On the idiomatic nature of unproductive morphology

Karen De Clercq & Guido Vanden Wyngaerd
Ghent University/FWO | KU Leuven

We present a case study in the marking of the negative prefix in French gradable adjectives, where the productive marker *iN-* alternates with a number of unproductive prefixes, like *dé(s)-, dis-, mal-, mé(s)-*. We treat this as a classical case of allomorphy, and present an account of the distribution of these allomorphs in terms of the nanosyntactic mechanism of pointers, by which lexical items may point to other, existing, lexical items in the postsyntactic lexicon. We claim that unproductive lexical items are not directly accessible for the spellout mechanism, but only indirectly, via pointers. We show how the analysis accounts for lexicalised semantics in derivations, as well as cases where the formal relationship between derivational pairs is not concatenative, but substitutive.

Keywords: morphology, productivity, negation, nanosyntax

1. Introduction

In this paper, we look at the distribution of the five different allomorphs of the negative adjectival prefix in French.

(1) in-juste 'unjust'
dé-loyal 'disloyal'
dis-courtois 'discourteous'
mal-sain 'unhealthy'
mé-content 'dissatisfied'

Of these prefixes, the first is the productive one, which appears with the vast majority of the adjectives, and also with newly formed words. The distribution of the other prefixes is unpredictable, and determined by the choice of the adjectival root. This type of distribution would usually be accounted for by rules of allomorphy specifying the contexts that give rise to one particular allomorph, notably

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in the framework of Distributed Morphology (Halle & Marantz 1993; Harley & Noyer 1999). In this case, the context would list the roots that give rise to a particular type of prefix. A context-free rule takes care of the 'elsewhere' form, in this case the productive prefix *iN-*. Caha, De Clercq, & Vanden Wyngaerd (2019) develop a nanosyntactic alternative to allomorph distribution in terms of root size: roots may have variable sizes, and this difference in the number of features they spell out is responsible for the suffix(es) they select. In this paper, we explore an alternative nanosyntactic way of accounting for allomorph distribution, namely in terms of pointers, a mechanism originally proposed to explain idiomatic meaning of syntactic constituents. We argue that this mechanism not only allows an account of the distribution of these prefixes, but also of idiomatic meaning in derivations, as well as substitutive relationships between derivational pairs.

The paper is structured as follows: in Section 2, we present the data, both of the productive prefix *iN-* and the unproductive ones. In Section 3, we present our background assumptions on the morphosyntax of negative adjectives. Section 4 introduces pointers, and Section 5 presents the analysis.

2. The data

2.1 The productive negative marker: *iN-*

We start out by a discussion of the productive negative prefix for gradable adjectives, which is *iN-*. Huot (2007) has investigated the French negative prefix *iN-* in the reference dictionary *Le Petit Robert,* and found over 420 adjectives prefixed with *iN-*.[1] Some representative examples are given in (2) below.

(2) injuste 'unjust'
ingénéreux 'ungenerous'
incroyant 'unbelieving'
incomplet 'incomplete'
inactif 'inactive'
immodeste 'immodest'
impoli 'impolite'
illisible 'unreadable'
irréligieux 'unreligious'

1. Huot has counted some 900 forms with the negative prefix *iN-*. After subtracting the nouns (like *incroyance* 'disbelief') and the adverbs (e.g. *injustement* 'unjustly'), she arrives at 420 adjectives. The notation *iN-* is intended to cover a number of allophonic variants (*in-, il-, im-, ir-*), whose distribution is covered by phonological factors. See Huot (2007:177) for details.

That this prefix is productive is indicated already by the numbers: with over 420 adjectives, *iN*-vastly outnumbers the other negative prefixes (to be discussed below). A second fact testifying to the productivity of *iN-* was already noted by Zimmer (1964: 49): "It would appear [...] that *in-* can be quite freely prefixed to almost any French adjective in *-able* or *-ible*". To test this claim, we took a number of new French verbs, like *texter* 'to text', derived a positive adjective from it with the suffix *-able,* and then made it negative with *iN-*. These steps lead to a productive series of negative adjectives, listed in the third column of (3).

