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RESEARCH ARTICLE

On the relationship between linguistic creativity and change in morphological constructions

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Abstract

In this article, we consider the relationship between conceptual blending, creativity and morphological change, within the framework of Diachronic Construction Morphology (DCxM; Norde & Trousdale 2023). In particular, we suggest that a refinement to models of creativity in the literature might help to account better for different types of morphological change (Norde & Trousdale 2024). This is achieved via a contrastive analysis of two different sets of changes: (a) the creation of English libfixes (Zwicky 2010; Norde & Sippach 2019), e.g. *snowmaggedon* and *spooktacular*, and (b) the development of Dutch pseudoparticiples (Norde & Trousdale 2024), e.g. *bebrild* 'bespectacled' and *ontstekkerd* 'with all plugs removed'.

Keywords: blending; construction; exemplar; libfix; pseudoparticiple

1. Introduction

Within the domain of cognitive linguistics, much has been written on the topic of blending, from Fauconnier & Turner (1994) onwards. More recently, Turner (2020) has made connections between blending, creativity and the establishment of constructions. In relation to language change, Turner (2020: 2) states: 'Blending networks recruit from stable structures and can themselves become stable, widely-shared and entrenched.' In this article, we consider the theoretical consequences of this for our understanding of the development of morphological constructions, from the perspective of (Diachronic) Construction Morphology (DCxM; Norde & Trousdale 2023). In particular, we explore the extent to which a certain type of word-formation process involves different kinds of creativity, which has consequences for the establishment of a more stable blended network. We provide a contrastive analysis of the creation of English libfixes (Zwicky 2010; Norde & Sippach 2019), e.g. *snowmaggedon* and *spooktacular*, with the development of Dutch pseudoparticiples (Norde & Trousdale 2024), e.g. *bebrild* 'bespectacled' and *ontstekkerd* 'with all plugs removed'. We consider variation in these patterns, and some of the ways in which particular patterns appear to be more sedimented than others.

The article is structured as follows. Section 2 discusses some general issues in creativity and change which will be developed in later sections. Specifically, we outline the differences

that have been proposed with regard to two different kinds of creativity, namely F- and E-creativity (Sampson 2016; see also Leech 1969; Bergs 2018; Hoffmann 2022). The relationship between creativity, innovation and change is also introduced in this section. Section 3.1 is concerned with blending, constructions and change. In section 3.2, we consider the structure of English libfixes, specifically variation in the degree of fixedness associated with these form–meaning pairings, and the evidence in favour of the development of specific morphological schemas in the DCxM tradition. Section 4 revisits the notions of F- and E-creativity introduced in section 1 and discusses a modification to the notion of F-creativity (section 4.1). The differences across English libfixes are then discussed in light of this modification, along with a comparison between English libfixes and Dutch pseudo-participles (Norde & Trousdale 2024) in terms of different types of creativity (section 4.2). Section 5 is the conclusion.

2. Some general issues in creativity and language change

The capacity for humans to be creative in various domains of their lives is of interest to a range of researchers, from anthropologists to literary critics (Glăveanu 2021). Within the domain of linguistics, work on creativity has been mainly concerned with synchrony. In particular, it has had a place in both formal, generative models of language, as well as usage-based, cognitive ones. For instance, the property of recursion, which has had a role in Chomskyan linguistics from its early days, through to the current minimalist program, is at least in part concerned with von Humboldt's notion that a speaker of a language must make infinite use of finite means (von Humboldt 1836: 106; cf. Chomsky 2006: 62). Similarly, Adger (2019: 168) links our capacity for linguistic creativity to the existence of Universal Grammar. Specifically, he suggests a fundamental aspect of Minimalism, the operation Merge, is the part of linguistic cognition that 'gives us the wherewithal to use language creatively' (2019: 231). From a different perspective, functionalists and usage-based linguists have also directly connected creativity with their conceptualisation regarding the fundamental organisation of language. Nuyts (1992: 111) suggests that 'what creativity is really about is the optimal exploitation of the structural properties available to reach all kinds of goals in as efficient a way as possible', while Goldberg (2006: 22) focuses on creativity as the potential to allow constructions 'to combine freely as long as there are no conflicts.'

We situate our discussion within the second of these two perspectives, in particular, within a constructional approach to language. Hoffmann (forthcoming) discusses a 5C model of constructional creativity, in parallel with the 5A model of Glăveanu (2013). These parallels are shown in table 1.

