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Unlikely infix-like elements in English: Critical remarks on the use of the term infix(ation)*

Abstract

The term *infixation* in English linguistics has been applied indistinctly to refer to various types of word internal modifications. However, a closer examination, especially from a historical linguistic viewpoint, suggests that several such internal modifications should not be treated as processes that involve infixes or even 'infix-like' elements. At the same time, the only true infix in English, the nasal present infix preserved from its Indo-European ancestor, gets hardly any attention in discussions of English morphology because this ancient infix is no longer productive. This paper offers some critical remarks on the current use of the notion of *infix(ation)* in English morphology, emphasizing the need for a more circumspect use of this term. Furthermore, it provides a brief insight into the historical background of the fossilized nasal infix in Modern English with an eye to reinstate its theoretical role in discussions of affixation.
Keywords: infixation, connective vowels, expletive derivation, ablaut, umlaut, Indo-European nasal present infix

1 Introduction

Standard handbooks of English grammar and linguistics[1] usually do not discuss the notion of infix or infixation, and this lacuna might be acceptable because infixation is a morphological process that rarely occurs in English. The handbooks that do have an entry for infix(ation) tend to be brief on this subject, and often provide information that is not quite appropriate for clarifying the notion of infixation, especially in the context of teaching English morphology. Correct treatments and ones that would highlight the historical background of infixation (e.g. Brinton 2000: 77-78), are few and far between. Therefore, it seems worthwhile to embark on an investigation of how the notion of infix and the process of infixation are treated in synchronic descriptions of English. The discussion here has two aims:

a) to offer a critical survey of the phenomena that are – somewhat carelessly – indistinctly called infixes or infix-like elements in English, and
b) to provide a historical introduction to relic survivals of an archaic infix, which – although fossilized – is still preserved in Modern English.

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[1] Cf. e.g. Quirk et al. 1985, Aarts & McMahon 2006, Huddleston & Pullum 2008, Aarts 2011.

If we take a brief chronological look at varying opinions and attitudes to the existence of infixation in English, it turns out that the early ideas may be strikingly more refined than what later scholarship has produced. Sapir stated that infixing is "utterly unknown in English" but at the same time he added the rider that it is possible to "consider the *n* of *stand* (contrast *stood*) as an infixed element" (Sapir 1921: 75). He also mentioned languages related to English, e.g. Latin, Greek and Sanskrit that have a distinct class of verbs characterized by the use of the infixed nasal for marking the present tense forms as opposed to other tense forms that lack the nasal infix, e.g. Latin *vi**n**c-o* 'I conquer' versus *vic-i* 'I conquered'.

A similar opinion concerning the existence of infixation in English was expressed by Willem Graff (1932: 152): "[i]n English we have nothing in the way of an infixing process". Graff, however, treated the verb *stand* in a manner surprisingly antagonistic to that of Sapir:

> [i]t can hardly be said that the *-n-* of *stand* is felt as an infixed element with a specific meaning, since whatever referential aspect it may be deemed to symbolize is undoubtedly represented more conspicuously by the vocalic change of the radical, *stand – stood* (Graff ibid.).

The essence of Graff's argument is that basically the function of the nasal element in the present tense form is no longer transparent for the present-day speaker of English, so the contradiction between the two opinions can be ascribed to the fact that Graff concentrated on the synchronic status of the nasal element, which – in his opinion – is "felt" to have no relevance for the distinction between the forms of the present and the past, while Sapir had a more complex approach and considered both the synchronic interpretation and the diachronic nature of the *-n-* in the verb *stand*. The view that English has no real infixes but "introducing a whole word into the middle of the original to give it greater intensity is based on the same principle" (Montagu 1957: 117 apud McMillan 1980: 166),[2] has become the standard interpretation in English linguistics. It is especially regrettable that basic, introductory textbooks of English linguistics also continue this trend of thought, and, when it comes to discussing infixation, the authors of textbooks find it easier to present and illustrate the notion of infix(ation) by discussing examples from Asian languages rather than delve into the historical aspects of English. A recent, otherwise excellent introduction to English linguistics (Plag et al. 2007: 73) explains infixation with the help of data from Tagalog, and confirms the old standard view by saying that

> English does not have infixes of the type similar to Tagalog. What we do find in English is a kind of infixation where whole words can be inserted into a base to indicate a negative attitude which a speaker holds towards something [...].

Accepting that the insertion of a free morpheme into another word qualifies as infixation would render infixation equivalent to expletive derivation despite the fact that these two processes have relevant differences, which I intend to highlight in Section 2.1. Loose interpretations of the notion of infixation abound in synchronic descriptions of English, e.g. the connective vowels *o* and *i* (as in *speedometer* and *handiwork*) are considered infixes or infix-like elements. Why this interpretation of connective vowels is inappropriate will be discussed in 2.2. Treating internal pluralisation (e.g. *passer**s**-by*) as a kind of infixation is equally mistaken and will be briefly criticized in 2.3. Perhaps the worst case of mistreatment of the notion is to label internal vocalic differences (as in word pairs like *foot ~ feet* and *sing ~ sang*) as a type of infixation. Why it is untenable to consider these vocalic differences to be instances of infixation will be shown in 2.4.