(3)

V	V-*able*	*iN*-V-*able*	
texter	textable	intextable	'untextable'
démoniser	démonisable	indémonisable	'undemonisable'
dévierger	déviergeable	indéviergeable	'undeflowerable'
pixelliser	pixellisable	inpixellisable	'unpixellatable'
oscariser	oscarisable	inoscarisable	'unoscarisable'
podcaster	podcastable	impodcastable	'unpodcastable'

All of these negative adjectives were judged to be acceptable by our informant.[2] The fact the *iN-* is used to producively form new negative adjectives does not imply that all adjectives can be prefixed with *iN-*. Where restrictions exist, however, we take them to be due to independent factors. One such independent factor is that negative prefixes do not attach to negative adjectives (derived or underived) (Zimmer 1964; De Clercq & Vanden Wyngaerd 2017). In other cases, the *iN-*adjective may be blocked by the existence of a lexically negative adjective which constitutes an antonymic pair, as in *vrai-faux* 'true-false', where lexically negative *faux* blocks *invrai*.[3]

2.2 The unproductive prefixes

The unproductive negative prefixes are *dé(s)-*, *dis-*, *mal-*, *mé(s-)-*. Since Huot (2007) does not discuss these, we carried out a search of our own in *Le Petit Robert* (Rey et al. 2017). We each time looked for adjectives beginning with the relevant prefix.[4] The numbers for the respective prefixes are given on the first line of the table in (4). This number leaves out a fair number of hits that were either verbs or nouns.

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2. We are grateful to Amélie Rocquet for help with these data.

3. In cases where such blocking does not arise, as in *inactif* 'inactive', which is not blocked by *passif* 'passive', we take the relevant adjectives not to be perfect antonyms, and the lexically and prefixally negative adjectives to express different conceptual content.

4. We use the term prefix in a loose manner here, without wanting to imply that all the adjectives in fact consist of a prefix and a base.

(4)

	dé(s)	*dis-*	*mal-*	*mé(s)-*
TOTAL	154	23	27	9
NET	4	2	13	1

On the second line of the table, we give the number of cases which are incontrovertibly derived from corresponding positive adjectives. For *dé(s)-*, we only found four of those, which are listed in (5):

(5) désagréable 'unpleasant'
déshonnête 'dishonest'
défavorable 'unfavorable'
déloyal 'disloyal'

Obvious *dé(s)*-prefixed adjectives that we discounted as being deadjectival (i.e. as being derived from a positive adjective through prefixation with *dé(s)-*) are the ones for which there does not exist a positive counterpart without the prefix. For example, the adjective *défectueux* 'faulty' has no positive counterpart **fectueux*. On the basis of this fact, we do not treat such adjectives as morphologically complex in the sense of our analysis, i.e. they do not consist of two separate lexical items (even though we decompose them as containing a NEG feature, as we shall see below).

A second large class of cases that we discount consists of the participial adjectives. These are derived from verbs with *dé(s)-* through the addition of the present participle ending *-ant* or the past participle ending *-é* (or equivalent irregular past participle endings), possibly followed by a step of zero-conversion to adjective. These account for some 70% of the *dé(s)*-prefixed adjectives. This proportion suggests that we are dealing with a morphological process which is at least to some degree productive, with the corresponding process to derive negative adjectives from positive ones being unproductive. Consider, for example, the adjective *désobéissant* 'disobedient', which could be derived (unproductively) from the positive adjective *obéissant* 'obedient', which is in turn derived from the verb *obéir* 'to obey'. But there is an alternative analysis, where *désobéissant* 'disobedient' is productively derived from the *dé-*prefixed verb *désobéir* 'to disobey' through regular present participle formation, and regular conversion of the participle to an adjective. Under such a derivational path, we explain why there are so many participial adjectives with *dé(s)-*, and so few others.

We do not rule out the possibility that the participial adjectives may acquire specialised semantics, which many do. An extreme case is an adjective like *démeuré* 'retarded, imbecile', which is formally but not semantically related to the verb *démeurer* 'to reside, to live'. More examples with lexicalised semantics can be found in (6) below. But the process through which specialised meaning arises in the participial adjectives is an independent one (as we shall see below), and the

fact of semantic specialisation does not in itself indicate that participial adjectives involve the adjectival prefix *dé(s)-*.

