

The French negative *in-* prefix: what assimilation tells us about structural attachment

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Data: *mostly from Anscombre 1994; Apothéloz 2003, 2005; Huot 2007; + in References*

(01) a. **ir**réparable [iʁεpαʁabl] b. **in**réparable [ɛ̃εpαʁabl]

- significantly different meanings.

(02) meaning of (01) a: *irreparable, beyond repair, awful* => figurative sense
 meaning of (01) b: *not/un-repairable, not/un-fixable* => only a compositional sense
 meaning of the base *réparable* alone: that you can repair/fix

(03) *Compositionality*: when you can predict the meaning of an element from the combination of the meanings of its parts (in a systematic and regular, predictable way).

Like : eat-**able** = *that you can* eat, **un**-eat-able = that you can **not** eat
 wear-**able** = *that you can* wear, **un**-wear-able = that you can **not** wear
 repair-**able** = *that you can* repair, **un**-repair-able = that you can **not** repair etc.

As opposed to a *figurative sense*, where the different meanings of the parts *would not predictably generate the expected global meaning* in a literally "**that you can not X**" form.

- specific contexts.

(04) a. Il a commis l'**ir**réparable / *l'**in**réparable
 → He did something awful.
 b. Notre atelier a tout essayé, mais cet appareil est **in**réparable / ***ir**réparable.
 → Our workshop tried everything, but this device is *unfixable*.

What theory can account for that contrast?

(05) Other data presenting the same contrast - *data from Apothéloz 2003, 2005*

A			B		
with phonological assimilation and possible figurative meaning			without phonological assimilation and only a strict compositional meaning		
French	English gloss1	IPA	IPA	English gloss2	French
1 ir remplaçable	<i>irreplaceable, with high value</i>	iʁãplasabl	ẽʁãplasabl	<i>not/un-replaceable</i>	in remplaçable
2 ir récupérable	<i>beyond redemption</i>	iʁεkyʁεʁabl	ẽʁεkyʁεʁabl	<i>not/un-retrievable</i>	in récupérable
3 ir révocable	<i>irrevocable, irreversible, fixed</i>	iʁεvokabl	ẽʁεvokabl	<i>not/un-revocable</i>	in révocable
4 in nomable	<i>unspeakable, horrible</i>	inomabl	ẽinomabl	<i>not/un-nameable</i>	in nomable
5 ir réprochable	<i>beyond reproach, impeccable</i>	iʁεpʁoʃabl	ẽʁεpʁoʃabl	<i>not/un-reproachable</i>	in réprochable

¹ For this superlative interpretation see the work of Apothéloz (2003, 2005) based on Gaatone (1971, 1987).

(06) « [...] le doublon construit avec l'allomorphe [ẽ-] permet d'exclure l'interprétation subjective ou superlative de l'adjectif et de restaurer la valeur du composant "négation". On pourrait dire aussi qu'il restaure la compositionnalité du dérivé. » Apothéloz, 2005

The duplicate built with the allomorph [ẽ-] allows to exclude the subjective or superlative interpretation of the adjective and to restore the value of the "negation" component. We could also say that it restores the compositionality of the derived element.

General well known allomorphy of this French *in-* prefix, depending of the nature of the first phoneme of the base:

(07)

a. → [ẽ] / _ C_[-son] b. → [in] / _ V c. → { [i], [ẽ] } / _ C_[+son]
 i.e. in front of obstruents i.e. in front of vowels i.e. in front of sonorant C

a. and b. with a clear phonological conditioned allomorphy:

(08)

	base	/in-/+base	
a.	probable [pʁɔbabl]	improbable [ẽpʁɔbabl]	<i>likely / unlikely</i>
_ C _[-son]	connu [kɔny]	inconnu [ẽkɔny]	<i>known / unknown</i>
	capable [kapabl]	incapable [ẽkapabl]	<i>able / unable</i>
	digne [dijɛ]	indigne [ẽdijɛ]	<i>worthy / unworthy</i>
	supportable [syʁpɔʁtabl]	insupportable [ẽsyʁpɔʁtabl]	<i>bearable / unbearable</i>
b.	élégant [elegã]	inélegant [inelegã]	<i>elegant / inelegant</i>
_ V	attentif [atãtif]	inattentif [inatãtif]	<i>attentive / inattentive</i>
	animé [anime]	inanimé [inanime]	<i>animate / inanimate</i>
	habituel [abityɛl]	inhabituel [inabityɛl]	<i>usual / unusual</i>
	utile [ytil]	inutile [inytil]	<i>useful / useless</i>

As for c., usually exemplified like in (09) with **an assimilation rule in front of sonorant C initial bases**

→ [i] / _ C_[+son]

(09)

c.	logique [lozik]	illogique [ilozik]	<i>logical / illogical</i>
_ C _[+son]	lisible [lizibl]	illisible [ilizibl]	<i>legible / illegible</i>
	moral [moʁal]	immoral [imoʁal]	<i>moral / unmoral</i>
	réaliste [ʁealist]	irréaliste [irealist]	<i>realistic / unrealistic</i>
	responsable [ʁespɔsabl]	irresponsable [irespɔsabl]	<i>responsible / irresponsible</i>

We already discussed data where it is possible for the assimilation rule to not apply in this context. Therefore the alternate choice of realizations → { [i], [ẽ] } / _ C_[+son] directly generalized in (07).

Alternation **not in free variation**, although not phonologically conditioned here (remember data from (01) and (05)).

{ [i], [ẽ] } / _ C_[+son] are in fact **structurally conditioned**.

Phase theory at the word level, like Distributed Morphology → categorizing heads like *a*, *n* or *v* being *Phase heads*, the **first categorization** sets the phonological and semantic interpretations of the word.

Above this 1st Phase → base already *Transferred* to interfaces

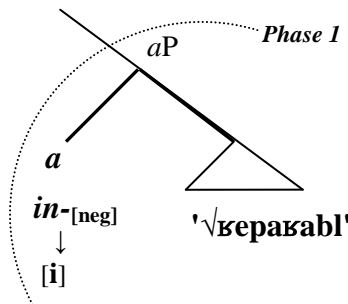
→ only semantical strict compositionality

→ phonology of the base not relevant anymore for further operations.

C_[+son] initial bases have the *in-* prefix **attached in two different structural positions**:

a. either in the same Phase as themselves, where it would undergo the assimilation rule and realize as [i] and where a figurative sense could be assigned to the complex element derived

(10)²

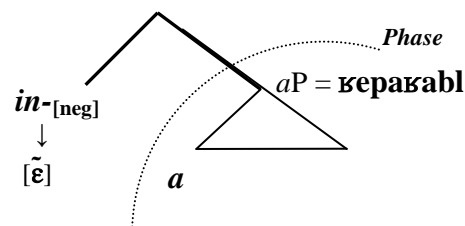


=> figurative sense: ok
=> assimilation: applies

b. either above the Phase(s) constituting the base

(11)

=> *figurative sense / but compositionality !
=> *assimilation / hence the general rule applying
i.e. → [ɛ̃] / _ C
→ [in] / _ V



(12) Allomorphy claim for the French *in-* prefix:

- under the 1st Phase => a three way allomorphy, where assimilation rule applies
→ [in] / _ V
→ [ɛ̃] / _ C [-sonorant] and → [i] / _ C [+sonorant]
- above the first Phase => a two way allomorphy, without phonological rules applying
Simply the skeletal linearization distinguishing the CVCV³ template of the base (like in French liaison context) cf.(11)

Although the French *in-* prefix is *mostly* found on adjectives, it is not exclusively! Here exemplified **on nouns**.

