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Lexical categories and processes of category change. Perspectives for a constructionist approach¹

Abstract: This paper revisits the notions of lexical category and category change from a constructionist perspective. I distinguish between four processes of category change (affixal derivation, conversion, transposition and reanalysis) and demonstrate how these category-changing processes can be analyzed in the framework of Construction Grammar. More particularly, it will be claimed that lexical categories can be understood as abstract instances of constructions (i.e., form-function pairings) and category change will be assumed to be closely connected to the process of constructionalization, i.e., the creation of new form-meaning pairings. Furthermore, it will be shown that the constructionist approach offers the advantage of accounting for the variety of input categories (ranging from morphemes to multi-word units) as well as for some problematic characteristics related to certain types of category change, such as context-sensitivity, counterdirectionality and gradualness of the changes.

1. Introduction: defining lexical categories and category change

1.1. Category change as a creative process

Language users productively make use of category change to create new lexical items. Therefore the process of category change can be considered an important mechanism in language innovation. Besides the well-known textbook examples referring to productive cases of affixal derivation and conversion from and to major word classes (for instance, *a bike_N > to bike_V; to bike_V > a biker_N*), everyday language use encompasses a wide variety of more creative cases of category change, as exemplified in (1–3).

- (1) Ted: *She said it'd take three days. It's been five days. Should I be worried?*
Lily: *Oh, just play it cool. Don't Ted out about it.*

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Ted: *Did you just use my name as a verb?*

Barney: *Oh, yeah, we do that behind your back. Ted-out: to overthink. Also see Ted-up. Ted-up: to overthink something with disastrous results. Sample sentence: Billy Tedded up when...*

Ted: *OK, I get it. Don't worry, I'm not gonna ted anything up or out. I'll just give it a few more days.*

(How I Met your Mother, Season 1, Episode 7, 2005, quoted in Mattiello 2013: 246)

- (2) *Once I start shipping a tv couple or real life partnership / friendship / relationship (...), I'll ship them forever!*

<http://www.techinsider.io/what-shipping-means-to-teens-2015-8>, August 2015)

- (3) *He said a fantastically Donald Trump-ish thing*

<http://www.independent.co.uk/news/people/.html>, Sept. 2015)

In example (1), taken from Mattiello's book on *Extra-Grammatical Morphology in English* (2013: 246), a new phrasal verb (*Ted-out/lup*) is coined by means of a conversion from a proper name. The example in (2) is illustrative of creative English youth language in fanfiction circles: the verb *to ship* 'to endorse a romantic relationship (between fictive characters)' is derived by conversion from the noun *ship* 'short for romantic relationship', the latter probably being clipped from the noun *relationship*.² Example (3) indicates that suffixation is not restricted to common nouns, nor to non-segmented items, but also applies to proper names, and even to complex ones, since *-ish* has scope over a multi-word unit consisting of a first and family name (*Donald Trump*).

1.2. Lexical categories and category change

The classification of lexical items into categories (also called 'parts of speech' or 'word classes') has been a fundamental concern in linguistic research from ancient times. This issue was already fascinating the Greek philosophers Plato, Aristotle and the Stoics as early as the fourth century B.C. They debated exactly "which word classes should be recognized, what their respective rationale is, and why the lexicon is organized in parts of speech instead of being composed of just one type of word" (Simone and Masini 2014: 1). More recently, Langacker (1987) admits that the problem has still not received a

2 Source: <http://www.urbandictionary.com/define.php?term=ship> (accessed 27 July 2016)

satisfying account: “Every linguist relies on these concepts but few if any are prepared to define them in an adequate, explicit, and revealing way” (Langacker 1987: 2). The topic is nowadays attracting renewed attention: witness a series of recent publications from different theoretical perspectives, such as Vogel and Comrie (2000), Baker (2003), Panagiotidis (2014), Rijkhoff and van Lier (2016), Simone and Masini (2014) and Van Goethem, Norde, Coussé, and Vanderbauwhede (forth.).

In a somewhat simplified way, two opposite approaches to the classification of the lexicon into categories can be distinguished: accounts based on formal (morphosyntactic) criteria and accounts based on semantic (functional) criteria. However, both of them suffer from significant shortcomings. As pointed out by, among others, Croft (2001) and Haspelmath (2007), morphosyntactic behavior turns out to be highly language-specific. For instance, inflection is not an appropriate property to define adjectives cross-linguistically since adjectival inflection strongly differs from one language to another and adjectives can even remain unmarked for inflection (as in English).³ In the cognitive-semantic tradition (e.g., Langacker 2002), lexical categories are associated with prototypical semantic concepts: nouns prototypically denote objects (persons, things, places), adjectives are associated with properties and verbs with actions. Although these semantic concepts make a claim to universal validity and are hence more appropriate from a typological point of view, it has been shown that this semantic-class approach does not allow for consistent one-to-one mapping either and many form-function mismatches can be observed: for instance, a noun such as *destruction* denotes an action and *whiteness* refers to a property (for a more elaborate discussion, see Croft 2001: 63–64; Spencer 2005; Evans and Green 2006: 555–556).⁴

Building on the Neogrammarians’ view (cf. Paul 1891: 403), Bauer (2005: 21) argues that three aspects usually correlate with each lexical category: form (i.e., inflectional properties and role in word-formation), meaning (i.e.,

3 In Croft’s (2001) *Radical Construction Grammar* “parts of speech cannot be categories of particular languages. We could choose to label certain English syntactic categories defined by certain English constructions as Noun, Verb, and Adjective. But we would then have no theoretical motivation to label the categories defined by constructions in any other language with the same labels. (...) And anyway, the constructions of English taken as a whole would still define many more classes than the three major parts of speech, or even the dozen or so usually found in traditional grammar” (Croft 2001: 85).

4 In Langacker’s view, the verb *destroy* and the noun *destruction* can be distinguished on the basis of different ‘schematic semantic characterizations’ or ‘construals’ (Langacker 2002: 60). For example, the nominal expression *destruction* involves the process of reification, “which construes what Langacker calls a PROCESS (action) in terms of what he calls a THING (matter)” (Evans and Green 2006: 555–556).

association with prototypical semantic concepts) and function (i.e., syntactic use in the sentence). Moreover, Ramat (1999: 167) and Bauer (2005: 21–22) assume that lexical categories should not be seen as monolithic entities but as (structured) bundles of (formal, semantic and functional) features. As such, a lexical category can be considered a cluster of properties.

