Category change in Construction Morphology

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Abstract

Constructions can be formalized as schemas that specify semantic and formal output properties. Such schemas impose these output properties on their constituent words through various coercion mechanisms. In this article we focus on coercion-by-override and the concomitant category change.

The constructional meaning of a syntactic or morphological construction can override the lexical meaning of a word in that construction. Morphological schemas may therefore change the semantic class of the base word. For instance, the English prefix *un-* changes relational adjectives into qualifying adjectives, and stative verbs into causative verbs.

Semantic 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. Morphological schemas may receive a higher degree of productivity within certain syntactic constructions, a phenomenon known as *embedded productivity*. Hence, the use of morphological schemas as part of syntactic constructions thus contribute to the creativity and flexibility of the language system.

1. Introduction: override constructions

In some syntactic constructions, words of a certain syntactic category can appear in slots for words of other syntactic categories. This can be referred to as coercion-by-override (see Michaelis 2004; Audring & Booij (to appear). An example from French is the use of adjectives in N-slots or vice versa (Lauwers 2014):

(1)   a.   le simple et le beau

                'the simple and the beautiful'

        b.   des costumes très 'théâtre'

                DET costumes very theatre

                'very theatre-like costumes' (Lauwers 2014: 206)

As noted by Lauwers (2014), constructions are what makes this category override possible. For instance, in example (1a), the presence of the definite determiner *le* is required, and in example (1b) it is the degree modifier *très* that triggers the category change. Therefore, Lauwers speaks of 'override constructions' that trigger the category change from A to N or N to A. The constructions have specific meanings. For instance, the meaning of the construction represented in (1a) *le A* can be circumscribed as "the set of referents with the property expressed by the A" (Lauwers 2014: 217).

     The coercing power of constructions is also illustrated by various types of PP in Dutch, in which adjectives are coerced into nouns after prepositions (Google search, 20.08.2014) :

(2)   a.   de prachtige spanning tussen ingetogen en hartstochtelijk

                the beautiful tension between modest and passionate

                'the beautiful tension between modesty and passion'

b.   van rijp tot groen, en van idee tot concrete business case

        from mature to green, and from idea to concrete business case'

        'from maturity to immaturity, and from idea to concrete business case

c.   Nederland van smerig tot schoon

        Netherlands from dirty to clean

        'Netherlands from being dirty to being clean'

d.   Zo gaat uw onderneming van goed naar excellent

        So goes your company from good to excellent

        'Thus your company will change from being good to being excellent

This type of word class change appears to be conditioned by the presence of specific prepositions or preposition combinations. For instance, we observe this use of adjectives with the preposition *tussen,* and the preposition sequences *van .. tot ..* and *van .. naar ..* which both indicate a change from one quality to another (cf. the examples in (2)).

      The nominal use of adjectives as complements of Ps does not follow from the normal way of deriving nouns from adjectives in Dutch, which is achieved in the default case by adding the suffix *-e* to the adjective. Note that adjectives used as P-complements cannot be preceded by a determiner (*de* or *het*) (3a), unlike overt nominalizations (as in *genieten van het goed-e* 'enjoy the good (things)' with the deadjectival noun *goed-e*). The adjective can still be modified by an adverb (3b), which indicates that it is not fully converted to a noun.

(3)   a.   *Nederland van {de/het} smerig naar {de /het} schoon

           Netherlands from the dirty to the clean

           'Netherlands from the dirtiness to the cleanliness'

    b.   Van [heel vies] naar [lekker schoon]

From very dirty to nicely clean

'From being very dirty to being nicely clean'

This kind of transposition, in which there is no pre-syntactic creation of new lexemes, is discussed in detail in Spencer (2013). Spencer (2013: 332) concludes that a proper account of this type of category change requires a constructional approach. In such transposition cases, there is no independently given word formation process. Instead, the construction coerces the change from, in this case, AP to NP.