These models deal with creativity in its widest sense (Glăveanu) and in its specific application to constructional approaches to linguistic knowledge (Hoffmann). Critically, they both recognise that creative acts are not simply connected with producers (actors/

Table 1. 5A and 5C models of creativity (Glăveanu 2013 and Hoffmann forthcoming)

Glăveanu's 5A model	Hoffmann's 5C model
Actors	Constructors
Audience	Co-constructors
Artefacts	Constructs
Actions	Constructional blending
Affordances	Constructional network

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constructors) and products (artefacts/constructs) but with the people and milieu in which creative acts take place. The role of both co-text and context in constructional change (e.g. Bergs & Diewald 2009) is also relevant here, linking Hoffmann's constructors with the other components of the creative process. Thus, we recognise the range of dimensions involved in creative (linguistic) acts; however, while we will make some reference to the construct-i-con and to the ways in which connections between constructions come to be established, our main focus will be on actions, i.e. on constructional blending, and the consequences of this for our understanding of the relationship between creativity and language change.

While it seems that creativity is of interest to linguists of many different stripes, the focus is usually on explaining some aspect of the theory of the model espoused. This almost always means that the evidence focuses on synchronic data. However, creativity as a linguistic practice straddles the synchronic/diachronic divide, because it is especially connected to innovation, and innovation is a synchronic, instantaneous event which, when replicated, may lead to significant diachronic variation. The research we discuss in what follows draws attention to the relationship between variation in synchronic patterns and change over time.

A standard definition of creativity involves some combination of 'originality and effectiveness' (Runco & Jaeger 2012: 92), where 'effectiveness' is associated with 'fitness' or 'appropriateness'. An interesting parallel to draw in relation to language change is the claim by Haspelmath (1999) that in the course of grammaticalisation, speakers often aim to be extravagant, following the maxim 'talk in such a way that you are noticed' (see also Keller 1994). We argue, however, that there are important differences between extravagance and creativity. For instance, extravagance is an interpersonal strategy, where a speaker is negotiating some aspect of her persona with her interlocutor. In other words, the linguistic behaviour (whatever it is) is done for some social or psychological effect. As such, extravagance can be a 'trigger for language variation and change' (Eitelmann & Haumann 2022a: 2). Creativity, by contrast, is a linguistic activity which may or may not be used in an effort to be extravagant. There is no doubt that the two are closely related: being creative can be an excellent way of being extravagant, and vice versa. But they are distinct, and the distinctions can be revealing when it comes to exploring certain patterns of language change. Thus, if we are to try to explore the relationship between extravagance and creativity, we need to question how (a) a speaker or writer can be extravagant without being creative and (b) a language user can be creative without being extravagant. Let us consider each of these in turn.

2.1. *Extravagance without creativity*

Being extravagant without being creative seems, at first blush, like a paradox. How could it be possible to engage in attention-seeking linguistic behaviour without being, at least in some way, simultaneously original and appropriate? One instance would be register violation. For example, writing a scientific journal article in non-standard English would be extravagant but not creative (since, while it would be original, it would not be considered appropriate).

An important issue is who is extravagant in a linguistic interaction: the speaker or the hearer? The consensus is that it is the speaker. Haspelmath (1999) suggests that extravagance is speaker behaviour, carried out with the purpose of attracting the hearer's attention. Kempf & Hartmann (2022) focus on *deliberate* speaker practices. Petré (2017) also draws attention to the speaker's emotional engagement as a potential factor in extravagant language. Thus many researchers appear to see the speaker, in acts of extravagance, making

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deliberate novel choices, when she is significantly emotionally engaged, in order to be noticed by the hearer. The latter is portrayed as more passive: there appears to be no co-creation of extravagant language. Creativity, by contrast, must be different, since it is possible to be as original and appropriate in processing as it is to be in production, as we now argue.

2.2. *Creativity without extravagance*

The first point of distinction between creativity and extravagance is that both a language producer and a language perceiver can be creative, while only the former can be extravagant (on seamless innovation, see Silvennoinen (2025) in *going forward* constructions, and Dietrich (2024) on the development of *be going to*). Creativity is not always about talk. It can be about thought. In section 4.1, we discuss different types of linguistic creativity, but across all types of linguistic creativity, the focus is on how aspects of linguistic knowledge change as a result of processing and producing language. Extending the scope of a construction does not always have to be the result of speaker behaviour; by contrast, talking in a way such that you are noticed (the fundamental maxim for Haspelmath's extravagance) must be based in speaker behaviour.

Second, not all instances of creative language use by a speaker need to be extravagant. Consider some features of the contemporary English *way*-construction. An instance of this construction is given in (1), which is a recent headline from the *Washington Post* (8 April 2024, emphasis added).