The mainstream of current investigation in the cognitive-functional vein follows this view and two major implications may be drawn from it: lexical categories are characterized by ‘synchronic gradience’ (Aarts et al. 2004, Aarts 2007) and this ‘synchronic gradience’ may reflect ‘diachronic gradualness’ (Traugott and Trousdale 2010). Recent cross-linguistic research has indeed drawn attention to the significant variation within and the intersection among lexical categories. Aarts (2007: 34) labels these two phenomena as instances of ‘gradience’: it implies that some members of a category are more prototypical than others (‘sub-sective gradience’)⁵ and that boundaries in-between categories are not clear-cut (‘inter-sective gradience’).

Diachronically speaking, this gradience reflects the fact that category change is not always an instantaneous operation nor a complete change, but can be a gradual and unaccomplished process too. Van Goethem and Koutsoukos (forth.), for instance, demonstrate that the Dutch item *luxe* ‘luxury; luxurious’ synchronically displays hybrid nominal and adjectival behavior and that this synchronic gradience reflects a gradual historical development from noun into adjective.

Category change, which I broadly define as the shift from one word class to another, is intrinsic to many different processes, both synchronic and diachronic. Since the 1980s, language change and innovation have essentially been accounted for by processes of grammaticalization and lexicalization (e.g., Lehmann 1995 [1982], Hopper and Traugott 2003, Himmelmann 2004, Brinton and Traugott 2005), with category change (mainly de-categorization, or loss of properties of the source category) mostly considered one of their identifying parameters. Simone and Masini (2014: 4) correctly point out the impact of grammaticalization and lexicalization on word-class change:

According to another widespread modern idea, (...) a variety of grammaticalization phenomena take place within each word class and between word classes; indeed, word classes are the locus of both grammaticalization and lexicalization. In fact, items belonging to certain word classes may diachronically derive from items belonging to other classes: for instance, conjunctions can be demonstrated to derive from adverbs, adverbs from adjectives, articles from demonstratives, nouns from adjectives and so on. Given that these transitions are regular among

5 For example, *happy* could be considered as a more prototypical adjective than *alive*, among others because the former allows attributive use while the latter does not (*a happy person* vs **an alive person*) (Aarts 2007: 105–107).

languages, the idea of 'lexical cycles' has been postulated, i.e., diachronic successions linking distinct word classes according to a specifiable order (see Ross 1972; Simone 2000).

However, it remains unclear how (synchronic) category-changing processes (such as conversion and affixal derivation) relate to these diachronic processes. In this paper, I will bring category change as such to the fore, and not consider it simply as a side-effect of more general processes of language change. Furthermore, a comprehensive typology of the different category-change processes and their defining features is missing to date. One of the most problematic issues is the fact that processes of category change without any formal marker, such as conversion and transposition (see below), are often treated on a par, as rightly noticed by Valera (2004):

Many pairs affected by processes other than conversion have been described as conversion, no doubt because the effects of those processes are the same, that is, because they result in unmarked word-class change. (Valera 2004: 32)

Nevertheless, I believe that it is important to clearly delineate the different category-change processes, and that this can be done by applying a set of well-defined criteria.

1.3. Aims and outline

This paper has two aims. First, I will present a detailed description of four main processes of category change: derivational affixation, conversion, transposition and reanalysis. The focus will be on category shifts with a lexical item as output. Secondly, I will argue that our view on categories and category change may benefit from a constructionist approach (see also Van Goethem, Norde, Coussé, and Vanderbauwhede (forth.)). More particularly, I will advance that categories can be understood as abstract instances of constructions (i.e., conventionalized form-function pairings) and that category change is closely connected to the process of constructionalization. I will try to demonstrate that this approach offers the advantage of accounting for the variety of input categories (ranging from morphemes to multi-word units) as well as for certain problematic features related to certain category change processes, such as context-dependency and (counter)directionality.

The outline of the paper is as follows. In Section 2, I will briefly set out the different criteria that underlie the distinction between the four processes of category change under discussion. Processes of category change can indeed be classified according to the types of units undergoing the change, the presence or not of formal markers, their context-sensitivity, gradualness, directionality, and, finally, the degree of accomplishment of the shift. In Section 3, four main processes of category change (affixal derivation, conversion, transposition and reanalysis) will be identified and correlated with these defining criteria.

Section 4 will be devoted to the interconnection between category change and the process of constructionalization, i.e. the creation of new constructions or form-meaning pairings. This will lead us to establish a constructionist typology of category-change processes.

2. The defining criteria of category-change processes

Category-change processes can be arranged along different clines, for instance from abrupt to gradual and from context-independent to highly context-sensitive. In order to distinguish the different types of category shift, I will apply a set of seven defining criteria.

(i) Automatic vs. non-automatic category change

A process such as conversion is by definition category-changing and automatically leads to the creation of a new lexical item. Other processes might be qualified as more general, grammatical mechanisms of linguistic change and may, but not necessarily, involve lexical category change. The grammaticalization of full verbs into auxiliaries (e.g. OE *willan* ‘to want, to wish’ > PDE *will* ‘grammatical marker of future tense’), for instance, will be considered as an intra-categorial shift (in this case, within the category of the verb) but not as a lexical category change, since it does not result in an item belonging to a different word class.

(ii) Category change with or without a formal marker

The output of the category change may or may not be marked by a formal element such as a derivational affix. In this respect, conversion can be opposed to affixal derivation, since in the latter overt affixation marks the change of category (cf. Beard 1998; Valera 2014). For example, the English suffix *-er* is commonly added to a verbal base in order to signify nominal entities that are active or volitional participants in an event, as in *teach_v* > *teacher_N*, *sing_v* > *singer_N*, *write_v* > *writer_N* (Bauer 1983: 112).

(iii) Instantaneous vs. gradual category change

Category change may operate instantaneously or proceed in a step-wise fashion. Ramat (1999: 172), for instance, states that “recategorization does not happen abruptly. On the contrary, there are gradual steps along a continuum, which in some cases may be diachronically attested”. He illustrates this fact by means of the Modern French preposition *hormis* ‘except’, derived from the combination of an adverb and a past participle, and which is still attested in Old French texts with agreement (*hors mise la terre Saint Magloire* ‘excepted the country Saint-Magloire’).