To give a feel of the large set of adjectives that we do not take to be composed of a positive adjective and the negative adjectival prefix *dé(s)-*, we list some instances below:

(6)

dépouillé	'bare'
désordonné	'sloppy'
déplacé	'unwarranted'
démystifiant	'demystifying'
désastreux	'disastrous'
dégingande	'gangling, lanky'
déliquescent	'decaying'
délétère	'harmful'
désavantageux	'disadvantageous'
défectueux	'faulty'
dément	'mad'
défunt	'dead'
débonnaire	'naive, tolerant'
dégourdi	'smart'
débordant	'amazing'

The first four are examples of participial adjectives, whereas the others involve cases where the positive adjective without the prefix does not exist (with the exception of *désavantageux* 'disadvantageous', to which we return). While most have a negative meaning, which may diachronically be due to the negative prefix, we claim that synchronically these adjectives are not complex in the sense of consisting of two independently existing lexical items. This is *a fortiori* the case for the final three adjectives in the right-hand column, which seem to have lost the negative meaning and shifted to a positive sense.

The case of *désavantageux* 'disadvantageous' merits some further discussion. It could either derive from the positive adjective *avantageux* 'advantageous' through unproductive prefixation with *dés-*, or from the noun *désavantage* 'disadvantage' through suffixation with the adjectival suffix *-eux*. Either derivational route seems available, which means that we could give the adjective the same treatment as the ones in (5), as we shall see below. In our sample, it is the only adjective of this sort, i.e. one where the negative prefix could be argued to originate in a noun with *dés-*.

The situation with the other unproductive prefixes is largely similar. With *dis-*, there are only three incontrovertibly deadjectival negative adjectives. We list a selection of the others in the right-hand column of (7).

(7)

DEADJECTIVAL		OTHER	
discourtois	'rude'	disparu	'disappeared'
discontinu	'discontinuous'	distrait	'distracted'
dissemblable	'different'	dissonant	'dissonant'
		discutable	'debatable'
		dissuasif	'deterrent'
		disruptif	'disruptive'
		disjonctif	'disjunctive'
		disparate	'disparate'
		disetteux	'poor'

Here, too, we find some participial cases, given that there are also verbs beginning with *dis-,* like *disparaître* 'to disappear', *distraire* 'to distract', etc.

There are slightly more adjectives with *mal-,* with 13 of them being incontrovertibly adjective-derived.

(8)

DEADJECTIVAL		OTHER	
malsain	'unhealthy'	malade	'ill'
malpropre	'unclean'	malin	'smart'
malhonnête	'dishonest'	malencontreux	'unfortunate'
malpoli	'rude'	malicieux	'malicious'
malcommode	'unpractical'	malveillant	'malicious'
malentendant	'hard of hearing'	maléfique	'evil'
malgracieux	'unelegant'	malvenu	'unwelcome'
malheureux	'unhappy'		
malaimé	'impopular'		
malaisé	'difficult'		
maladroit	'clumsy'		
malodorant	'smelly'		
malséant	'improper'		

The adjectives in the right-hand column diachronically all derive from a form containing the Latin adjective *malus* 'bad'. However, synchronically we do not consider these forms to be morphologically composed of two items, since the subpart of them without *mal-* does not exist as a lexical item in the present-day lexicon. At the same time, most of them still share a negative meaning component, which is a fact that we shall attribute to the presence of a NEG feature in their lexical entry. A few adjectives of this type, like *malin* 'smart' only have the negative sense as an archaic one, and have shifted to a positive meaning in present-day French. The final two adjectives in the right-hand column are special, in that they have a positive counterpart that is formed by substituting *bén-* or *bien* (historically derived from Latin *bene* 'well') for the negative prefix *mal-:*

maléfique 'evil' vs *bénéfique* 'beneficial' and *malvenu* 'unwelcome' vs *bienvenu* 'welcome'. There exists in these cases a clear positive counterpart, but it does not simply relate to the negative adjective by the addition of a morpheme. We return to these examples below.

There is only one adjective where *mé(s)-* derives a negative adjective from an existing positive one:

(9)

DEADJECTIVAL	OTHER	
mécontent 'dissatisfied'	méchant	'nasty'
	mécréant	'heretical'
	méprisable	'despicable'
	méfiant	'distrustful'
	méprisant	'contemptuous'

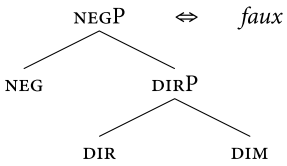
Here too we have some participial adjectives in view of the fact that there are negative verbs beginning with *mé-* (e.g. *méfier* 'to distrust', *mépriser* 'to despise').