Another example of this type of override after a preposition is provided by the Dutch VP-construction *gaan voor* NP with the meaning 'try to achieve NP', probably a calque from English *go for* NP. This is a very productive construction. Here are some examples from a Google search (20.08. 2014):

(4)   a.   Wij gaan voor een derde kindje

                We go for a third child

                'We will try to get a third child'

        b.   Hij gaat voor goud

                He goes for gold

                'He is trying to win the gold medal'

This construction allows for adjectives to be used as complements of Ps. The semantic interpretation of these adjectives is that of nouns, which corresponds to the fact that the default complement of a PP is an NP. For instance, in the first example of (5), the adjective *duurzaam* 'sustainable' is interpreted as having the meaning of the noun *duurzaamheid* 'sustainability' (source: Google search, 20.08.2014):

(5) a. Café De Jaren gaat voor duurzaam

Cafe De Jaren goes for sustainable

'Cafe De Jaren strives for sustainability'

b. Fiat gaat voor goedkoop

Fiat goes for cheap

'Fiat strives for low prices'

c. Ermelo gaat voor veilig

Ermelo goes for safe

'Ermelo strives for safety'

The same type of override is found in the corresponding English construction *go for cheap / green / safe*. Thus, it appears that adjectives can be used productively as complements of prepositions in certain constructions, as illustrated in (4-5)[1]. The default complements of prepositions are NPs, and hence, we impose a noun interpretation on adjectives in this syntactic construction. Again, the adjective can still be accompanied by a modifier, as in *Fiat gaat voor heel goedkoop* 'Fiat goes for very low prizes'.

This use of an adjective in an N-slot without overt morphological marking of change of word class by means of a derivational affix cannot be interpreted as a normal case of conversion of the type A > N. This type of conversion does occur in Dutch (Booij 2002: 137), but it is not productive across the board. Moreover, normal conversion creates nouns that can be preceded by a determiner, as in *het geel* 'the yellow (colour)' and *de katholiek* 'the catholic (believer)'. In the construction discussed here, however, the adjective in the N-slot cannot be preceded by a determiner.[2]

There are also cases in Dutch where the use of adjectives in noun slots is marked morphologically by the addition of a nominalizing suffix. For instance, adjectives that express an evaluation may be used in the PP-construction [*op het* [A-*e*]$_N$ *af*]$_{PP}$ 'almost A', and then they are suffixed with-*e*.

(6)   a.   op het gemen-e af

on the mean-*e* off

'almost mean'

b.   op het trivial-e af

on the trivial-*e* off

'almost trivial'

The presence of a morphological marker of nounhood on these adjectives raises the question whether the possibility of using these evaluative adjectives after a (definite) determiner, and hence in a noun slot, might not simply be seen as the effect of a regular, morphologically marked category change of A to N. This would be a straightforward case of word formation. Indeed it is the case that nominalization of adjectives by means of the suffix -*e* is also possible outside this construction: *het gemen-e* 'the mean property', *het trivial-e* 'the trivial property'. Yet, there is a tight relationship between this nominalization process and the construction mentioned here. We will discuss this issue in section 3 by making use of the framework of Construction Morphology (Booij 2010), and in particular of the notions of 'construction-dependent morphology' and 'embedded productivity'. Before broaching this issue in more detail, we will discuss the overriding power of morphological constructions with respect to the semantic and formal category of their constituents. This is the topic of section 2. It will

provide an adequate background for the discussion and analysis of the cases of category change presented in section 3. Section 4 summarizes our findings and conclusions.

2. Coercion by morphological constructions

Syntactic constructions have holistic properties which may affect the interpretation of their constituents, as we saw above. The same holds for morphological constructions: constructional schemas at the word level specify holistic properties of sets of complex words (Booij 2010). Hence, we expect morphological constructions to have the potential for semantic coercion and word category change. This is indeed the case, as we will show in this section.