[2] N.B. McMillan systematically misspelt the surname of Ashley Montagu as Montague.

2 In-blooming-fixation: misinterpretations of the notion of infixation

The notion of infixation is frequently used in contexts where it is utterly inappropriate. It is natural that the interpretation of the notion of infixation may be different if we approach it from a synchronic, descriptive linguistic viewpoint or in a historical, comparative analysis. The separation of synchrony and diachrony can lead to conflicting interpretations of infixation: from the historical standpoint the synchronic applications of the term appear to be imprecise because the synchronic definition of the notion is much looser than the historical one, thus – from the historical viewpoint – the literature abounds in cases where the notion of infixation is simply misinterpreted. Some instances of such misinterpretations are briefly surveyed below.

2.1 Expletive derivation misinterpreted as infixation

Infixation in Modern English is usually equated with the insertion of a whole word into a word base (cf. e.g. McMillan 1980, Bauer 1983, Zwicky & Pullum 1987, Plag et al. 2007, etc.), as in the 'classical' example: *abso-blooming-lutely*.[3] This interpretation equates infixation with what is called expletive derivation. There are several reasons why I consider this equation a misinterpretation of infixation.

First, in a case of expletive derivation as *abso-blooming-lutely*, a free morpheme (*blooming*) is inserted into another free morpheme (*absolutely*), while true infixes, just like other affixes, are bound morphemes (even if they may derive from free morphemes via grammaticalization). Second, the insertion serves a stylistic purpose, not a morphological (either derivational or inflectional) one, as in the case of an infix or any other affix. Third, the impact of expletive derivation on register was noted by Zwicky & Pullum (1987: 7), who – emphasizing the role of the expressive nature of expletive infixation – maintain that "expletive infixation, with its clear applicability to phrases alongside words and its highly expressive colloquial effect, cannot be regarded as a part of plain morphology". A real infix, however, does not cause register downstep.

A further inadequacy that accompanies the application of the term 'expletive derivation' is that it is also used as a synonym for *tmesis* (or *diacope*). The term *tmesis* – together with its now obsolete synonym, *diacope* – was introduced in English by 16th-century scholars to describe the interruption of a compound by another word (see McMillan 1980: 163). The word *tmesis* (#*timesis*) derives from Greek *temnein* 'cut [i.e. words in the middle]', and it still refers to a process, which involves "the separation of the elements of a compound word by the interposition of another word or words" (*OED*, s.v. *tmesis*), i.e. the insertion happens exactly on the morpheme boundaries, so the morphological boundaries are left undisturbed. It would be more reasonable to distinguish expletive derivation as a subtype rather than a synonym of tmesis because expletive derivation always involves the insertion of offensive intensifiers (such as *bloody*, *frigging*, *damn*, etc.) for the purpose of conveying the speaker's strong indignation, thus the insertion always triggers register downstep. This specific type of emotive insertion should be kept separate from register neuter insertion, e.g. *whatever* > *whatsoever* > *what things soever*. For an early evidence of such register neuter insertion consider the following example in a Shakespeare play:

[3] "Oh so lovely sitting abso-blooming-lutely still" (in the song *Wouldn't it be loverly* sung by Eliza Doolittle in A. Lerner & F. Lowe's *My Fair Lady*).

Henry IV: Intended or commited was this fault?
If on the first, ***how heinous e'er*** it be,
To win thy after-love I pardon thee.

(Shakespeare: *Richard II*, Act V, Scene 3, 2610)[4]

Expletive derivation nowadays is also commonly known in popular culture as 'Homeric infixation' (sic!) because a novel infix *-ma-* started to be frequently used by a boy called Homer in a widely watched comic cartoon series (*The Simpsons*) to achieve a peculiarly characteristic humorous effect, as e.g. in a word like *edu-ma-cation*. This infix then spread to the speech of other figures in the cartoon and then to that of personalities in TV-series (primarily sitcoms).[5] In Homeric infixation the inserted element is indeed a bound element, it has no independent existence but at the same time it does not accomplish a derivational mechanism either. The essence of this insertion is obvious though: it conveys the speaker's contempt or indignation, and renders the speech strongly colloquial (or even slangish). Therefore, Homeric infixation appears to be functionally closer to expletive derivation than to true infixation. Another recent innovation similar to Homeric infixation was reported by Viau (2006) and Lindsay (2010): the element *-iz*(*n*)- is inserted inside a word as in *h*(*iz*)*ouse*, *sh*(*izn*)*it* for the purpose of adding a pseudo-sophisticated, ironic connotation in colloquial speech forms. These morphemic inserts may appear to qualify formally as true infixes but functionally they are identical with expletive insertion, so a further discussion of these cases of 'infixation' will not be relevant for our main considerations here.

To sum up, expletive infixation or expletive derivation as well as their synonymous terms (*tmesis* or *diacope*), should not be equated with infixation because expletive insertion, unlike infixation, involves the insertion of free morphemes or bound nonce-morphemes and it is accompanied by register downstep. The use of the term *expletive infixation* should be abandoned because it is ambiguous and can lead to the misconceptualization of true infixation. Novel insertions of the type called 'Homeric infixation' are essentially of the same nature as expletive derivation. All the examples discussed here would be best labelled as cases of expletive insertion because derivation is supposed to add a new word to the lexical inventory of a language but expletives cannot be classified as additional elements in the vocabulary of English.