Summarising, we see that French has one productive negative prefix *iN-* which derives negative adjectives from their positive counterparts. In addition, it has four unproductive prefixes, which only in a handful of cases derive negative adjectives from their positive counterparts. It seems unlikely that in this case the distribution of the allomorphs can be explained in terms of variable sizes of the adjectival root. This is an idea that Caha et al. (2019) successfully apply to the explain the distribution of the allomorphs of the Czech suffix of the comparative. Applied to the French case under discussion here, it would imply that there are five different sizes of adjectival roots, a claim for which there is no independent evidence, however. We shall therefore develop an alternative account of the distribution of the French negative prefixes in terms of pointers. Before we can do so, however, we need to lay out our assumptions on the internal syntax of adjectives in general. We set out to perform this task in the next section.

3. Prerequisites

We decompose gradable adjectives into a number of syntactic features. At the bottom of the hierarchy is a dimension (DIM), such as size, velocity, color, etc. Scalar adjectives come with an ordering on top of a dimension, which we represent by the feature DIR. Directions may be reversed by means of an optional reversal operator, which we represent as NEG. Positive adjectives do not have NEG, but negative ones do (De Clercq & Vanden Wyngaerd 2019). This is true both of lexically negative adjectives (like *false*) and morphologically derived ones (like *untrue*). The lexical entry for a lexically negative gradable adjective like *faux* 'false' is given in (10):

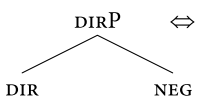
(10)



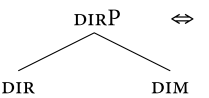
The reasons for decomposing negative adjectives in this way have to do with their polarity sensitivity: negative prefixes do not attach to a (derived or underived) negative base (as noted above; see also Zimmer 1964; Horn 1989, 2005), and negative adjectives cannot be modified by the adjectival modifier *little*. This polarity sensitivity extends to French, where we have, for example, *peu actif* 'little active', but not **peu passif* 'little passive' (De Clercq & Vanden Wyngaerd 2017).

Adjectives with negative prefixes have a slightly different analysis than the one in (10), in so far as they are morphologically complex, i.e. they consist of two separate lexical items: *iN-* (in the case of the productive prefix) on the one hand, and a positive gradable adjective on the other. The analysis adopts the lexical items in (11) and (12). The former represents the prefix *iN-*, the latter a positive gradable adjective, which for concreteness we take to be *juste* 'just'. When the syntax attempts to derive the negative counterpart of *juste,* it will create a structure with a prefix, as shown in (12), with the circles indicating phrasal spellout. The way this happens technically involves the Spellout Algorithm, a mechanism which mediates between the syntactic derivation and the (postsyntactic) lexicon, and which operates after each Merge step (Starke 2018). For reasons of space, we will not discuss it any further here.

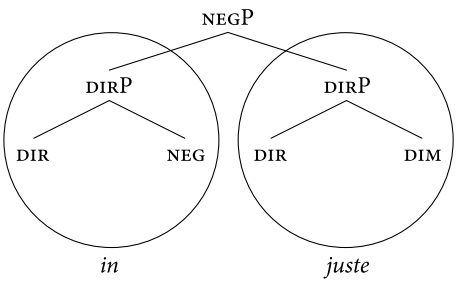
(11) a.



b.



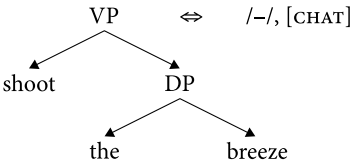
(12)



4. Pointers

With this much background in place, we can proceed to a discussion of the unproductive prefixes discussed in Section 2 above.[5] The analysis we propose relies crucially on the mechanism of pointers. Pointers are references inside lexical items to other, existing, lexical items. They are (among other things) a way to derive idiomatic meanings of syntactic combinations like *to shoot the breeze,* which has an idiomatic meaning 'to chat'. The lexicon contains an entry which attaches this idiomatic meaning to a syntactic constituent, a VP:

(13)



The arrows in the tree structure represent the pointers, and they refer to places in the lexicon where other lexical information is stored. When a VP has been created containing these lexical items in this structure, the meaning [CHAT] will be inserted, and override the lexical meanings associated with the items *shoot, the,* and *breeze.* Note that the lexical item in (13) contains no phonological information, as represented by the notation /–/ in the lexical entry: the idiom adds no new phonology on top of the existing one, just new meaning.