(1) Meet the 25-year old who **TikToked his way** onto RFK's campaign team

It could be suggested that (1) is both creative and extravagant. But where does the extravagance lie? It is not in the use of the English *way*-construction itself, but specifically in the coercion of a proper noun (*TikTok*) in the verbal slot of the construction. This is very different from (2), which is an early Modern English (eModE) instance of the English *way*-construction.

(2) Afterwards about a dozen of them went into the Kitchin, **forcing their way** against all the Bolts and Locks, making the very Iron Bolts and Wooden Doors to yield to their wicked and bloody Designs. (1690 Trial of John Williams et al. [OBP t16900430–8], emphasis added).

In (2), a regular transitive verb is used, and transitive verbs had frequently collocated with noun phrases containing *way* from the early Middle English (ME) period onwards. The case of the English *way*-construction is very like other cases of language change, especially those that involve the development of grammatical markers, in that they are, in their early stages at least, markers of creativity but not necessarily extravagance.

Having introduced the topic of creativity and language change, we now turn to the process of blending and its role in morphological constructions in particular.

3. Blending and morphological constructions

In this section, we look at the place of blending in research on creativity in CxG (section 3.1). We then turn our attention to morphology, looking at the development of English libfixes (section 3.2). This begins with an exploration in terms of blending, but then broadens to a discussion of schematisation and generalisation in DCxM more generally.

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3.1. Blending in CxG

There has been significant discussion of the relationship between Blending Theory and CxG (e.g. Fauconnier & Turner 1999; Steen & Turner 2013; Herbst & Hoffmann 2024). Perhaps one of the most fundamental aspects of the connection goes back to early conceptualisations of a construction (e.g. Goldberg 1995). A key concept in Blending Theory is the idea that the blended space (the output which arises when two input concepts have been blended) must have some properties that are unique to that space, i.e. that are not shared with either of the input spaces. We suggest that this strongly echoes the non-compositional property of early definitions of constructions: in other words, a construction C has some aspect of form or meaning which is 'not strictly predictable from C's component parts or from other previously established constructions' (Goldberg 1995: 4). While we recognise that there has been significant evolution of the concept of the linguistic construction since 1995, we find this definition (which is not, of course, excluded by later characterisations) helpful when it comes to understanding aspects of creativity and change. We also recognise alternative views, especially the close alignment of DCxG with Exemplar Theory (e.g. Bybee 2010, 2013) and a focus on the idea that constructionhood itself is gradient (e.g. Ungerer 2023). Such approaches also have implications for the role of blending in constructional innovation, in that blending is understood as much more pervasive in a model which sees all constructions as gradient, deferred and lossy (see further Herbst & Hoffmann 2024 on the extent to which all constructional combinations are licensed by conceptual blending). We return to a discussion of constructions and exemplars later in the article.

We now turn to an exemplification of some of these issues in relation to English morphology, in the development of libfixes.

3.2. English libfixes

In this section, we consider some properties of English libfixes, based primarily on the findings of Norde & Sippach (2019).[1] We begin by characterising libfixes in terms of their linguistic properties, then focus on the idea that blending has some role to play in their development. We then consider evidence that some types of libfixes involve the creation of a more generalised schema, while others do not. We follow Traugott & Trousdale (2013) in suggesting that the creation of a (morphological) schema is typically a diachronic process; in this case, we extrapolate that diachronic process from the variation in synchronic patterns.

Norde & Sippach (2019: 355) define libfixes as '"liberated", often non-morphemic, parts of words, that can be used to form new complex words'. Examples include METER (as in *weirdometer* and *who-cares-ometer*) and TAINMENT (as in *edutainment* and *gastro-tainment*).[2] However, as the authors make clear, there are important differences in the historical development of TAINMENT and METER. It is argued that the TAINMENT libfix can be traced back to a lexical blend *infotainment*, as a portmanteau of *information* and *entertainment.* By contrast, the METER libfix does not appear to have one particular source: it arises from a neoanalysis of the second element of a borrowed compound (typically borrowed from Latin or Greek). We therefore suggest that both types constitute *conceptual blends*, even if they do not always display properties associated with *word-formation blends* of the particular type exemplified by *motel.* While all word-formation blends are conceptual blends (Taylor 2012: 266), the reverse is not true: for instance, argument structure constructions can involve conceptual blending (e.g. the English *way*-construction), and this development has nothing to do with

[1] The examples that we provide of libfixes all come from Norde & Sippach (2019) unless otherwise stated.