(iv) Context-dependent or -independent category change

Processes of category-change can be more or less context-sensitive. Therefore we need to examine whether the category change relies on a specific (morphological or syntactic) context or not. Shifts from noun to adjective, for instance, have been shown to start out most of the time in a specific syntactic environment (the ‘bridging context’, cf. Heine 2002). This has for instance been demonstrated in the case of the emergence of the adjectival uses of English *key* (*This is really a key point*), which emerged in the attributive position and gradually expanded to other typically adjectival contexts, such as the predicative one (Denison 2001, 2010; De Smet 2012; Van Goethem and De Smet 2014).

(v) Degree of category change

A fifth criterion relates to the degree of category change. It seeks to determine whether the process necessarily leads to full category membership of the target category or whether partial membership and defective properties can be observed (e.g., lack of inflectional properties, a defective complementation pattern, or distributional restrictions). In German, for instance, the adjectival use of nouns such as *Ernst* ‘seriousness’ and *Schuld* ‘guilt’ results in defective adjectives that in most cases can only be used predicatively (e.g., *Der Mann ist schuld* ‘the man is guilty’; **der schulde Mann*) (cf. among others Pittner and Berman 2006; Van Goethem und Hüning 2015).

(vi) Input units of category change

Category change typically affects monomorphemic lexical items (‘words’): affixal derivation or conversion, for instance, generally apply to non-segmented items belonging to major word classes (N, V, A): e.g., Dutch *gek*_A ‘crazy’ > *de gek*_N ‘the fool’, *huis*_N ‘house’ > *ver-huis*_V ‘to move’. However, as I will show in the remainder of this paper, complex lexical items, minor word classes, proper nouns, and even affixes and affixoids may also, albeit more exceptionally, undergo a process which turns them into new lexical items.

(vii) Directionality of the category change

The final criterion is related to the question of directionality. Grammaticalization theory presupposes that language change is unidirectional: lexical items develop into grammatical items, but not vice versa (among others, Lehmann 1995 [1982], Haspelmath 2004).⁶ For instance, there is a cross-linguistically attested

6 The unidirectionality hypothesis is clearly formulated by Peyraube (2002: 51): “La grammaticalisation – mais non la réanalyse comme on vient de le voir – est unidirectionnelle. On va du lexical (« mot plein ») au grammatical (« mot vide »).

tendency to use nouns referring to body parts as (part of) locative adpositional/ adverbial expressions, as in *at the back of (the shop)*, *(to go) back* (cf. Heine et al. 1991: 125–137; Ramat 1999: 171). However, the emergence of new lexical items out of minor word classes, for instance, provides counterevidence for this claim and has been labelled as an instance of so-called ‘de-grammaticalization’ (cf. Ramat 1992, Tabor & Traugott 1998, Norde 2009).

3. A typology of category-change processes

Category change may result from different processes. Apart from minor processes of category change, such as back-formation (e.g., *babysitter*_N > *baby-sit*_V), and accidentally category-changing processes such as reduplication (e.g., *gishiri*_N ‘salt’ > *gishiri-gishiri*_A ‘salty’ in Hausa (Inkelas and Zoll 2005)) and ablaut (e.g., *spreek*_V ‘to speak’ vs *spraak*_N ‘speech’ in Dutch), the most common category-change processes in the languages of Europe include the following ones:

- (i) Affixal derivation: (English) *happy*_A > *happi-ness*_N
- (ii) Conversion: (Dutch) *gek*_A ‘crazy’ > *gek*_N ‘fool’
- (iii) Transposition: (French) *Elle est d’un courageux* ‘lit. She is of a courageous; She is very courageous’ (cf. Kerleroux 1996, Lauwers 2014)
- (iv) Reanalysis: (English) *the key*_N *to success* > *a key*_{NA} *point* > *Customer satisfaction is very key*_A *to us* (cf. Denison 2001, 2010; De Smet 2012)

In Sections 3.1.–3.4., I will define these four recategorization processes in more detail. The criteria set out in Section 2 will be applied to each of them in order to highlight their similarities and differences. Finally, the defining characteristics of the four main processes will be summarized in 3.5.

3.1. Affixal derivation

Derivation is generally defined as the formation of new lexemes by means of affixation, i.e., the attachment of bound morphemes to the stem forms of lexemes (see, among others, Lieber and Štekauer 2014b).⁷ It is a *word-formation process*

L’hypothèse a donc été émise que toutes les catégories mineures (prépositions, conjonctions, pronoms, démonstratifs, auxiliaires, i.e. des classes relativement fermées) viennent en diachronie de catégories majeures, qui sont des classes ouvertes: noms et verbes. On admet aujourd’hui qu’il s’agit là d’une simple hypothèse plutôt que d’un principe, ou même d’une caractéristique définitoire (Tabor et Traugott, 1998).”

7 In a broad view, derivation does not only encompass various kinds of affixation (prefixation, suffixation, infixation, circumfixation), but also “reduplication, templatic

creating new lexical items and is often but *not necessarily category-changing*. In Dutch, for instance, prefixes tend to be category-neutral (4), whereas suffixation is mostly category-changing (5) (Booij and Audring 2016).

(4) (Dutch) *spreek*_V ‘speak’ > *be-spreek*_V ‘talk about’

(5) (Dutch) *spreek*_V ‘speak’ > *spre(e)k-er*_N ‘speaker’

Prefixation in (4) does not change the lexical category of the item – it remains a verb – even if the grammatical category differs (*spreek* is an intransitive verb whereas *be-spreek* is transitive). In (5), the derivational suffix *-er* formally marks a change in lexical category. It changes the verb into a noun *instantaneously and completely*: that is, as soon as the new lexical item has been derived, it can be used in all syntactic positions typical of the new word class it belongs to (noun) and immediately adopts its morphological (inflectional) properties. Moreover, derivation does *not depend on a specific (syntactic) context*.

Derivational affixation generally applies to words of *major word classes*, as in (6).

(6) (English) *happy*_A > *happy-ness*_N, *love*_N > *love-ly*_A

However, also *words of minor word classes* and even *multi-word units* may undergo category-changing affixation. A nice example is the Dutch diminutive suffix *-((e)t/p/k)je*, which mostly takes nominal stems as its base (7), but which can also apply to adjectives, verbs, numerals, prepositions/adverbs (8), pronouns, determiners and even noun phrases and prepositional phrases (9) (Booij 2002: 89).

