates. *Des-*, by contrast, contains a Source feature that allows its use to encode contrary negation, given that Source Paths can be interpreted as lower closed scales when embedded in stative predicates (Gibert-Sotelo 2017b, 2021a; cf. Section 2 and Section 3.2).

This allows the use of this prefix in morphological negation, producing verbal, nominal, and adjectival predicates that are the polar opposites of their non-prefixed counterparts.

Finally, the analysis entertained also accounts for another difference pointed out in Section 2 between *des-* and *es-*: the high productivity of the former vs. the low productivity of the latter in the creation of deverbal verbs. Importantly, the Goal prefixes *a-* and *en-*, like the Goal prefix *es-* and in contrast to the Source prefix *des-*, are not productive in deverbal verbs either (cf. *des-fer* ‘to undo’ vs. *\*a-fer*, *\*en-fer*, and *\*es-fer*), being only productive in denominal and deadjectival verbs (cf. *a-fil-ar* ‘to make thin like a thread’, *en-fil-ar* ‘to put a thread through the hole of a needle’, *es-fil-ar* ‘to unravel into threads’, and *des-fil-ar* ‘to strip off threads from a piece of clothing’, created upon the root of the noun *fil* ‘thread’), as already observed in Gibert-Sotelo (2017a) for Spanish. Following Gibert-Sotelo (2017a), I associate the asymmetrical productivity of Goal prefixes and the Source prefix *des-* in deverbal verbs to the Goal bias, that is, to the preference for Goals over Sources in the conceptualization of events (cf. Lakusta & Landau 2005). If Goals are conceptually more salient than Sources and grammatically unmarked, it follows that events are interpreted as Goal-oriented by default. Accordingly, the addition of Goal prefixes to roots that are typically categorized as verbs to specify their Goal orientation gives rise to redundant constructions. However, to express that an event is oriented towards the starting point, it is necessary to mark it with a Source prefix like *des-*.<sup>21</sup>

#### 4. Conclusion

Despite their apparent synonymy, *des* and *es-* show a series of distinguishing properties that suggest that their nature is crucially different: (1) *des-* gives rise to verbs, adjectives, and nouns, whereas *es-* only produces verbs; (2) *des-* is especially productive in deverbal verbs and extremely unproductive in deadjectival verbs, as opposed to *es-*, the less productive pattern of which is deverbal verbalization; (3) *des-* deverbal verbs have a reversative or a negative meaning; *es-* never gives rise to such values; (4) *es-* may encode an ingressive meaning, mostly in deadjectival verbs; *des-* always conveys the egressive idea of separation from a Source; (5) *des-* denominal verbs can have privative (locatum) or ablative (location) semantics,

21. Given that in the analyses proposed for complex change of state verbs it is assumed that prefixes are attached to uncategorized roots and not to verbs, nouns, or adjectives, the claim that one prefix is productive in deverbal verbs whereas other prefixes are not may seem inconsistent. Hence, it could be argued that, like in the case of reversative *descosir* ‘to unstitch’, in which *des-* is analysed as attached to the uncategorized root  $\sqrt{\text{COS}}$  ‘stitch’ (cf. Section 3.2), the Goal prefixes *a-*, *en-*, and *es-* can be added to the same uncategorized root to create a Goal-oriented change of state verb. However, the verbal constructions *\*acosir*, *\*encosir*, and *\*escosir* are unattested in Catalan, since the meaning of these verbs would be very similar to the meaning of the already existing verb *cosir* ‘to stitch’, created upon the same root and Goal-oriented by default (the result of the event encoded by *cosir* ‘to stitch’ is that of being ‘stitched’, and not that of being ‘unstitched’). Notice, though, that the Goal prefix *a-* is attested in a few deverbal verbs to mark that the event they encode corresponds to a (Goal-oriented) change of state; cf. *dormir* ‘to sleep’ vs. *adormir(-se)* ‘to (make) fall asleep’.

but *es-* does not seem to produce ablative (location) denominal verbs; (6) verbs prefixed with *des-* tend to co-occur with Source PPs; verbs prefixed with *es-*, in contrast, tend to co-occur with Goal PPs; (7) *des-* can combine with Goal-oriented prefixes, but *es-* stands in complementary distribution with these prefixes, even though it can co-occur with *des-*; and (8) *es-* is frequently documented in expressive or onomatopoeic verbal predicates.

Based on their different behaviour, this paper proposes that *des-* is an egressive (or Source) prefix but *es-* is not (contrary to the traditional view): it is an ingressive (or Goal) prefix (like *a-* or *en*). Within a nanosyntactic framework, this different nature is easily derived from the features lexicalized by each prefix: *des-* lexicalizes Source, Path, and Place, which are the features that conform a Source Path; *es-*, by contrast, does not contain a Source feature in its lexical tree, lexicalizing instead the features conforming a Goal Path (i.e., Path and Place) and a root node in the complement of Place that defines the final location as ‘out’ (which explains the apparently egressive value that this prefix may convey in certain contexts). The trees spelled out by each prefix are Rhemes of Proc(ess), giving rise to a Source-oriented change of state in *des-* prefixed verbs and to a Goal-oriented change of state in *es-* prefixed verbs. In the former case, the verbal root is merged in the complement of the Place feature lexicalized by *des-*, where it is interpreted as the initial state of the transition. The verbal root cannot be in the complement of Place in *es-* prefixed verbs because this position is already occupied by the root of the prefix. Accordingly, in this latter case the verbal root is merged as an adjunct of Place specifying the type of final state obtained.

The proposal accounts for the contrasts observed between both prefixes and allows unifying, on the one hand, the different uses of *des-*, and, on the other hand, the different uses of *es-*. Besides, the analysis offered rightly predicts that *des-* can co-occur with the Goal prefixes *a-*, *en-*, and *es-*, always occupying a more external position due to its lexicalizing a Source feature which is higher in the structure than the features lexicalized by Goal prefixes. As a by-product, the paper contributes to showing that the principles stated in Nanosyntax allow for a plausible account for the way in which affixes are chosen in the competition for insertion: the selection of one affix or the other depends on the features they are specified for and on the features present in the tree to be spelled out, where the former must be a superset of the latter.

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