[2] We use SMALL CAPS for libfixes. The status of OMETER vs METER is disputed in the literature. See Dixon (2014) and Norde & Sippach (2019) for discussion.

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word-formation. Gries (2004: 639) defines word-formation blends as coinages which involve 'fusing parts of at least two other source words of which either one is shortened in the fusion and/or where there is some form of phonemic or graphemic overlap of the source words'. In many cases, interpretability of the blend is enhanced by prosodic similarity to the second source word, e.g. in *carjacking* (Kemmer 2003: 74). As Norde & Sippach (2019: 357) observe, not all libfixing follows these processes, since some libfixing involves the bringing together of words from different lexical categories, and without any necessary overlap. In example (3) below, the highlighted word involves the combination of a (historically) clipped noun (~~*violoncello*~~) with a libfix derived from an adjective (~~*fantastic*~~), and thus no word-formation blending. There is, however, conceptual blending in that the sense of *cellotastic* is not simply the composition of the sense of *cello* with the sense of *fantastic.*

(3) If you choose to stay on for the main workshop you will be part of a *cellotastic* extravaganza! (www.cellofest.co.uk/cellofest-extra.html)

For our purposes, the critical theoretical issue that Norde & Sippach (2019) discuss is whether their sets of libfixes are organised in the construct-i-con in the same way. Specifically, Norde & Sippach ask whether:

a. there is evidence of a morphological schema having arisen across a set of libfix types
b. there is evidence of exemplar-like clustering of constructs which are rich in individual formal and functional detail (see e.g. Bybee 2010).

Their analysis of their data extracted from the ENCOW16A corpus (Schäfer 2015) suggests that libfixes are variable with respect to (a) and (b) above. For example, libfixing involving FECTION (e.g. *pawfection*) does not appear to be very productive, and the attested forms have strong phonological overlap with the source lexeme *perfection* (e.g. many begin with [p]). This would suggest a more exemplar-like organisation. At the other extreme, Norde & Sippach (2019: 379) suggest that a morphological schema has been created with TAINMENT as the second element. They give the representation of the schema as in (4):

(4) $[\ [[a]_i\text{tainment}]_{Nj} \Leftrightarrow [\text{entertainment related to SEM}_i]_j\ ]$

A morphological schema is proposed because the pattern has comparatively high type frequency, and the instances differ in token frequency (as in patterns of regular word-formation). The types are also phonologically diverse (including some cases with a linking *-o* element, as in *war-o-tainment*).

Taking the Norde & Sippach analysis a step further, we would suggest that in the morphological construction (4) there is still some conceptual blending involved. This is because the fairly standard description in the meaning pole of a morphological construction, i.e. 'related to SEM_i', is always underspecifying. Consider the two examples discussed by Norde & Sippach (2019: 378) in relation to this schema, namely *militainment* and *familytainment.* The first is characterised as 'military entertainment' and the second as 'entertainment for families'. Note that the semantic role played by the entity referred to by the [a] part of the form of the construction in (4) is variable: it is the agent in *militainment* and the beneficiary in *familytainment.* Thus, no matter whether the analysis is understood in terms of exemplars or morphological schemas, conceptual blending has a role to play. And because both the creation of an exemplar cloud and the gradual development of a morphological schema may be understood as kinds of constructional change, we argue that conceptual blending has a role to play in libfixing, whatever the status of the generalisations in terms of representations.

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Summing up this section, then, we have shown that conceptual blending has an important part to play in constructional change. We illustrated this in terms of the development of exemplar clouds and morphological constructions in the domain of word-formation, specifically in the case of English libfixes. Cross-cutting this, we have considered the issue of extravagance. Some of the ludic word-formation that is involved in the development of libfixes is clearly extravagant, with speakers deliberately calling attention to the new nouns and adjectives they have created. In the next section, we extend the discussion further, by considering the issue of creativity in the development of new morphological patterns.

4. Creativity and morphological change

In this section we look at a classification of two different kinds of creativity which has gained considerable currency in the constructional literature, namely the distinction between F- and E-creativity made by Sampson (2016). Having lain out the essentials of this distinction in section 4.1, we discuss how the distinction was refined by Norde & Trousdale (2024) in their analysis of Dutch pseudoparticiples, before looking at whether this revision is applicable to the differences in how English libfixes have developed (section 4.2).