(7) (Dutch) *vrouw*_N ‘woman’ > *vrouw-tje*_N ‘little woman, sweetheart’

(8) (Dutch) *uit*_{P/ADV} ‘out’ > *uit-je*_N ‘trip, excursion’

(9) (Dutch) [*onder ons*]_{PP} ‘between us’ > *onderons-je*_N ‘private chat’

3.2. Conversion

In Bauer and Valera (2005: 8), conversion is defined as “a derivational process linking lexemes of the same form, but belonging to different word-classes”. Like affixation, conversion is a *word-formation process* and is *context-in-*

or root and pattern word formation, subtractive word formation, conversion, and miscellaneous tone and stress changing operations, specifically when they are not used for the purposes of inflection” (Lieber and Štekauer 2014a: 3–4).

dependent. Both processes *instantaneously create new lexemes* which adopt all the formal characteristics (such as inflection) of the new word class they belong to (Lauwers 2014: 212). The new element is to be found in all the syntactic contexts typical of the new category, but the change is not dependent on the context. Contrary to affixation, however, conversion is *by definition category-changing without any formal marker* signaling the word-class change, as already noticed by Sweet (1960 [1891]: 38): “No formal change, except of the necessary change of inflection”.

The process of conversion is a matter of theoretical debate, since it is often considered an asymmetric (or non-iconic) word-formation process: contrary to affixal derivation, there is no form change corresponding to the functional change of word class. Gaeta (2014: 233) summarizes the problematic issue and the different accounts as follows:

The latter phenomenon is normally known in theoretical morphology under the label of conversion or zero derivation (cf. Bauer & Valera 2005; Gaeta 2013). It is therefore possible to distinguish between derivational morphemes, which are responsible for the recategorization process, like in German *mao-isieren* “to Mao-ize” or *ver-merkel-n* “to Merkel-ize”, and the usage of inflectional markers in the absence of any explicit derivation like in *ölen* “to oil”. The latter case is more difficult to deal with, because no affixal modification takes place, except for the addition of inflectional markers that are different from those of the base lexeme. In fact, in theoretical morphology the question of how a derivative like *ölen* should be interpreted is still debated, and the opinions diverge on whether *ölen* has to be treated as zero-derived, i.e. as suffixed like *maoisieren*, but with a phonologically empty morpheme: $[[[\text{öl}]_N - \emptyset]_V - en]$ (cf. Kastovsky 2005); or as resulting from a (lexical? syntactic?) process of relabeling or relisting: $[[\text{öl}]_{N \rightarrow V} - en]$ (cf. Lieber 2004: 89–95); or simply as resulting from the labelling of an underspecified lexical unit $[[\text{öl}]_{\emptyset \rightarrow V} - en]$ (cf. Don 2005).

Another interesting question is whether conversion should be regarded as a kind of derivational process. Marchand (1969) and later Dressler and Manova (2005) and Manova (2011) argue (based on semantic criteria) that conversion is indeed a type of derivation that should be examined next to other derivational processes. Along the same lines, Manova (2011: 59) assumes a strict parallelism between affixation and conversion in terms of morphosemantics and argues that conversion should be recognized as a derivational process, since it produces a considerable and regular change in meaning, which is typical of a derivational process. However, it should be mentioned that conversion may result in different semantic patterns, as observed for, for instance, noun to verb conversion in English by Plag (1999) and Lieber (2004).

As regards the units of change, conversion mostly applies to words of *major word classes* (formally simplex words, e.g., *to run_V > run_N*), but, although

more exceptionally, *also complex words* (compounds) (10) and words belonging to *minor word classes* (11) may undergo conversion.

- (10) (Modern Greek) *glossológos*_N ‘linguist’ > *glossologó*_V ‘to perform the activity of a linguist’⁷ (Koutsoukos 2013a,b)
- (11) (Dutch) *maar*_{CONJ} ‘but’ > *maar*_V ‘to raise objections’

Possibly, conversion is also involved in some cases of univerbation of (lexicalized) *multi-word units*:

- (12) (English) *[to run away]*_[V + Part] > *[runaway]*_N (Brinton and Traugott 2010: 37)
- (13) (English) *[forget me not]*_s > *[forget-me-not]*_N (‘flower name’) (Bauer 1983: 207)

In this case, multiword expressions or even complete sentences undergo ‘univerbation’ and conflate into new words belonging to a certain word class.

3.3. Transposition

A third process of category change is transposition. It is often confused with conversion since it does not involve any formal change either. Transposition is the *grammatical process* by which a lexical item is inserted into a specific (syntactic or morphological) slot intended for items belonging to another lexical category, resulting in an ‘*ad hoc*’ *functional change*. It is, by consequence, highly *context-dependent*.

Kerleroux (1996) labels this mismatch between category and function as an instance of *categorial distortion* (“distorsion catégorielle”), as in example (14) in which the adjective *courageux* ‘brave, courageous’ fills a nominal slot:

- (14) (French) *Elle est d’un courageux!*
 ‘lit. She is of a courageous’
 ‘She is very courageous’

8 In the Modern Greek example, the conversion is accompanied by a stress shift. This opens the debate on the question whether minor formal changes, such as suprasegmental changes, stress shift, or mutations can be regarded as either derivational processes on their own or minor changes associated with the process of conversion (see Valera 2015: 325–326).

Lauwers (2014) demonstrates that a number of specific French constructions allow nouns in the predicative slot, even combined with degree modification, as in (15):

- (15) (French) *Vous n'êtes pas très chocolat ? Découvrez les Oreo à la fraise*
 'lit. you are not very chocolate? (...)'
 'You are not very fond of chocolate? Then discover Oreo with strawberry taste'
 (<http://www.cosmopolitan.fr/vous-n-etes-pas-tres-chocolat-decouvrez-les-oreo-a-la-fraise,1962377.asp>, March 2016)

Lauwers (2014) analyses this kind of examples as instances of 'ad hoc' syntactic re categorization within a specific constructional pattern, i.e., syntactic transposition. With regard to the type of cases exemplified by (15), the reversible nature and context-dependency of the transposition can be evidenced by the ungrammaticality of the attributive use: **une personne très chocolat* 'lit. a very chocolate person'.