(13)⁴ **ir**respect [iʁɛspʁɛ] (*disrespect*), **in**action [inaksjɔ̃] (*inactivity*), **in**confort [ɛ̃kɔ̃fɔʁ] (*discomfort*), **in**experience [inɛkspʁɛʒjãs] (*lack of experience*), **in**conduite [ɛ̃kɔ̃dɥit] (*bad behaviour*), **im**passé [ɛ̃pas] (*dead-end*), **im**pudeur [ɛ̃pydœʁ] (*shamelessness*)...

² I will follow Fábregas (2003, 2005) and consider that at the word level the categorizing head is transferred with its selected complement to interfaces. At the first Phase, a root or rootP would be this complement and it would not be interpretable by interfaces before being an existing element of the language - if it was to be sent alone, the derivation would crash! Under this assumption, only domain edges' (like Specifiers, or Adjuncts) stay in the computation.

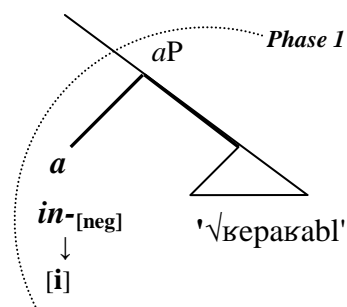
³ Cf. Lowenstamm 1996

⁴ Examples from Apothéloz 2005.

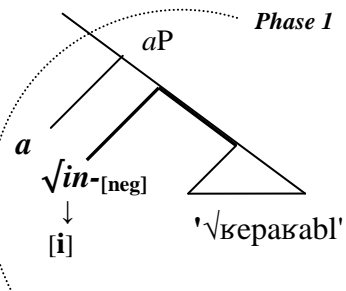
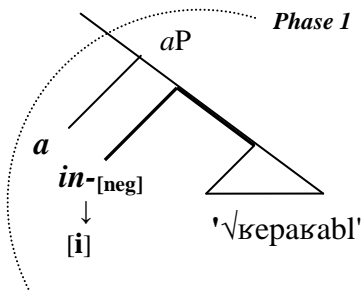
The prefix is not responsible for giving the category to the whole.

→ prefixation happens **under the first Phase, but not triggering it.**

(10) recalled



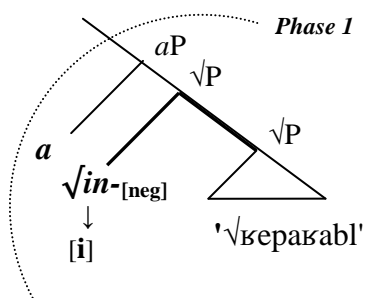
(14)a. -----> (14)b.



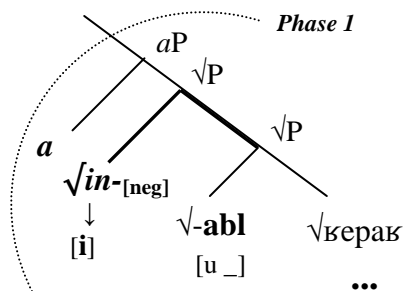
It is not the exponent of the adjectival Phase Head but a **ROOT itself**⁵, hence tree (14)b.

Everything below the first categorization are roots.

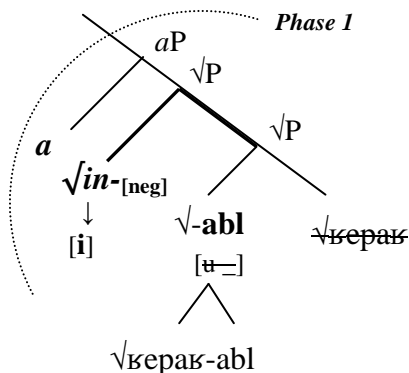
(15)a. ----->



(15)b.



(15)c.



These synchronic roots can be *free* or *bound*.

Bound roots carry a kind of uninterpretable feature⁶ [u _] that the root has to fulfill in order to pursue its way in the computation.

It is the complex root formed by the whole sub-categorial root *mergings* that is then selected by the categorizing head, here the *a* head.