4.1. F- and E-creativity

There has been considerable discussion of two different kinds of creativity in the CxG literature, namely the distinction between F- and E-creativity (Sampson 2016). In Sampson's model, F-creativity stands for Fixed creativity, which includes 'activities which characteristically produce examples which are drawn from a fixed or known ... range' (Sampson 2016: 19). This contrasts with E-creativity (Enlarging/Extending creativity), which involves 'activities which characteristically produce examples that enlarge our understanding of the range of possible products of the activity' (Sampson 2016: 19). Bergs & Kompa (2020: 18) have suggested that '[a]ll use of natural human language is ultimately F-creative'. This seems to mean that there are no cases of language change which could go beyond our understanding of the (existing) range of products. We believe that this is unlikely. For example, the development of constructions like *all*-clefts in the history of English (Traugott 2008) enlarge our understanding of the range of focus constructions cross-linguistically. Such new constructions rely on the reconfiguration of existing 'bits' of language (see further Flach 2025 on the consequences of a focus on links in the constructicon for the distinction between F- and E-creativity).

Ungerer & Hartmann (2023: 43-5) discuss the connections between F-creativity, E-creativity and productivity, observing that research on child language acquisition first made such a connection many years ago (e.g. Tomasello 2003). It is clear that people (especially but not exclusively children) often extend the use of an existing schema. In terms of language change, we see this in the shift of historically strong verbs to the weak set (e.g. the past tense of English CLIMB, from *clomb* to *climbed* in the ModE period). This means that the type frequency of the 'weak verb' schema has increased (i.e. it has more members) but it is generally suggested, in discussion of cases such as this, that no 'rules' have been broken in such extensions. Essentially, there is nothing new to the system.

By contrast, there are cases where speakers appear to go 'beyond the rules' (Ungerer & Hartmann 2023: 43), where the conventions of a language have been broken. One such example involves the use of *ish* as a stand-alone conversational turn (Kuzmack 2007; Eitelmann *et al.* 2020), as in (5).

(5) A: Did you like the lecture?
B: Um, ish

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Since it is very unusual (cross-linguistically) for a derivational suffix (*English*, *childish*, *reddish*) to debond in this way (Norde 2009), this appears to be a case of creative rule breaking.

The 'creativity as productivity' and 'creativity as rule-breaking' distinction thus underlies Sampson's (2016: 19) characterisation of F- and E- creativity. In terms of the latter, Bergs (2018) suggests that sources of E-creativity are things like slips of the tongue and other performance errors, language contact, or a deliberate choice to manipulate existing linguistic material on the part of the speaker and/or hearer. This latter source would suggest that E-creativity is (a) linked to the notion of extravagance (Haspelmath 1999), as discussed in section 2, and (b) quite rare as the source of language change. In the next section, we discuss how F- and E-creativity have been reconsidered in the light of data from Dutch pseudo-participles (Norde & Trousdale 2024) and then extend the discussion to English libfixes and their development (see also Laws 2025 for a more gradient view of the distinction between F- and E-creativity).

4.2. *Comparing morphological changes: English libfixes and Dutch pseudoparticiples*

In section 3.2 we identified the morphological properties of some of the English libfixes in terms of cognitive blending and the extent to which they involve generalisation and the creation of a productive schema. In this section, we compare this with a different kind of morphological change, Dutch pseudoparticiples. In this area of morphological change, as with English libfixes, we see evidence of creativity and generalisation. Once we have introduced the Dutch data, we show how Dutch pseudoparticiples and English libfixes reflect different degrees of extravagance on the part of language users. We provide only an outline of our analysis of Dutch pseudoparticiples – for further discussion, see Norde & Trousdale (2024).

Dutch pseudoparticiples are linguistic expressions which, in some ways, behave very much like regular Dutch participles. For example, the word *besneeuwd* 'snow-covered' follows the regular pattern for Dutch participles in the following ways:

a. Phonotactics. Since the 'stem' *sneeuw-* ends in a voiced consonant, the written form of the participle ends in a <d>, and the phonological form is voiced when inflected (e.g. *besneeuwde*). This is the pattern that occurs with regular participles whose stem ends in a voiced consonant (e.g. *geschilde* 'peeled').
b. Inflection. As noted above, both regular and pseudopartciples may be inflected to show agreement, e.g. when they are the dependent of a plural noun (*geschilde aardappels* 'peeled potatoes', *besneeuwde wegen* 'snow-covered roads').
c. Syntax. Like regular participles, pseudoparticiples may appear following an auxiliary verb in a relative clause
   i. *Een aardappel die niet was geschild* 'A potato that wasn't peeled'
   ii. *Een weg die niet was besneeuwd* 'A road that was not snow-covered'

However, unlike regular participles, pseudoparticiples are said to lack corresponding verbal forms. Thus while *Ik schil de aardappels* 'I peel the potatoes' is grammatical in Dutch, an expression like **Ik besneeuw de wegen* 'I cover the roads in snow' would typically be claimed to be not acceptable.