Similar examples of nouns being used as predicates in copula constructions can be found in (colloquial varieties of) German (cf. Gaeta 2014, Van Goethem and Hüning 2015, Bاتفeld, Leuschner, and Rawoens (forth.)):

- (16) (German)
- a. *Der Typ ist echt Banane.*
 'lit. the guy is really banana'
 'The guy is really weird.'
 - b. *Eure Musik ist echt Hammer.*
 'lit. your music is really hammer'
 'Your music is really great.'
 - c. *Diese Frau ist Klasse.*
 'lit. this woman is class'
 'This woman is wonderful.'

Like conversion, transposition is *not marked by a formal element*, which explains why both processes are often confused (as also observed among others by Valera 2004, Gaeta 2014 and Van Goethem and Hüning 2015). However, they can be distinguished on the basis of several important features (see also Van Goethem and Koutsoukos (forth.) for a detailed comparison): unlike conversion, transposition only causes 'ad hoc' functional change, dependent on a specific (syntactic or morphological) context and, hence, the output is characterized by *defectiveness* when comparing it with the target category.

For instance, in the French construction exemplified in (15), nouns used predicatively do not agree with the nominal subject in number or gender (cf. **Cette personne est très chocolate* ‘lit. this person is very chocolate’).

Crucial to transposition is the notion of semantic *coercion* (see, for instance, Michaelis 2004, Lauwers and Willems 2011a, 2011b). The basis of coercion is precisely a mismatch between the semantic properties of a *selector* and the inherent semantic properties of a *selected element*, the latter not being expected in that particular context (Lauwers and Willems 2011a: 1219). This can lead to the contextual adaptation of the semantic features of the selected element. According to Lauwers (2014: 216), however, coercion is a purely semantic notion and it remains to be determined how it relates to category shifts.⁹

Transposition mostly applies to words of *major word classes*, such as nouns used in attributive (17a) or predicative positions (17b) (cf. De Smet 2012 on the recategorization of English *key* and *fun*):

- (17) (English) a. *a key point*
 b. *that’s fun*

More exceptionally, words belonging to *minor word classes* (18) and even *fully-fledged phrases* (19) can be used in nominal slots.

- (18) (English) (...) *all the ifs, maybes, and wherefores of Survivor scramble-time politics*. (<https://www.yahoo.com/>, April 2016)

- (19) (French) *Ce que les «Je suis Charlie» ont retenu de 2015*
 ‘What the “Je suis Charlie” have retained from 2015’
 (<http://bibliobs.nouvelobs.com/idees/20160511.OBS0223/exclusif-ce-que-les-je-suis-charlie-ont-retenu-de-2015.html>, May 2016)

As Haspelmath (1999: 1064, n.1) puts it, in this case “(...) words are taken out of their construction and employed metalinguistically”.

9 On the same topic, Booij and Audring (forth.) argue that “[S]emantic coercion may be accompanied by changes in word class, making use of existing morphological mechanisms such as conversion or nominalization by suffixation to achieve the resolution of clashes”. In other words, they claim that coercion can be combined with other processes which can lead to the change in lexical category.

- (21) (German) *Riesenkraft* > *Riesenspaß* > *ein r/Riesen Dankeschön*
 ‘strength of a giant’ ‘great fun’ ‘a big thank you’
 [N N]_N [prefixoid N]_N [det Adj N]_{NP}

Reanalysis is a *grammatical process* that *often involves lexical category change*, as in the shift from N to A in (21), but *not necessarily*: in (20), for instance, the grammatical features of the verb *go* change, yet it remains a verb. Unlike affixal derivation, but similarly to conversion and transposition, the category change is *not marked formally*. The possibility of reanalysis relies on an environment with structural/semantic properties prone to ambiguous representations (the so-called ‘bridging context’, cf. Heine 2002) and the process is thus *highly context-sensitive*.

In earlier studies, reanalysis was usually assumed to involve an abrupt change, but recent investigation reveals that it is a *step-wise expansion* from one environment to another (Himmelman 2004; De Smet 2009, 2012). It does, however, *not always result in full category change*. With respect to example (21), for instance, it can be noticed that *r/Riesen* is not the expected form in this position (neuter, nominative/accusative, singular, indefinite), which would be *rieses* (cf. *ein großes Dankeschön* ‘a big thank you’). Nevertheless, as shown in Norde and Van Goethem (2014), *riesen* (with the *-n* ending as a relic of the linking morpheme in the compound) is much more frequent than the expected form *rieses*, which gives evidence of the *defectiveness* of this newly created adjective. This hybrid status (between noun and adjective) is also observable from the fact that spelling with or without the initial capital can be observed.

- (22) (German) *Ein r/Riesen Dankeschön* vs ?*Ein r/Rieses Dankeschön*

The units undergoing reanalysis are often *lexemes*. The examples in (23) indicate that the transposition of the English nouns *key* and *fun* (see (17)) has been followed by syntactic context-expansion and further reanalysis into adjectives: as detailed by De Smet (2012), the path followed by *key* goes from attributive to predicative position, while the path followed by *fun* is the opposite one:

- (23) (English) a. *a key point* > *a really key point* > *Customer satisfaction is very key to us*
 b. *That’s fun* > *That’s really fun* > *a rather fun game*

Reanalysis of cases such as *Riesen-* (21–22) shows that affixoids, i.e. compound members with a morphologically bound meaning (Booij 2010: 57),

may also undergo reanalysis, and in the present case end up as free elements. Another intriguing example of a bound morpheme that has recently changed into a free item is the case of the Dutch suffix *-tig* (Norde 2009: 213–220). In Dutch, but also in Frisian and German, the cognates of the English numeral suffix *-ty* (English *twenty, thirty, ...*; Dutch *twintig, dertig, ...*) can be used independently as a quantifier (with the meaning ‘umpteen, dozens, many’) (24a–b) and, in informal speech, even as an intensifier (‘very’) (24c).¹¹

- (24) (Dutch)
- a. *Die kerel heeft al **tig** vriendinnen gehad*
‘That guy has already had dozens of girlfriends’
(Norde 2009: 213)
 - b. *Rokers die **tig** keer per dag naar buiten gaan voor een rookpauze.*
‘Smokers who several times a day go outside for a smoking break.’
(<http://www.demorgen.be/economie/herkenbaar-dit-zijn-de-grootste-kwellingen-op-kantoor-bee5c3d5/>, April 2016)
 - c. *maar **tig** leuk dat die in Portugal gaat voetballuh*
[sic]
‘but how very nice that he is going to play soccer in Portugal’
(Norde 2009: 214)

A final example of reanalysis is the development of the English complex preposition *far from* (‘distant from’) (25a) into an adverbial downtoner (‘not at all’) (25b) (De Smet 2012; Van Goethem, Vanderbauwhede, and De Smet (forth.)).