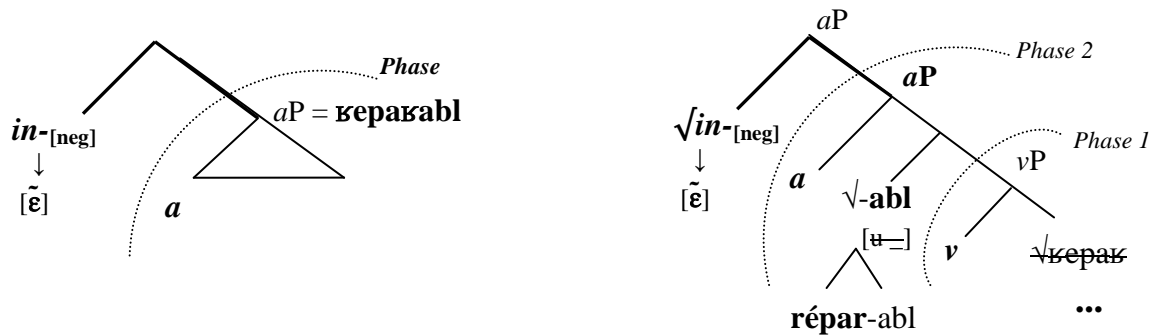
The whole derivation takes place before the adjectivalization step. (ex from (14), (15))

⁵ Unlike the postulate of Distributed Morphology which considers derivational affixes as categorial exponents (i.e. as phonological realizations of categorizing heads), I am going to largely adopt here the thesis of Lowenstamm (2007, 2010) and consider **affixes as (possible)roots**.

⁶ In the Pesetzky and Torrego 2004 way.

→ the structure of **the higher attachment of the prefix:**

(11) recalled -----> (16) structure for a morphological negation of a deverbal -able adjective



With this high attachment structure, another set of French data in (17).

prefixal *in-* realization => [ẽ], only **post phasal**, hence their **compositional meanings**

(17)

	French	English glosses	IPA	IPA
1.	im manquable	<i>impossible to miss</i>	ẽmākabl	*imākabl
2.	im mangeable	<i>uneatable</i>	ẽmāzabl	*imāzabl
3.	im mettable	<i>unwearable</i>	ẽmɛtabl	*imɛtabl
4.	im mariable	<i>unwedddable</i>	ẽmaꝛjabl	*imaꝛjabl
5.	im manoeuvrable	<i>unmaneuvrable</i>	ẽmanœvꝛabl	*imanœvꝛabl
6.	im maniable	<i>unhandleable</i>	ẽmanjabl	*imanjabl
7.	im mesurable	<i>unmeasurable</i>	ẽməzyꝛabl	*iməzyꝛabl
8.	in lassable	<i>tireless</i>	ẽlasabl	*ilasabl
9.	in lavable	<i>unwashable</i>	ẽlavabl	*ilavabl
10.	in navigable	<i>innavigable</i>	ẽnavigabl	*inavigabl
11.	in négociable	<i>unnegotiable</i>	ẽnegosiabl	*inegosiabl
12.	in rrangeable	<i>non tidyable</i>	ẽꝛāzabl	*iꝛāzabl

These forms do not have a corresponding [i] prefixed form. Accident of the language. They could have existed, but it just is that they don't (one cannot predict a figurative sense, something idiomatic).

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The difference between the prefixed forms we looked at is in essence a **structural one**. It comes from where in structure this prefix attaches to the base. Pre or post-Phasally.

And it is the prefix's phonology, the form in which it realizes, that gives us a hint on the derivational path involved. In the context where the base begins with a sonorant C of course.

- (18) 1. **impuissant** [ẽpɥisã] *helpless, impotent* / puissant *powerfull*
impayable [ẽpejabl] *priceless(fig)* / payable *that you have to pay*
2. **insouciant** [ẽsusjã] *carefree, careless* / *souciant
insolite [ẽsolit] *strange, unusual* / *solite

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