In a corpus-driven study of the similarities and differences within and between sets of (pseudo)participles, Norde & Trousdale (2024) showed that Dutch language users appear to vary in how they analysed these linguistic constructions. The two sets of pseudoparticiples we explored were the *be*-set (as in *besneeuwd* 'snow-covered', discussed above) and the

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ont-set (as in *ontmergd* 'demarrowed'). In our discussion of data from the Dutch 2014 *Ten Ten Web Corpus* (nlTenTen14), we showed that, in informal written Dutch, language users displayed different patterns of behaviour with respect to the two sets of participles. The *ont*-set was small, with many hapaxes, evidence of back formation to regular verbs, and little distinction between the pseudo-participles with *ont-* (e.g. *ontmergd*) and the regular participles with *ont-* (e.g. *ontmaskerd* 'unmasked'), both in terms of syntax and (privative) semantics. By contrast, with *be*-pseudoparticiples, there were some 'pockets of productivity' (Cappelle 2014), especially when the stem had semantics associated with the body or clothing. There were also some very high-frequency types (e.g. *bejaard* 'aged') and the syntactic behaviour of the *be*-pseudoparticiples aligned them very strongly with the category 'adjective' (e.g. in terms of word order position relative to auxiliaries in subordinate clauses): this is in marked contrast not only to *ont*-pseudoparticiples, but also to regular *be*-participles like *behandeld* 'treated'.

These empirical facts led us to rethink some aspects of the analysis of creative language use in the DCxM tradition. The data suggested that there was weak evidence for an *ont*-pseudoparticiple schema: the patterns were too like the regular *ont*-participle to warrant a claim that language users have created a productive generalisation that is substantially distinct. However, the *be*-pseudoparticiple schema does seem better entrenched as a different kind of morphological pattern. Thus there were three different types of novel creative processes:

a. a type where language users extend a pattern with which they are already familiar (e.g. in the case of *bejaard* 'aged' using a participle-forming pattern but with a base that is a noun (*jaar* 'year') not a verb)
b. a type where language users, on the basis of perceived similarities across instances of use, form a new generalisation that allows more diverse types to be formed (e.g. the *be*-pseudoparticiple schema which gives rise to instances like *bebrild* 'bespectacled' and *besnord* 'moustached')
c. a type where language users, on the basis of their encounters with pseudoparticiples, create new verbs via backformation (e.g. the verb *ontkerken* 'secularise' from the participle *onkerkt* 'secularised', from the noun *kerk* 'church')

Only the second of these is E-creative, on the grounds that a new piece of morphological structure is formed. The first and the third must therefore be F-creative, but Norde & Trousdale (2024) suggested that they are not F-creative in precisely the same way. The first requires partial sanction from an existing schema – the pattern does not fit the existing schema exactly – while the third requires full sanction from the existing schema – there is nothing atypical about *ontkerken* as a verb (see further Ceuppens & De Smet 2025 for a discussion of sanction, frequency and network structure in relation to semantic extension and loss). Thus Norde & Trousdale (2024) suggest that F-creativity be subdivided into two types – one where there is full sanction (F1-creative) and one where there is partial sanction (F2-creative) from an existing pattern.[3]

[3] A reviewer raises a question about the benefits of an F1–F2 distinction in light of accounts of productivity in CxG, for example, which have often recognised gradience between full productivity and local analogical extensions (e.g. Barðdal 2008). We do not see a strong parallel between the F1–F2 distinction and gradient productivity, however. F1 can be aligned with full productivity, but F2 cannot (or cannot only) be aligned with local analogical extensions. We do recognise, though, that there is significant gradience within F2-creativity in terms of degree of alignment with a sanctioning schema. By contrast, we suggest there is a qualitative difference between full and partial alignment between a construct and its sanctioning construction.