In the following section, we apply the pointers technology to the unproductive negative prefixes of Section 2.2. We shall show how it accounts for a variety of phenomena revealed by the data discussed here, but which are also phenomena that are widely attested in morphology elsewhere. The first concerns the correct distribution of the productive and the various types of unproductive affixes that we discussed. The second phenomenon is the one where an existing prefix combines with a non-existent root. The third phenomenon is that of idiomaticity or lexicalised meaning in morphological derivations. A final phenomenon we discuss is that of nonconcatenative formal relationships between derivational pairs, in particular cases where one morpheme substitutes for another.

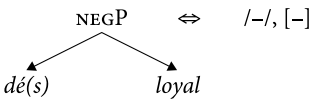
5. Our proposal in this section is greatly indebted to a discussion with M. Starke (p.c.).

5. Analysis

5.1 Allomorph distribution

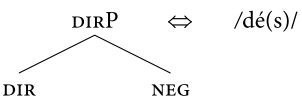
We begin the discussion with a type of negative adjective which is instantiated by *déloyal* 'disloyal'. These come closest to the ones with regular prefix *iN-* in being strictly compositional: when looking at (12), at the level of the topmost NEGP, both the form and the meaning are strictly the sum of the constituents contained in it. Many of the adjectives with the unproductive prefixes also have this property, i.e. they are semantically strictly compositional, and they are also formally compositional, in that they combine an existing adjectival root, like *loyal* 'loyal', with an existing negative prefix *dé-*. What makes the productive prefix different from the unproductive one is that the productive prefix does not exist in the lexicon in combination with particular roots. Similarly, the roots that take the productive prefix *iN-* are not listed in lexical items with a prefix, but only as roots (see e.g. *juste* 'just' in (11b) above). The productive negative prefix *iN-* does occur in syntactic combinations of the prefix (given in (11a)) and adjectival roots like (11b), as shown in (12). For *déloyal,* however, there exists a lexical entry for the combination of the prefix and the adjectival root. This entry contains two pointers, as in (14):

(14)

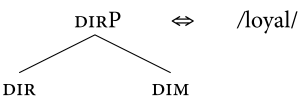


The pointers refer to two independently existing lexical items: the negative prefix *dé(s)-* on the one hand, and the positive adjective *loyal* on the other. Note that (14) does not, at the NEGP node, introduce any new phonology, nor meaning (as indicated by the notation /–/, [–]). This is because both the form and the meaning correspond exactly to the sum of the composing parts. The lexical items pointed to have a structure which is largely identical to the composing parts of *injuste* 'unjust', discussed above. This is shown in (15).

(15) a.

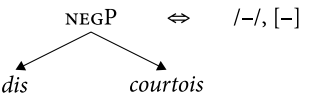


b.

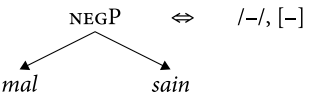


All the roots that take unproductive prefixes are listed in the lexicon in this way, i.e. as in (14). This is shown with an example for each of the unproductive prefixes in (16).

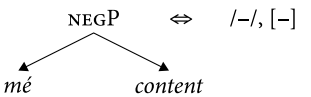
(16) a.



b.



c.