2.2 Connective vowels: infixes or infix-like elements, or neither?

Connective vowels (like *-o-* in *speedometer*) are sometimes looked upon as infixes or infix-like elements, and they are often thought to be a recent phenomenon in English (see e.g. Dirven & Verspoor 2004: 63). In fact this pattern of word-formation is neither new, nor can it be related to infixation. Connectives appear in English primarily in compounds of foreign origin, they were not used in combining native elements in Old English. Compounds ending in *-ometer*, *-imeter* began to mushroom in English in the 17th century with the borrowing of names of measuring devices. Even 'novel' forms like *obscenometer*, *foolometer* or *democratometer* are not as recent as one might expect. *Obscenometer* was first attested in 1828, *foolometer* in 1837 and *democratometer* in 1859 (see *OED* s.v. *-meter*):

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[4] Quoted from *Open Source Shakespeare* http://www.opensourceshakespeare.org/views/plays/play_view.php ?WorkID=richard2&Act=5&Scene=3&Scope=scene, accessed June 12, 2012 (emphasis in the quotation is mine, I.H.).

[5] For a more detailed discussion of 'Homeric infixation' see Yu 2004 and especially Yu 2007: 174–177 and 181–190.

We shall be obliged by an account, for our Scientific Report, of the ***obscenometer*** by which the 'Stock Board' of the Company are enabled so curiously to apportion the measures of indecency.
[1828, *Athenæum* 16 Jan. 44/1]

I am astonished that these Ministers neglect the common precaution of a ***foolometer*** I mean, the acquaintance and society of three or four regular British fools as a test of public opinion.
[1837, Sydney Smith 2nd. Let. *Singleton Wks*. 1859 II. 285/1]

The member for Birmingham has supplied Parliament with an admirable ***democratometer***, without which it might have been hurried into violent and uncalled-for changes, through a total misapprehension of the real state of public feeling.
[1859, *Sat. Rev*. VII. 141/2]

Connective vowels are often treated as a homogeneous group, although they may have heterogeneous origins: in compounds borrowed from Latin or Greek connectives historically belong to the stem of the first element. If these stem vowels are traced further back in time, they turn out to be fossilized morphemes (root extensions on the Proto-Indo-European level), which played an important role in the formation of thematic stems, and thus were responsible for differentiating inflectional classes (i.e. they governed the choice of inflectional suffixes). The connectives in native words of English can also come from various sources. Some illustrative cases of the diverse etymological background to connective vowels will be discussed below in 2.2.1 and 2.2.2.

2.2.1 Connective -i- and its heterogeneous origins

2.2.1.1 Connective *-i-* in loanwords

The connective vowel *-i-* typically occurs in loanwords from Latin and Greek (the latter usually transmitted via Latin). The Latin and Greek *-i* in such compounds goes back to the same source: it is a thematic vowel that marks the stem class to which the first element of the compound belongs. Beside *-i* there are further thematic vowels, as well as consonants, that descend from archaic morphological units (root extensions) preserved from Proto-Indo-European. So the thematic vowel *-i* historically has the same morphological function as the connective *-o-* (to be discussed in the next subchapter 2.2.2).

The connective *-i* in English compounds of Latin origin may either represent the original Latin stem vowel *-i*, or – in the majority of cases – an analogically extended stem vowel *-i*. In the process of analogical levelling affecting Latin combining forms, *-i-* spread to the other vocalic stems or was inserted in consonantal stems (for details see Table 1). This unification explains the high frequency of *-i-* in English compounds of Latin origin.

Class	Stem	Connective vowel	Example	
			free form	combining form
1	ā	i	*puella*	*puelli-*
	iā	i	*filia*	*fili-*
2	o	i	*puer*	*pueri-*
	io	i	*medius*	*medi-*
3	i	i	*ignis*	*igni-*
	consonant	i inserted	*flōs*	*flōri-*
	ou/ov	i inserted	*bōs*	*bovi-*
	ū	i inserted	*sūs*	*sui-*
	ī	i	*vīs*	*vi-*

4	u	i	*manus*	*mani-*
5	ē	i	*rēs*	*ri-*
	iē	i	*diēs*	*di-*

Table 1:Analogical levelling of stems in Latin combining forms (simplified after Miller 2006-2008)

Another, quite different *-i-* seems analyzable in a few compounds of foreign origin. A look at their etymological background makes it obvious that in these cases we are dealing with a quasi-connective *-i-*. A peculiar example is provided by the obsolete English word *fistinut*, which is a corrupted form of *fistic nut* (*OED* s.vv. *fistinut*, *fistic*). *Fistic* is a noun borrowed from Medieval Latin *fisticum* 'pistachio (tree)', itself a loanword of Persian origin (Persian *pistah* 'pistachio') transmitted via Arabic (coll. Arabic < *fistuq*)[6] (see Cannon 1994: 193). Since *fistic nut* is a noun+noun and not an adjective+noun phrase, in *fistinut* the quasi-connective vowel of the second syllable emerges from the reanalysis of a morphologically non-transparent foreign element (*fistuq*).