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In section 3.2 we looked at the development of English libfixes, and argued that the process of conceptual blending was important in both sets of changes (i.e. those which resulted in the creation of an exemplar cloud, and those where a morphological schema might be posited). The question now is whether the libfixing patterns are F-creative (and if so, whether F1- or F2-creative) or E-creative. Here our analysis overlaps to a degree with the analysis provided of the Dutch pseudoparticiples. There is clearly some degree of E-creativity involved in the development of those libfixes for which a morphological schema can be motivated, as we saw with the case of TAINMENT. With some of the other types, such as FECTION, with very low type frequency, there was little evidence of any generalisation, thus examples like *pawfection* would not be considered E-creative. Instead, recall that such cases were treated as parts of exemplar clouds (e.g. Bybee 2013). In the FECTION exemplar cloud, *perfection* assumes a central position, with formally and functionally related items (like *pawfection* and *purrfection*) organised as a network of remembered tokens of experience. Such an analysis does not lend itself to categorisation as either F1- or F2-creative, in terms of full or partial sanction, given that the distinction made in Norde & Trousdale (2024) relies on a particular way of viewing the organisation of constructions. If constructions are organised as essentially an inheritance taxonomy, then it is possible to observe whether there is full sanction or partial sanction from the more abstract pattern, which corresponds to F1-creativity and F2-creativity respectively. By contrast, if constructions are organised as exemplar clouds (as in Norde & Sippach 2019), then inheritance does not come into play. From such a perspective, F1-creativity concerns increase in the strength of the existing exemplar cloud, while F2-creativity involves the addition of non-prototypical exemplars to the periphery and E-creativity is the establishment of a new exemplar cloud from F2-creative exemplars. In relation to creativity, then, it may be that the distinction between F1- and F2-creativity, and the distinction between F2-creativity and E-creativity, comes into play at a certain stage in a diachronic process.

A related issue here is that of coverage (Goldberg 2019: 62–73). Goldberg suggests that novel linguistic expressions are 'licensed by existing constructions to the extent that the existing combination of constructions *covers* the hyper-dimensional space required to include the novel expression' (Goldberg 2019: 73, emphasis original). In connection with what we say about creativity above, Goldberg's account of novelty seems to be focused on F-creativity. We proposed that E-creativity, by contrast, might be different (since we suggest that in cases of E-creativity, there are no existing constructions which precisely cover the same hyper-dimensional space). This remains an interesting open question for diachronic research.

We would like to make one final point about libfixes, creativity and productivity. We recognised libfixing as a kind of ludic word-formation process, where language users are deliberately playful. Certainly there is the 'intentional manipulation of linguistic structure' (Bergs 2018: 290). But are libfixes also productive? Van Marle (1985: 43) suggested that morphological creativity was an umbrella term for 'all coining-devices … which a native speaker has at his disposal to coin new words' whereas morphological productivity should be restricted to 'a specific subset … associated with the notion "regular"'. While we agree with Van Marle that morphological creativity is not restricted to deliberate or playful word-formation, we think the term 'regular' is not very helpful, because productivity is a gradient, ranging from very low productivity, characterised by a small number of high-frequency types and very few new coinages, such as English *-th*, to full productivity, characterised by a relatively high type–token ratio and a high number of hapaxes (types that occur only once in a corpus), such as English *-ness.* Likewise, there are libfix constructions with low productivity (e.g. FECTION or CRACY) and libfixes with high productivity (e.g. TAINMENT or TASTIC). This suggests a relation between E-creativity and increasing productivity, which is another interesting topic for future research.

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Let us finally turn to the question of extravagance. We recognise that English libfixes and Dutch pseudoparticiples involve creativity (as characterised by Sampson 2016). We now suggest that both patterns also involve a degree of extravagance. But crucially, we suggest that extravagance is a gradient phenomenon, and that degree of extravagance is strongly correlated with properties of the newly created construction, as follows.

High extravagance is exemplified by the English libfixes. Norde & Sippach (2019: 354) suggest that libfixes are 'bound to be noticed', while Zwicky (2010) described them as having a 'show-offy character'. This is at the heart of Haspelmath's characterisation of extravagance. In such patterns, there is a sense that the language user is foregrounding the ludic/playful element, drawing attention to the creative transgression. This is in some ways a risky discourse strategy: as Goldberg (2019: 61) observes, 'we consider creative uses "wrong" when there exists a conventional alternative way to express the same message, because we view language normatively' (see also Uhrig 2020 on the delicate balance between creativity and errors). But precisely because such expressions draw attention to the transgression, and are so obviously non-conventional, the innovations may be replicated and conventionalise. An important question, however, is whether (and under what conditions) a pattern is abstracted which allows further generation of new lexical items, and what that says about extravagance. In the case of English libfixes, it may be that as a generalisation is formed, and the productivity increases, the degree of extravagance decreases.