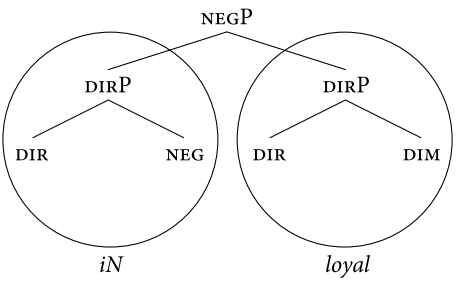
All the negative prefixes (productive and unproductive ones alike) in turn have the same structure (given in (11a) and (15a) above). The function of the lexical items with the pointers is to specify which root takes which prefix. Since this is unpredictable information for the unproductive prefixes, it needs to be listed in the lexicon, and that is precisely what the pointers do. At the same time, lexical entries like *déloyal* 'disloyal' are not listed as unanalysed wholes. This reflects the fact that it is part of the native speaker knowledge that both the meaning and the form of the negative adjective *déloyal* are related to that of the positive adjective *loyal,* which is contained in it. The same reasoning holds for the negative adjectives with unproductive negative prefixes in general, at least to the extent that they have an existing positive adjective contained in them. Given that the feature content of the productive and unproductive negative prefixes is identical, we need to explain how we get the correct distribution of these negative prefixes, i.e. how do we avoid deriving **déjuste* or **inloyal?* Let us begin with the first part of this puzzle, which is how to prevent the unproductive prefixes with roots like *juste,* which take the productive prefix. Suppose the syntactic derivation has produced *juste* 'just', and wants to derive the negated adjective with a prefix. All the negative prefixes, including the unproductive ones, will compete for insertion at the level where the prefix is inserted, since they all realise the same structure. In order to block the insertion of the unproductive ones, we adopt an idea by M. Starke (p.c.) about what it means to be an unproductive lexical item. The idea is that unproductive lexical items are not directly accessible for the syntactic computation, in particular the Spellout Algorithm, since they are contained in a part of the lexicon that is invisible to it.[6] The only way these unproductive parts of the vocabulary

6. An analogy suggested by Starke is that of a public car park, which advertises the number of free spaces at its entrance, but does not advertise the spaces that belong to long-term tenants.

can be accessed is indirectly, through pointers to them in other lexical items. This will rule out formations like *déjuste, maljuste,* etc., or, putting it more generally, the appearance of unproductive affixes with roots that take the productive affix (we return to some technical details of this immediately).

The next question to address is how the spellout of adjectival roots with unproductive prefixes works, and how we avoid deriving **inloyal.* Let us look at the derivation of *déloyal* 'disloyal'. First, DIRP is merged and spelled out as *loyal.* Since we want to make a negative adjective, we merge NEG, deriving a structure as in (10) above. But the French lexicon has no lexically negative antonym of *loyal.* Instead, a prefix will be merged in a separate workspace, to be merged later on with the main derivation as a complex specifier (Starke 2018). This complex specifier will be realised as the productive negative prefix *iN-,* since the unproductive prefixes are not directly accessible to the Spellout Algorithm. In a next step, the complex specifier will be merged with the main derivation, leading to an intermediate derivation as in (17):

(17)



Next, the lexicon will be consulted to see if there is a lexical item that can spell out NEGP. There is a lexical item stored in the lexicon as a unit that matches the structure that has just been spelled out, namely *déloyal* in (14) above, which consists not only of a pointer to the gradable adjective *loyal,* the adjective spelled out in previous cycles, but also to the unproductive negative prefix *dé(s)-.* This lexical item matches the available structure but not the available spellout *iN-loyal,* given in (17). What we need at this point is for the unproductive lexical item *dé(s)-* to become available, and to be able to displace the earlier spellout *iN-.* The availability of *dé(s)-*for insertion results from the fact that it is referred to in the lexical item with the pointer. This is in fact the only way in which unproductive lexical items can become available for insertion.

The second thing that needs to happen is the displacement of the earlier spellout *iN-.* There are a number of possibilities as to how to implement this technically. We will sketch one possibility here, so as to make our proposal maximally concrete. The idea behind this implementation is that the five negative prefixes of French under discussion here, both productive and unproductive, are all 'the

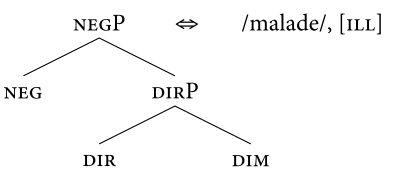
same' lexical item. In this respect, they differ from the lexical entries for the adjectival root, like *juste, loyal, content,* etc., which likewise spell out the same structure (dirP), but which have different conceptual content. In the latter case, free choice (i.e. what one wants to say) determines which lexical item will be selected. The case of the negative prefixes is different, in that the distribution is determined arbitrarily: it just so happens that *loyal* takes *dé(s)-*, and *juste* takes *iN-*, and so on. Other than that, the prefixes are exactly the same.