- (25) (Dutch)
- a. *The city is not **far from** the shore.*
 - b. *The city is beautifully situated on the shore of Lake Victoria, but it is **far from** beautiful.*
(*When God stood up*, <https://books.google.be/books>, accessed 24 October 2016)

11 Norde (2009: 42) argues that the suffix *-tig*, which is the result of grammaticalization from the Proto-Indo-European numeral meaning ‘ten’, degrammaticalized from a suffix into an independent quantifier (‘many’), and underwent subsequently a regrammaticalization process into an adverb of degree (‘very’).

This example demonstrates that reanalysis may even affect complex *multi-word units*.

3.5. Summary

Table 1 summarizes the distinguishing features of the four category-changing processes described above. It can be noticed that affixal derivation and conversion are very similar: both are lexical word-formation processes that create new lexical items in an instantaneous, context-independent and irreversible manner; the main difference is the fact that the shift into a new category is not formally marked in the case of conversion. Transposition and reanalysis, by contrast, are grammatical and context-dependent category-changing processes. Since the category change is restricted to one specific syntactic position in the case of transposition, it involves only an *ad hoc* and defective change. Reanalysis implies further context-expansion and hence gradual extension of the syntactic properties of the target category, with or without further extension of its morphological properties (partial or full category shift). Finally, the four processes provide evidence for the fact that category change is not confined to lexemes, but may affect bound morphemes and complex multi-word units too.

Table 1: A typology of category-change processes

	Affixal derivation	Conversion	Transposition	Reanalysis
Lexical or grammatical process	lexical	lexical	grammatical	grammatical
Units of change	words multi-word units	words multi-word units	words morphemes multi-word units	words morphemes multi-word units
Formal marking	formal marker	no formal marker	no formal marker	no formal marker
Context-dependency	context-independent	context-independent	context-dependent	context-dependent
Gradualness	instantaneous	instantaneous	ad hoc	gradual
Degree of accomplishment	complete change	complete change	defective	partial/ complete change

4. Category change from a constructionist perspective

4.1. Construction Grammar

Construction Grammar (cf. among others Croft 2001; Goldberg 1995, 2006; Hoffmann and Trousdale 2013) is a relatively recent usage-based approach to language, language acquisition, and language change.¹² Crucial to this model is the concept of ‘*constructions*’, i.e. conventionalized form-meaning pairings, as the basic units of language (Goldberg 1995; Croft 2001). Constructions *vary in size and complexity* and range from bound morphemes to phrasal patterns (cf. Goldberg 2006: 5; Traugott and Trousdale 2013: 151).¹³ Inspired by Goldberg’s leading definition of a construction (Goldberg 1995: 4)¹⁴, constructivists have so far mainly focused on multi-word units with a non-predictable form or meaning aspect.

Constructions exist at different levels of *schematicity* (i.e., levels of abstraction) (Goldberg 1995, 2006): a distinction can be made between fully schematic constructions (abstract grammatical patterns) (26), semi-schematic constructions or constructional idioms combining lexically filled positions with open slots (27), and substantive micro-constructions or fully idiomatic expressions (28).

- (26) ditransitive [S V Obj₁ Obj₂] construction ↔ ‘transfer’
e.g., *He baked her a delicious moussaka.*
- (27) [*the Xer the Yer*] ↔ covariational conditional
e.g., *The more you think about not eating, the hungrier you get.*
- (28) [*tickle the ivories*] ↔ ‘play the piano’

Constructions of different levels of abstraction can be linked to each other by *inheritance* relations in which more specific constructions inherit properties from their more abstract parent constructions, and, as a consequence,

12 For a comprehensive overview of current issues in Construction Grammar, I refer to the *Oxford Handbook of Construction Grammar* (Hoffmann and Trousdale 2013).

13 However, contrary to Goldberg (2006), Booij (2010) considers the word (and not bound morphemes) as the smallest linguistic construction in his model of *Construction Morphology* “because morphemes are not linguistic signs, i.e. independent pairings of form and meaning” (Booij 2010: 15). In her later publications, Goldberg has also removed the morpheme from the list of constructions, following Booij (2010).

14 “C is a CONSTRUCTION iff_{def} C is a form-meaning pair <F_i, S_i> such that some aspect of F_i or some aspect of S_i is not strictly predictable from C’s component parts or from other previously established constructions” (Goldberg 1995: 4).

language can be considered a complex taxonomic network of constructions, the ‘*constructicon*’. Importantly, constructions may also inherit from more than one parent construction via so-called ‘*multiple inheritance*’ (Hudson 2012; Trousdale 2013; Trousdale and Norde 2013).

As also supported by Vartiainen (2016)’s analysis of adjectivally-used participles, the notion of ‘multiple inheritance’ is particularly relevant in a usage-based view of categorization and category change: in the same way as *a piano* may be connected to the conceptual categories of ‘musical instrument’ and ‘piece of furniture’, participles may be linked to both the categories of verb and adjective, even if the connection to the former or the latter may be stronger depending on the specific instance of use in the constructional network (cf. the idea of ‘intersective gradience’ in 1.2).

The examples in (26-28) are illustrative of a continuum between abstract grammatical constructions and concrete lexical expressions. One of the basic claims in Construction Grammar is indeed the fact that there is *no strict division between syntax and the lexicon*. This cline is clearly summarized by Croft (2001: 17) in a table that I copy below as Table 2.