2.2.1.2 Connective *-i-* in native compounds (or quasi-compounds)

An apparent connective *-i-* appears also in native compounds, e.g. *handiwork*, *fisticuffs*, *handicap*, etc. As opposed to loanwords, where the connective vowel originally was always part of the first element in a compound, in native compounds *-i-* may have been originally part of the first or the second constituent of a compound, or neither. Some examples will be discussed below.

a) Connective *-i-* deriving from the second element of a compound

Connective *-i-* goes back to the Old English collective prefix *ge-* in the native compound *handiwork* < OE *handʒeweorc* = *hand* + *ge-weorc*, i.e. the noun 'hand' was combined with the noun 'work', the latter carrying the collective prefix *ge-*. Due to phonological weakening (*ge-* > *yi-* > *i-*) the prefix in compounds became opaque, and this could have facilitated its reanalysis and subsequent analogical spread to other compounds like *handicraft*, *handigrip*. The analogical extension must have been reinforced by the fact that OE *handʒeweorc* (*c*1000) existed parallel with the much less frequent but equally early attested OE *handweorc* (*a*1000) (*OED* s.vv. *handiwork*, *handwork*). So *handcraft* (*a*975) and *handgripe* (965) developed the analogical variants *handicraft* (*c*1275) and *handigrip* (1542), which coexisted with their more archaic forms (without an *-i*).

[6] It may be interesting to note here that *fistic*, in my opinion, became obsolete probably because it had an etymological doublet: *pistachio*. They were borrowed from different languages but ultimately both words descend from the same Persian source. The trajectories of borrowing can be best summarized in a diagram, which shows that the actual duplication occurred already in Latin:

pistachio ← It. *pistacchio* < Lat. *pistācium* ← Gk. *πιστάκιον* (dimin. of *πιστάκη*) ←
(Old) Persian *pistah*
fistic (obsolete) ← Medieval Lat. *fisticum* ← Arabic *fistuq*/*fustuq*/*-aq* ←

When etymological doublets do not become semantically differentiated, as in the case of this word pair, one of them is bound to fall out of use. The etymological trajectories precisely reflect the different routes of the introduction of the plant in Europe: Lucius Vitellius (governor of Syria in 35 C.E.) brought it to Northern Italy (cf. Pliny's *Natural History* Vol. III, Book XV, Chapt. 24, English translation pp. 317-318), while large plantations of the tree were started in Sicily by the Arabs (Laufer 1919: 246f).

b) Connective *-i-* deriving from the first element of a compound adjective suffix *-ic*

As opposed to the above discussed type (*handiwork*, *handicraft*, *handigrip*), where the *-i-* derives from a prefix that belonged to the second element of the compound, in the word *handicuffs* 'blows delivered by the hand, fight hand to hand', the connective *-i-* originally may have been a suffix that belonged to the first element of the compound. According to the *OED*, *handicuff* may derive either from *handcuff* imitating the pattern of *fisticuffs* (pl.) 'fighting with the fists', or it may go back to the adjectival phrase *handy cuff*. In the latter case, the connective vowel descends from the adjective suffix *-y* (< OE *-iȝ*). But the analogical development after *fisticuff* cannot be discarded because such contaminations usually operate in words that belong to the same semantic field (as *hand* and *fist* do). A similar pattern may underlie the word *fisticuffs* (pl.) 'fighting with the fists', although *OED* comments that "the form may be imitated from *handiwork*" (see *OED* s.v. *fisticuff*). At the same time, the earliest attested form looks more like an adjectival phrase:

> The foole … falls at **fisty cuffes** with him. [1605, R. Armin: *Foole upon Foole*, 23]

Novel formations such as *plasticuffs*[7] (< *plastic handcuffs*) or *flexicuffs* (< *flexible handcuffs*), of course, cannot be interpreted as analogical forms following the pattern of *handicuffs*. These new words are cases of analogical recomposition as exemplified by e.g. *daisy* < *day's eye*. The absence of forms like $^{+}$*legicuffs*, $^{+}$*footicuffs*, $^{+}$*thumbicuffs* next to the existing *legcuffs*, *footcuffs* and *thumbcuffs*[8] can also suggest that *handicuff* is no longer productive as an analogical basis.

c) Connective *-i-* deriving from clipped preposition

The word *handicap* represents another, quite different type of connective *-i-*. This word is a quasi-compound, it probably originates from the clipped phrase 'hand i(n a) cap' related to a kind of sporting lottery (see *OED* s.v. *handicap*).

2.2.2 Connective -o-

Connective *-o-* usually appears in compounds of Greek origin, where *-o-* belongs to the first element of the compound as its stem vowel (in the same manner as *-i-* discussed in 2.2.1.1). An analogical extension of the thematic vowel *-o-*, similar to that operating in the case of Latin *-i-*, took place in the history of Greek:

> [t]his -o- had been generalized to all compounds around the Hellenistic period (300 BC.–300 AC.) As a result, it appeared even with the 'athematic' compound constituents, that is with those which did not take a thematic vowel (Ralli 2008: 34).