Given this much, we propose to treat the overriding of *iN-* by *dé(s)-* as a rather straightforward case of Cyclic Override, the general mechanism that allows spellouts at an earlier cycle to be overridden by a spellout at the next cycle up. That is, at the level of the topmost NEGP, when the lexicon makes available *déloyal* (as in (17)), an update will take place, since the spellout obtained in the earlier spellout cycle deviates from the phonology of the negative prefix pointed to in (14). That such an update is possible and allowed is because it is faithful to the original spellout: no information is lost in the process. In this respect, functional lexical items like the negative prefixes under discussion here differ from the adjectival roots, where overriding one root by another would result in the loss of conceptual content.

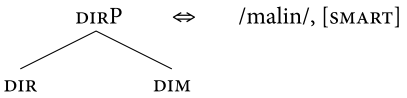
5.2 Nonderived adjectives

We next turn to a different type of negative adjectives, which have what looks like an unproductive negative prefix, but which after subtraction of the prefix do not yield an existing positive adjective. A case in point is *malade* 'ill', which has negative meaning, and which contains a formal remnant of the Latin form *malus* 'bad' in it (similar to *mal* in *malsain* 'unhealthy'). However, there is no positive adjective *ade* in French, which would arise after subtraction of *mal* from *malade*. We therefore assume that *malade* is synchronically not composed of two distinct existing lexical items. This translates into a lexical item without a pointer, but with a NEG feature in it, as shown in (18). The NEG feature is what these adjectives share with derived negative adjectives and underived negative adjectives like *faux* 'false', which contain no diachronic trace of a negative marker. The NEG feature accounts for their polarity sensitivity properties mentioned above. The next step in the loss of morphological transparency is when an originally negative adjective acquires a positive meaning, as is the case with *malin* 'smart'. Such adjectives lack the NEG feature, as shown in (19).

(18)



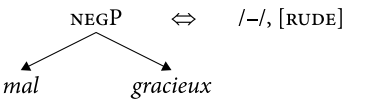
(19)



5.3 Idiomaticity

The approach in terms of pointers is also well-suited to account for the widely attested phenomenon of noncompositional semantics, or idiomaticity, in morphological derivations. For example, the adjective *gracieux* 'elegant' has a negative counterpart *malgracieux* 'rude', the semantics of which is not strictly compositional (i.e. the meaning which would correspond to English *unelegant*), but lexicalised. This can be straightforwardly accounted for by attaching this specialised meaning to the lexical item with the pointer, as shown in (20).

(20)



This noncompositional meaning will override the compositional one at the point where NEGP is spelled out.

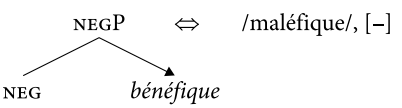
5.4 Substitutive morphology

Another type of morphological relationship is observed in the following pairs of words (already mentioned in Section 2 above):

(21) maléfique 'evil' bénéfique 'beneficial'
malvenu 'unwelcome' bienvenu 'welcome'

These pairs show compositional semantics, but have a formal relationship that is not amenable to the same treatment as *déloyal* and the like discussed above. What we see is a substitutive form, i.e. the negative adjective is derived by substituting *mal-* for *bén-* or *bien* in the positive adjective. We account for such pairs by taking the lexical entry to contain a NEG feature (like *malade* in (20)), but also a pointer to the positive adjective *bénéfique,* as shown in (22):

(22)



At the NEGP level, this lexical item introduces a new phonology, which will override whatever was spelled out at earlier levels, in this case *bénéfique*. Since there is no semantic information in the lexical item at the NEGP level, the meaning will be

strictly compositional. This accounts for the transparent semantic relationship, as well as the substitutive formal relationship.

6. Conclusion

We have developed an analysis of nonproductive morphology in French negative prefixes in terms of pointers, a mechanism introduced in nanosyntax to deal with idioms. We have put this mechanism to use to deal with a variety of phenomena. First and foremost, we derived the distribution of the various types of unproductive allomorphs of the negative adjectival prefix in French. Second, pointers were also able to account for the widely attested phenomenon of lexicalised (or idiomatic) meaning in morphological derivations. Finally, pointers were shown to account for formal relationships between derivational pairs that are not simply prefixal or suffixal, but substitutive.

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Address for correspondence

Karen De Clercq
Ghent University
Department of Linguistics
Blandijnberg 2
B-9000 Gent
Belgium
karen.declercq@ugent.be

Co-author information

Guido Vanden Wyngaerd
KU Leuven
Faculteit Letteren, Campus Brussel
guido.vandenwyngaerd@kuleuven.be