Table 2: *The syntax-lexicon continuum* (Croft 2001: 17)

Construction type	Traditional name	Examples
Complex and (mostly) schematic	Syntax	[SBJ <i>be</i> -TNS VERB- <i>en</i> by OBL]
Complex and (mostly) specific	Idiom	[<i>pull</i> -TNS NP-’s <i>leg</i>]
Complex but bound	Morphology	[NOUN- <i>s</i>], [VERB-TNS]
Atomic and schematic	Syntactic category	[DEM], [ADJ]
Atomic and specific	Word/lexicon	[<i>this</i>], [<i>green</i>]

It should be noted, finally, that recently there has been a growing interest in studying the diachronic evolutions of constructions and the emergence of new constructions (cf. among others Bergs and Diewald 2008; Hilpert 2013; Traugott and Trousdale 2013; Trousdale and Norde 2013). The creation of new constructions, i.e. new form-meaning pairings, has been labeled ‘*constructionalization*’ by Traugott and Trousdale (2013). Constructionalization involves “a sequence of changes in the form and meaning poles of a construction, whereby new formal configurations come to serve particular functions, and to encode new meanings” (Trousdale and Norde 2013: 36). When the change affects only the semantic or the formal pole of the construction, but no new construction is created (which would imply both formal and semantic change), Traugott and Trousdale (2013: 26) call this a ‘*constructional change*’

instead of a constructionalization. Constructional changes often precede or follow constructionalization.¹⁵

From this usage-based view on language change, it is taken for granted that language does not change in isolation, but that *context* is highly relevant in language evolution (e.g., Bergs and Diewald 2009). Moreover, constructions mostly change gradually, undergoing a series of micro-steps (e.g., Traugott and Trousdale 2013). This is especially the case for changes that result in constructions with a mostly ‘procedural’ function (‘grammatical constructionalization’, cf. Traugott and Trousdale 2013: 94–148). When the output of the constructionalization process is more ‘contentful’ than ‘procedural’, the process is called ‘lexical constructionalization’ (Traugott and Trousdale 2013: 149–194).¹⁶ Whereas the development of new constructions is mostly to be seen as a *gradual* process, some (lexical) micro-constructions arise in an *instantaneous* way (Traugott and Trousdale 2013: 186–190). This is for instance the case in productive word-formation patterns: given the semi-schematic morphological construction [[*Ver*] ↔ person who Vs], we can instantaneously create new micro-constructions serving as activity nouns out of almost any activity verb (e.g., *blogger* ‘person who blogs’) (Traugott and Trousdale 2013: 186).

4.2. Lexical categories and category change in Construction Grammar

Recently, the question of the organization of the lexicon and the notion of the lexical category has regained the attention of linguistic research, particularly within the framework of Construction Grammar.

Jackendoff (1997, 2010, 2013 among others) proposes that ‘lexical items’ can contain any combination of Phonological Structure (PS), Syntactic Structure (SS), and Conceptual Structure (CS), as well as the interface links between them. In this view, the lexicon is a repository of <PS, SS, CS> triplets that enable

15 Contrary to Traugott and Trousdale (2013), Hilpert (2013) does not use the term ‘constructionalization’ but refers to the emergence of new constructions as ‘constructional change’. In his view, constructional change not only manifests itself through form and meaning change, but through changes in frequency or distribution as well: “Constructional change selectively seizes a conventionalized form-meaning pair of a language, altering it in terms of its form, its function, any aspect of its frequency, its distribution in the linguistic community, or any combination of these” (Hilpert 2013: 16). Norde and Van Goethem (forth.) discuss the advantages of this second approach, while applying it to concrete and quantifiable corpus-based case studies of category change, but this discussion falls beyond the scope of this paper.

16 Even if the network of constructions is seen as non-modular in Construction Grammar, a gradation from more grammatical/procedural constructions to more lexical/contentful constructions can be observed (Traugott and Trousdale 2013: 73).

correspondences to be established between pieces of structure derived by the three independent generative systems, phonology, syntax and semantics.

Combining the basic tenets of Jackendoff's *Parallel Architecture* (1997, 2010, 2013) and the main principles of *Construction Grammar*, Booij (2010) has developed his *Construction Morphology* model in which he provides a fully articulated model for the organization of the morphological component and the analysis of word-formation phenomena. The fact that *words can be seen as constructions*, i.e., form-meaning pairings at word-level, is central to Booij's Construction Morphology. This idea was already suggested before by Rhodes (1992), for instance, in his definition of the morpheme, and he in turn was inspired by Fillmore and Kay (1993). Figure 1, taken from Rhodes (1992: 414), formally represents the lexeme (or 'lexical construction') *shoe* as a matrix combining specific morpho-syntactic and semantic features ('attributes') and attribute values.

Figure 1: Attribute value matrix of the word *shoe* (from Rhodes 1992: 414)

	cat	n	
syn	proper	-	
	max	-	
	lex	+	
sem	bounded		+
	cnfg	count	
	num	sg	
lex	shoe		

From the fact that words can be seen as (substantive) constructions, it follows that *lexical categories can be considered as schematic instances of constructions*. In fact, Croft (2001) considers word classes such as adjectives as atomic (i.e., not complex) and schematic (i.e., abstract) constructions, as can be drawn from Table 2 in Section 4.1.

More specifically, in a usage-based constructionist view of categorization, word classes should not be regarded as syntactic primitives. Croft (2001) and Haspelmath (2007), for instance, reject the existence of pre-established categories. From Croft's (2001) *Radical Construction Grammar* perspective, categories, including lexical ones, are not only language-specific (see Section 1.2.), but also constrained by the constructions of the language: "Grammatical categories of particular languages are irreducibly language particular; in fact, they are also construction-specific" (Croft 2001: 86).

As a consequence, lexical categories should be seen as abstract schemas "that emerge from the use of hundreds of microconstructions that are related semantically and used in the same subschemas" (Vartiainen 2016: 38; see also Traugott and Trousdale 2013: 12–14). For instance, the adjective

schema emerges from the similar use of particular words in semantically related micro-constructions such as degree modification (e.g., *very nice*), comparative and superlative constructions (e.g., *nicer, nicest*), attribution (e.g., *a nice girl*) and predication (e.g., *she is nice*) (Vartiainen 2016: 38; Pullum and Huddleston 2002: 528).

Category change may then result from ‘multiple inheritance’ (see Section 4.1.): an item originally connected to only one schematic category may, mostly on semantic grounds, start developing connections with another category. For instance, in the case of the ongoing N>A reanalysis of French *clé* ‘key’, Amiot and Van Goethem (2012) and Van Goethem (2015) demonstrate that the attributive use of the noun (e.g., *un point clé*) caused a semantic change (‘a crucial point’) which in turn triggered further adjectivization, including degree modification (e.g., *un point vraiment clé* ‘a really key point’) and even, but more marginally, predicative use (e.g., *Ce point est vraiment clé pour nous* ‘This point is really key to us’).