So the thematic vowel was reanalyzed as a 'compound marker', or to put it in another way, the relevance of the thematic vowel shifted from stem-formation to word-formation. This generalization was taken even further in English: following the pattern of Greek compounds, *-o-* became productive especially in scientific terms even if the new compound did not contain a Greek element. The (over)generalization of the use of *-o-* must have been facilitated by the

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[7] *Plasticuffs* or *flexicuffs* are disposable handcuffs that are not just lighter and cheaper for the police but also more hygienic because – unlike metal handcuffs – they are non-reusable, so they do not transmit diseases. These novel formations are not listed in the 2009 second edition of *OED* (on CD-ROM).

[8] Not listed in the 2009 second edition of *OED* (on CD-ROM).

circumstance that numerous recurring Greek combining elements (such as *-meter*, *-logy*, *-graphy*, etc.) were already available in English. These recurring combining forms of Greek were usually preceded by *-o-*, which was reanalyzed in English as if it belonged to the second element in compounds (i.e. *-ometer*, *-ology*, *-ography*, etc.). The frequency of occurrence of the analogically recut combining forms even produced quasi-nouns, e.g. *ometer* (first attested in 1856, *OED* s.v. *-ometer*), or *ology* (first attested in 1811):

> The barometers, thermometers, saccharometers, and other **ometers**. [1856, *Farmer's Mag*. Jan. 63]

> She was therefore supposed to understand Chemistry, Geology, Philology, and a hundred other **ologies**.
> [1811, E. Nares: *Thinks-I-to-myself* (ed. 5) I. 68]

Such quasi-nouns then served as the base for deriving nonce-words, e.g. *ologist* or *ological*:

> We have eight or nine **ologists** of different sorts staying with us. [1839, *Monthly Mag*. LV. 444]

> I hope you may now turn all your **ological** studies to good account.
> [1854, Dickens: *Hard Times.* i. xv. 120]

(Cf. *OED* s.vv. *-ometer*, *-ology*)

Thus it is not really justified to assume that *-o-* in *speedometer*[9] is an infix or it has an "infix-like character" (Dirven & Verspoor 2004: 63) because in English neoclassical compounds the mechanism of derivation involves combining *-ometer* with a native word (e.g. *speedometer*, *dampometer*, *foolometer*, etc.) rather than inserting *-o-* is infixed in $^{+}$*speedmeter*, $^{+}$*dampometer*, $^{+}$*foolometer*. Should one still prefer to analyze *-o-* in such compounds as an affix, then this connective *-o-* could at best be labelled an interfix in English because it would function merely as a linking element between two otherwise independent lexemes for the purpose of coining a new word.

Summing up the discussion about connective vowels it must be emphasized that they are not eligible for the status of an infix (or infix-like element) because it is possible to show in a historical analysis that they are a heterogeneous group of fossilized morphemes. A connective vowel in native compounds descends either from a suffix that belonged to the first element of the compound (e.g. *handicuffs*), or from a prefix that belonged to the second element of the compound (e.g. *handiwork*). Therefore, these connectives in native compounds cannot be considered infixes even if they may spread to other native compounds due to analogical contamination. In compounds borrowed from Latin or Greek the connective vowels are always archaic morphemes (called root extensions or theme) that belong to the first element in the compound. The analogical extension of connective vowels to neoclassical English compounds (e.g. *speedometer*) provides connectives with a role that could be interpreted in two ways:

i. connective vowels are part of the second element of the compound because the vowel was reanalyzed as the initial of the Greek or Latin combining element, i.e. *speed#ometer* (in this case they are not infixes), or

[9] Dirven & Verspoor (ibid.) also group *odometer* with *speedometer* and *mileometer* saying that these are "words that originally had no *-o-*". The word *odometer* 'instrument for measuring distance travelled by a vehicle' is a borrowing from French *odomètre*, which itself was coined on the basis of Greek *hodos* 'way' has an etymologically stable *o* in the stem.

ii. connective vowels function as a link between a native English word and a combining element of Latin/Greek origin, i.e. *speed#o#meter* (in this case they are not infixes but interfixes).

2.3 Plural -s infixed?

The plural suffix *-s* placed internally in words like *passers-by* or *mothers-in-law* is also interpereted as if the pural suffix behaved as an infix-like element (see e.g. Trask 2000). This internal pluralization may appear to be reminiscent of infixation but the history of 'in-law' words shows that these are not true compounds because they emerged from mere collocations, so they should rather be labelled as quasi-compounds. Originally these quasi-compounds were not even hyphenated: their spelling with hyphens appeared relatively late, and hyphenation could have lead to the reinterpretation of such words as compounds. The hyphenated version of *mother-in-law* was first attested in 1688, its earlier spelling had no hyphens: *moodur in lawe* (*c*1440), *modyr in lawe* (1477), *mothers in lawes* (1540) (*OED* s.v. *mother-in-law*). The form *mothers in lawes* is especially interesting because it has double plural marking, which may indicate the uncertainty of the Middle English speaker/writer about the segmentation of *mother-in-law* and about where to place the plural marker. Attaching the plural suffix to the last item in the word as in *sister-laws* (attested in 1676) shows that the internal placement of the plural marker is a late emerging phenomenon and it is obviously due to the increasing conceptual integration of the constituents into a single word. The examination of the recorded use of other 'in-law' terms confirms the pattern: *father-in-law* with hyphens occurred first in 1598, *daughter-in-law* as late as 1841. *Brother-in-law*[10] was spelt with or without hyphens in Shakespeare's plays, cf.