Medium extravagance is exemplified by the Dutch pseudoparticiples. It is not clear how 'conscious' language users are when coining new pseudoparticiples. There is some evidence that in the written language at least, users are aware that the forms are potentially non-conventional, or playful, which can be inferred by the use of scare quotes around the participle. But many written instances of the participles are not so marked. Note that for both the English libfixes and the Dutch pseudoparticiples, the data came from web corpora, which will include a mixture of more and less formal written language.

Low extravagance is exemplified by many instances of grammaticalisation and lexicalisation. The development of tense affixes from verbs, the development of adpositions from body parts, and the development of suffixes from the second element of compounds (e.g. English *-dom* and *-hood*) are all cases where the idea that a speaker is talking in a way such that they are to be noticed is much harder to motivate. It may be (as is the case, for example, with some instances of the contemporary *way*-construction, as discussed earlier) that later developments may be more extravagant. But extravagance does not seem to be a prerequisite for creative language use.

Why should it be that extravagance varies in this way? We believe that expressiveness has a role to play, and that this, in part, correlates with the linguistic category of the constructs that are created. For example, the outputs of English libfixation belong to the 'major' word classes: of the eight libfixes analysed by Norde & Sippach (2019), six created nouns (e.g. *corruptocracy*) and two adjectives (e.g. *northumberlandtastic*). Libfixation (as opposed to the kind of diachronic process that created the English suffixes *-dom* or *-hood*) does not involve the creation of procedurals. As a result, the outputs are never backgrounded, as is the case with elements that grammaticalise (Boye & Harder 2012; Boye 2023). It is important, however, to note that there can be elements which are both backgrounded and extravagant, but this, we suggest, is rare. Here we are thinking of examples like the double *-er* marking of English agent nouns (e.g. *washer-upper*, Lensch 2022), and English maximiser degree-modifying constructions such as *quite* and *totally*. While English degree adverbs are both extravagant and backgrounded, the class undergoes frequent renewal (especially compared to other lexical categories).

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5. Conclusions

In our discussion we have addressed some aspects of the complex relationship between blending, creativity, extravagance and change in morphological constructions. In particular, we have argued for the following:

a. Constructional blending involves the development of constructions as characterised by Goldberg (1995). For the purpose of the examples we discussed, in English libfixes, the blend primarily involves unpredictability in the semantic relation between the libfix and its dependent, while in Dutch pseudoparticiples, at least for the *be*-set, it involves idiosyncrasy with respect to category membership (i.e. the output of the blend has stronger associations with the category 'adjective' than with the category 'verb').
b. Writers of English and Dutch are both F- and E-creative with respect to their use of some libfixes and some pseudoparticiples, respectively. However, we suggest that we cannot simply align E-creativity with language change in general. Both types of creativity, in the morphological domain, may result in the creation of new lexical items, but while a subtype of F-creativity broadens the scope of an existing constructional schema, E-creativity involves the creation of a new schema. In our case studies, therefore, the development of libfixes like *pawfection* and the *ont*-pseudoparticiples constitutes F-creativity (F1- and F2-creatively respectively, to be precise), while the development of the TASTIC-libfix schema and the *be*-pseudoparticiple constitutes E-creativity.
c. Extravagance and creativity can, in some cases, be closely related. Specifically, we acknowledge that extravagance (as a kind of speaker mentality, manifest in certain kinds of communicative behaviour) may motivate creativity. However, we submit that speakers may be extravagant without being creative, and be creative without being extravagant. This is because creativity is not solely a property of speaker behaviour. We see creativity as a feature of interaction between language users, since hearers can also be creative if they reanalyse an input with a meaning that was not intended by the speaker (cf. the recognition of constructors and co-constructors in creative linguistic acts by Hoffmann forthcoming).
d. In terms of language change, again we recognise that extravagance may have a role to play, and indeed in cases of ludic word-formation such as libfixes, that may be a strong role. But libfixes tend to create words that belong to major lexical categories like nouns and adjectives, with clear substantive semantics. We agree that they call the reader's attention to the writer's behaviour. But as a result, they are never 'sneaky' (De Smet 2012), and sneakiness is a property of most of the kinds of changes that involve the development of grammatical constructions (but cf. Petré 2016, 2017 and De Wit *et al.* 2020 on extravagance and the development of the English future and English and Dutch progressive markers). The Dutch pseudoparticiples are a very interesting case in this regard. Writers appear to recognise that, at least in some cases, they are being extravagant, and consciously pushing against convention. But this does not appear to be always the case, and in the more clearly 'grammatical' example (i.e. the privative *ont*-set), there is little evidence that language users have gone on to create a new schema and be E-creative.

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