If lexical categories are to be seen as constructions, the shift from one category to another, typically affecting both its structural (morpho-syntactic) and semantic features, is closely related to the notion of ‘constructionalization’ (see Section 4.1.). As in the case of *clé*, a semantic shift may trigger distributional changes and finally connect the item to a new schematic category.

4.3. Towards a constructionist typology of category-change processes

Given the fact that *derivational affixation* and *conversion* result in complete category change, both processes can be considered as instances of (lexical) constructionalization. Both types of category change are not constrained by any specific syntactic or morphological environmental condition and are assumed to operate in an abrupt way: a lexical item is converted/derived into a new lexical word-class and generally adopts the morphological and syntactic properties of this new category instantaneously. We are dealing here with instantaneous lexical constructionalization, since “the output of conversion [and affixal derivation]¹⁷ is a construction, but it has not arisen gradually” (Traugott and Trousdale 2013: 187).

Reanalysis is a very different type of category-changing process. Since it may result in a complete category change, it can also be considered as an instance of constructionalization. However, often only partial constructionalization is attained. When the output of the reanalysis complies only with the semantic/functional properties of the target category, and displays morphological defectiveness or syntactic restrictions, I argue that the item has undergone constructional change but not constructionalization in Traugott

17 My insertion.

and Trousdale's (2013) approach (cf. Section 4.1.). Contrary to the aforementioned morphological category-changing processes, reanalysis always proceeds in a gradual fashion, with stepwise expansion from one to another context. In sum, reanalysis is to be seen as an instance of *gradual constructional change* which may result or not in *full constructionalization*.

Pure transposition, however, does not involve constructionalization because it does not create a permanent category change. Transposition only results in an *ad hoc* functional change constrained to one specific syntactic or morphological context. Only when transposition is followed by a process of reanalysis, further category change (and constructional change/constructionalization) may occur.

These findings allow us to establish a constructionist typology of the four category processes, which is shown in Table 3.

Table 3: A constructionist typology of category-change processes

Category-change process	Constructional change/ Constructionalization	Gradualness	Context-sensitivity
Affixal derivation	Full (lexical) constructionalization	Instantaneous	Context-independent
Conversion	Full (lexical) constructionalization	Instantaneous	Context-independent
Reanalysis	Constructional change/ Full (grammatical) constructionalization	Gradual	Context-dependent
Transposition	n/a	'ad hoc'	Context-dependent

This constructionist view on category-change processes offers, in my view, at least three important advantages.

First, it can account for the *variety of the input units with respect to size*. As shown in Section 3, category change mostly involves lexemes, but it is occasionally attested beyond word-level too: as I have shown, bound morphemes and even multi-word units can shift to lexical items belonging to a certain lexical category. This fact is problematic for modular approaches to language which postulate a sharp dividing line between words and syntactic formations. It is not, however, problematic from a non-modular constructionist point of view, given that all of these elements can be seen as instances of constructions, as long as they imply a systematic form-meaning pairing (cf. Section 4.1.). Affixoids such as *riesen-* as well as complex lexical units such as '*far from X*' or '*je suis charlie*' involve conventionalized form-meaning associations and may therefore undergo category change.

Second, the constructionist approach to category change provides a balanced account of the *variety of input units with respect to function*: the examples in Section 3 demonstrate that not only words belonging to major but also to minor word classes (such as prepositions and conjunctions) may serve as input of the category change. The shift from minor to major word class is problematic in grammaticalization theory, which presupposes unidirectionality (cf. Section 2.). However, as stated by Traugott and Trousdale (2013), counterdirectional changes are not an issue in Construction Grammar:

Although important for understanding change, the issue of directionality is not criterial for grammatical constructionalization, because the phenomenon of directionality becomes apparent primarily from a GR (= grammaticalization as reduction)¹⁸ perspective with focus on developing items, not on the contexts, sets and schemas within which the item develops. (Traugott and Trousdale 2013: 148)

The focus of constructional change and constructionalization is not on the directionality of the process, but on the gradual formal and semantic changes of constructions and the emergence of new constructions.

Finally, Construction Grammar highlights the importance of *context-sensitivity* in language change (cf. Bergs and Diewald 2009 among others) and I hope to have shown that this factor is also highly relevant in defining category-change processes: conversion and affixation have been revealed to be context-independent, whereas transposition and reanalysis are highly context-dependent.

5. Conclusion

Category change can be seen as a complex and gradient phenomenon that may not yet have received the attention it deserves. Category change is inherent in many different types of change, such as lexicalization and grammaticalization, yet the different category-change processes are usually not clearly distinguished from each other. This paper is a first attempt to identify the defining features of the different category-change processes and to describe them from the perspective of Construction Grammar.

A central claim of this paper is that category-change processes can be described more accurately by analyzing them from a non-modular and constructionist perspective, precisely because Construction Grammar emphasizes the strong interplay between the different language domains (morphology, syntax and semantics) and the context-sensitivity and gradualness of language change, particularly relevant in the case of reanalysis. In addition, Construction Grammar allows us to account for the variety of input categories (ranging

18 My insertion.

from morphemes to multi-word units) and does not presuppose unidirectionality of the category shifts.

From a constructionist point of view, most category-change processes (affixal derivation, conversion, reanalysis) can be seen as instances of constructional change or constructionalization since they create new form-meaning pairings, i.e., lexical items belonging to new schematic constructions. The change can be either gradual (reanalysis) or instantaneous (affixal derivation and conversion). I claim that constructionalization is however not involved in transposition because this mechanism does not create a permanent category change.

More generally speaking, this constructionist typology of category-change processes has the advantage of clearly distinguishing the processes on the basis of their defining criteria, the type of process and its degree of accomplishment, no matter what the target category is. I am hopeful that the model can also be used for cross-linguistic comparison, while keeping in mind that it may have to be adapted to the particular properties of the language: the degree of constructionalization of the different processes may for instance depend on the specific profile of the language (such as the opposition between analytic vs synthetic languages and the importance of inflection).

The findings presented in this study are a first step towards a constructionist approach of category change processes and I am fully aware of the fact that they need further, also empirical, elaboration and cross-linguistic evidence.

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