> That we at our owne charge, shall ransome straight His **Brother-in-Law**.
> [1596, *Henry IV*, I.iii.80]

> Who … is no honest man to goe about to make me the Kings **Brother in Law**.
> [1611, *Winter Tale*, IV.iv. 720]

There are further quasi-compounds that show the 'in-law' pattern of evolution, e.g.:

i) *brothers-in-arms*[11]: its first hypenated form is attested in 1828 and the non-hyphenated form was still current in 1878 (for illustrative quotations see *OED* s.v. *brother*, 4.e).

ii) *man-of-war*: this is an obvious genitive construction (modelled after the French expression *homme de guerre* 'warrior'). Interestingly, its standard plural form is *men-of-war* and $^{+}$*man-of-wars* is not allowed. This word was still spellt without hyphens in the middle of the 18th century:

> At Canton … we saw no more than four men of war junks [1748, *Anson's Voy*. iii. x.]

iii) *passer-by*: first attested in 1568 in the phrase *neighbours and passers by*, while the hyhenated form, *passer-by* occurred first only in 1799. In this type of quasi-compounds

[10] N.B. An interesting form, *brother**n** in law* is attested in 1552, where the concurrent analogical plural suffix *-n* was used in the non-hypenated plural form.

[11] An analogical *-n* plural similar to that in fn.10 above is also attested: *Two brethern of armes* [1485, Caxton: *Paris & Vienne* 3].

the plural suffix may be placed internally or finally. Internal pluralization, however, is avoided if the first element of the compound is a verb, e.g. *sit-ins* and not +*sits-in* or *run-offs* and not +*runs-off*. This constraint on internal pluralization, I think, can be ascribed to the fact that placing the plural suffix inside would reduce the 'nouniness' of the compound.

The conclusion that can be drawn on the basis of these examples is that there is a historical shift along the cline {noun phrase → quasi-compound → compound}, i.e. a reinterpretation of "a string of syntactically linked words" (Martsa 2007: 80) as a single lexeme. The ordering of the plural marker depends on the individual parsing, this is the reason why Middle English displays rather surprising parsing ambiguities like *mothers in lawes* (1540) and why alternative plural forms such as *mothers-in-law* or *mother-in-laws* are possible in Modern English. Weak-boundary plurals that display internal placement of the plural suffix have nothing to do with infixation.

2.4 Ablaut and umlaut (mis)interpreted as infixation

The internal vocalic differences shown by English word pairs like *foot – feet* or *sing – sang* are usually subsumed under one and the same type of internal modification in synchronic morphology (see e.g. Moravcsik 2000: 545). This might be a convenient grouping even if it obscures significant distinctions between such pairs of inflectional forms. However, declaring this type of internal modification an infixation process discredits a crucial requirement for the process of infixation, notably that in infixation a new segment is inserted, and the addition of the insert enlarges the matrix. This is obviously not the case in examples like *foot – feet* or *sing – sang*: here nothing is added to the sound sequence, all that happens is that a vowel 'replaces' another one (historically speaking: the root vowel alternates with another one). So where is the infix then?

In terms of this synchronic (mis)interpretation of infixation there are much better candidates than *foot – feet* or *sing – sang* in the system of Present-Day English that could aspire for representing infixation: *children* could be analysed as having a plural suffix *-en* (cf. *oxen*) and an infix *-r-*,[12] or the present-tense form of *bring* as opposed to the past form *brought* may suggest that there is a nasal infix in the present.[13] It would also seem justifiable (though equally mistaken) to propose that Hungarian uses infixation in words like *ló* (sing.) – *lovak* (pl.) 'horse', where the plural theoretically could be analyzed as *lo-v-a-k* = stem + infix + connecting vowel + plural suffix.

Surprisingly, a blanket treatment similar to that applied in synchronic description can also be found in historical linguistic discussions, e.g. Kastovsky (2006: 161) states that:

> inflection is basically affixal, except for irregular cases, which might involve zero (e.g. *fish*, *cut*) or vowel alternations of the type *sing : sang : sung*; *mouse : mice* and which might be regarded as a subtype of an infix.

[12] In fact *children* is a double plural form, OE had plural *cilderu* (preserved in present-day northern dialects as *childer*, see *OED* s.v. *child*), where *-r-* was reanalysed as part of the stem, and the *n*-stem suffix was analogically added.

[13] The *n* in the past form was deleted as the final step in a series of Germanic sound changes: *brought* < OE *brōh-te* < PGmc. **brang-te*, so the *n* in the present form is obviously not an infix.

With this formulation the crucial distinction between reflexes of umlaut and ablaut in English is obscured. Indistinct treatment of these two cardinal notions cannot be allowed because the two processes are strictly distinct: umlaut is merely a phonological change of regressive assimilation in which the root vowel is assimilated to the vowel in a suffix. The suffix that carries the trigger of assimilation is then deleted, so the cause of vocalic change becomes 'invisible'. As opposed to this, ablaut is a morphologically motivated root vowel alternation that serves inflectional or derivational purposes. But the discussion of distinguishing umlaut and ablaut is not our primary concern here because that would lead us to – what Matthews (1991: 136) calls in a rather under-appreciating manner – a "tour through a curiosity shop", although familiarity with such old curiosities can be not just entertaining but, more importantly, illuminative as well.

3 Infixation in English from the diachronic viewpoint

It is a frequently repeated statement that English has an infix but it is just a "frozen historical relic from Latin" (Katamba 1993: 44). Referring to Sloat & Taylor (1978), Katamba (ibid.) notes that "the only infix that occurs in English morphology is /-n-/ which is inserted before the last consonant of the root in a few words of Latin origin", and he also adds that the insertion of this /-n-/ happens "on what appears to be an arbitrary basis", e.g. *incumbent*, *succumb*, *decumbent* are all derived from the root *-cub-*, where the infix *-n-* is assimilated to the following bilabial stop and becomes *m*. What is incorrect about this formulation is that it gives the false impression that this relic nasal infix can be found in English exclusively in Latin loanwords, whereas this nasal infix is in fact attested in Modern English in several native words inherited from its Germanic ancestor. Furthermore, the insertion of this infix is by far not an arbitrary process[14] – as claimed by Katamba (ibid.) – because it has phonotactic constraints, which may no longer be recognizable in Modern English.

There is one archaic infix preserved in Modern English, which was inherited from the ancestral Germanic/Indo-European morphological system: the nasal infix of the present that was earlier mentioned in connection with the verb *stand*. This morpheme, which is not productive any longer, survives fossilized in several native or borrowed elements of the lexicon. Since this nasal morpheme became obscured both in its morphological function and its semantic content, it is deemed irrelevant from the viewpoint of – and therefore either totally ignored or only cursorily mentioned by – synchronic grammars. In the upcoming section (3.1) a brief summary will be provided about the Indo-European nasal infix in order to show how this infix originally functioned and how it lost its productivity in Proto-Germanic to become fossilized by the earliest stage in the history of the English language.

3.1 Relic survival of the Proto-Indo-European nasal in English

Nasal-infixation in the present tense form of verbs is an ancient feature of Indo-European languages, although it is a feature that has been gradually receding and became fossilized in the daughter languages. According to the *Lexicon of Indo-European Verbs* (Rix et al. 2001) this infix can be found in 248 verbal roots reconstucted for Proto-Indo-European, of which 168 are reliably reconstructed and 80 are reconstructed with some uncertainties (Rix 2001:

[14] Even expletive infixation is subject to certain phonological constraints, e.g. it occurs left of the syllable initial consonant cluster and precedes stressed vowels (see e.g. McCarthy 1982).

17). The general sound pattern of nasal-infixed verbs is established as the following (cf. e.g. Rix ibid.): R(C_1)-***né***/***n***-R(C_2)- or R(C_1C_2)-***né***/***n***-R(C_3)- or (where R = any resonant). This means that the archetypal root in PIE had the basic structure of Consonant-Vowel-Consonant: C_1VC_2-. The root was usually followed by another morphologically relevant unit, the root extension (a single consonant or vowel, or their combination), which determined what set of suffixes could be attached to the word stem. Occasionally the root was preceded by another consonant (usually an *s*). The peculiarity of the nasal present infix was that it carried the accent and was inserted in the unaccented zero-grade form of the root (C_1C_2-), breaking up the sound sequence of the basic string of segments.

Thus the English verb *stand* derives from an ancient structure of the type (s)C_1VC_2-C_3-, which can take the nasal infix inserted inside the root (preceding C_2) or in the stem (preceding C_3). The scheme of the evolution of the verb *stand* from PIE to Modern English is illustrated in Figure 1 below.

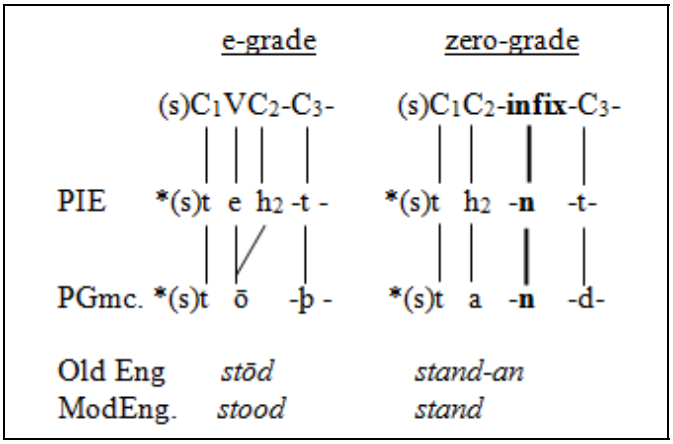

Figure 1: The mechanism of PIE infixation exemplified by the English verb stand

Due to the phonological and morphological changes in the Proto-Germanic period this structure is no longer morphologically transparent in English but there are several other verbs that display the ancient nasal infix, e.g. *blink*, *climb*, *dump* (cf. Kroonen 2011: 128-129), where *m* < *n* by assimilation to the following labial stop. The etymological details reveal the derivational connection of *climb* with the verb *cleave*[2] 'to stick fast, adhere' as its matrix:

cleave[2] < OE *clīfan*[15] < PGmc. **kliβan*[16] < PIE **gleiḇ*^{h}- 'stick, cling'
climb < OE *climban* < PGmc. **kli**m**βan* 'to hold fast' < PIE **gli̯-**m**-b*^{h}-[17] < PIE **gleiḇ*^{h}-
(cf. Rix et al. 2007: 189, **gleiḇ*^{h}-, *OED* s.v. *cleave*[2])

3.2 Why is it difficult to recognize the nasal infix in Modern English?

The distribution of verbs with a nasal-infixing present seems to be "scattered in an irregular fashion" (Poultney 1937: 163). This state of affairs may be due to analogical extension which lead to the spread of the nasal infix – originally associated with the PIE present form of verbs

[15] Middle English *clīvan* still had the meaning 'to climb'.
[16] Germanic **β* > OE [v] (orthographically <f>) in intervocalic position, but when it was preceded by a nasal, it changed into a bilabial stop: **mβ* > OE [mb].
[17] The zero-grade form of the root **gleiḇ*^{h}- is **gli̯b*^{h}-.

– to the non-present forms, and the verbs that were affected in this manner assumed the vowel gradation of the 3rd class. Another cause of the apparently irregular distribution of nasal-infixing presents was that in Germanic languages the nasal was lost before *h, hv*, which was followed by compensatory lengthening of the preceding vowel. These changes in the sound shape of the verbal stem lead to the reanalysis of certain nasal presents, and – as a result – they became regrouped with the 1st and 2nd classes of verbal conjugation.

The PIE nasal infix of the present became transferred to the verb forms outside the present system in Germanic, which – I think – was a consequence of the functional weakening of the infix in the wake of the shift from root-based to stem-based morphology (on this shift see e.g. Kastovsky 2006). This shift lead to the metanalysis of the nasal infix, and the infix thus became a productive suffix giving rise to the 4th class of weak verbs in East and North Germanic, where it occurs with inchoative or causative semantics, e.g. Gothic *full-n-an* 'fill' derived from the adjective *full* (see Hogg & Fulk 2011: 212). In West Germanic, however, and thus in English, these verbs "fall into other classes" (Lass 1994: 169) and survive only as relics, e.g *waken* < OE *wæcnan*, which originally may have had strong conjugation and in the past forms lacked the nasal: *wōc* (sg.), *wōcon* (pl.), **wacen* (past part. not attested) (see *OED* s.v. *waken*), showing a pattern that is preserved in *stand* < OE *standan* with past forms *stōd* (sg.), *stōdon* (pl.), but with *-n-* analogically extended to the past participle *standen* (see Hogg & Fulk 2011: 249).

4 Conclusion

The essence of the critical remarks lined up above was to show that not all that gets inserted in a word is an infix or even an 'infix-like' element in English.

Expletive infixation (exemplified by *abso-blooming-lutely*) is a misleading term, and I would suggest replacing it by 'expletive insertion'.

Connective vowels in compounds (e.g. *-o-* in *speedometer* or *-i-* in *handiwork*) in most cases are fossilized morphemes. They can derive from multifarious sources such as root extensions, prefixes or suffixes that used to be part of one of the elements in a compound, so they should not be treated as infixes or infix-like elements. Due to reanalysis, connectives can act as links between elements in a compound. In this case, however, they are interfixes, not infixes, since they do not interrupt the matrix element. Occasionally quasi-connectives emerge from elliptic phrases (e.g. *flexicuffs* < *flexible handcuffs*). These cannot be taken for infixes either.

The insertion of the plural suffix in compounds (e.g. *mothers-in-law*) does not constitute infixation because the plural suffix was merely internalized due to the increasing bond between the elements of a phrase that became a compound. In these cases we are dealing with 'internal plurals' resulting from the historical shift along the cline {noun phrase → quasi-compound → compound}. This shift has produced weak boundary plurals, in which the placement of the plural suffix was (or still is) ambiguous, and thus alternative plural forms can still occur in Modern English (e.g. *mothers-in-law* vs. *mother-in-laws*).

The treatment of internal modifications resulting from ablaut (e.g. *sing – sang*) and umlaut (*foot – feet*) is untenable and should be abandoned because in infixation the insertion of a bound morpheme leads to the formallly tangible and visible extension of the original matrix element. In ablaut and umlaut nothing is inserted, so the minimum requirement for infixation is not met.

This paper – in a wider context – advocates the need for the reintegration of historical comparative linguistics with synchronic theoretical linguistics because an approach that unites synchrony and diachrony has the advantage of providing a more refined picture of linguistic phenomena (as illustrated here by the problematic treatment of infixation in Present-Day English in an exclusively synchronic approach).

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