2.1. Coercion in word formation: change of semantic class

A first example of semantic class change in word formation is the selection of a qualifying interpretation for Dutch denominal adjectives, which are often relational in nature. The deadjectival suffix *-heid* attaches to adjectives to create nouns that denote qualities:

(7) $<[A_i \text{ -heid}]_{Nj} \leftrightarrow [\text{Quality of SEM}_i]_j>$

Schema (7) specifies the relationship between form and meaning in complex adjectives in *-heid*. The double arrow stands for this relationship. Co-indexation is used to specify the form-meaning relations of subconstituents. When we insert a relational adjective into the A-slot, for example *Amerikaans* 'American' or *Nederlands* 'Dutch', we coerce the adjective into a

qualifying interpretation: *Amerikaans-heid* is interpreted as 'the quality of being characteristic of Amerika', and *Nederlands-heid* means 'the quality of being characteristic of the Netherlands'. Here are some examples from a Google search (20.08.2014):

(8)   a.   Hij antwoordde dat Amerika zijn god is en Amerikaans-heid zijn religie

                He answered that America his god is and American-ness his religion

                'He answered that America is his god and American-ness his religion'

    b.   Nu lijkt het begrip Nederlands-heid nieuw leven ingeblazen te zijn

                Now seems the notion Dutch-ness new life in-blown to be

                'Now the notion Dutch-ness seems to have received new life'

The Dutch negative prefix *on-* 'un-'attached to adjectives has the same effect on the semantic interpretation of its base adjectives; it coerces a qualifying interpretation, as in *on-Amerikaans* 'un-American' and *on-Nederlands* 'un-Dutch'. It differs in this respect from the negative prefix *niet-* that does not impose a qualifying interpretation. Hence, we can make a distinction between *een on-Nederlands woord* 'an un-Dutch word' and *een niet-Nederlands woord* 'a non-Dutch word'. In the first case we mean a word that does not have the characteristic properties of Dutch words, in the second case we mean a word that belongs to the set of words that are not Dutch.

A third example is the use of the English prefix *un-* with other base words than inchoative or causative verbs. The attachment of *un-* to such verbs coerces a change of the semantic class of the base: "*un-* can take a stative, activity or other kind of verb and force it into a causative/inchoative verb that implies a reversible result" (Bauer et al. 2013: 374). Examples are the verbs *un-inhabit, un-grow, un-see, un-have*, and *un-hit*. Another example that we found is *to un-send an e-mail* (= to call it back after sending). A telling example is

also that an acquaintance of ours, wanting to be very precise in making wooden flutes and their holes, once remarked that "You cannot undrill a hole", which implies a reversible interpretation of the action of drilling.

The English prefix *out-* as a category-changing prefix does not only attach to verbs, but also to adjectives and nouns. In the latter case, the non-verbal base words are coerced into denoting an action, as illustrated in (9):

(9)   I would try to out-absurd him   (Bauer et al. 2013: 343)

          Hammerin' Hank did not out-Babe the Babe   (Bauer et al. 2013: 353)

These examples show that morphological constructions have the power to trigger semantic overrides. Thus, they change the semantic category and, if relevant, the word class of the base words. Word formation processes always have the power to add semantic information, but what we observe here is that the morphological construction as a whole coerces a certain semantic interpretation. In the next section we will show how inflectional constructions may also lead to coercion and category change.

2.2. Category change through inflection

Inflectional constructions can coerce certain interpretations of nouns. For instance, when we pluralize English abstract nouns, as in *Renaissances, Romanticisms,* and *Englishes*, we coerce the interpretation 'types of'. Plural endings on proper names coerce a sort noun interpretation (10a), and hence sometimes a metaphorical interpretation of the proper name, as in (10b):

(10)   a.   We hebben vier Jann-en in de familie

'We have four Johns in the family'

b.   Er zijn veel kleine Napoleon-s

'There are many little Napoleon-s'

In (10a), the word *Jan* is interpreted as denoting a sort, the category of human beings with the name *Jan*, and in (10b) *Napoleon* denotes a class of human being with high ambitions in the domain of governance. This semantic coercion is a consequence of the inflectional schema for plural nouns. The plural form means generally 'more than one N'. Thus, it induces semantic re-computation of the meaning of the base noun in the case of proper nouns that normally have a unique referent in a given domain of discourse.

The use of degree (comparative and superlative) forms of nouns is another type of semantic and formal coercion caused by inflection. Let us first give an admittedly rare example, rare because it is a case of playing with language in a poem:

(11)   Grootouders wonen in woll-er-e huizen

Grandparents live in wool-COMP-INFL houses

'Grandparents live in softer houses'

(Judith Herzberg, poem 'Grootouders', in *Soms vaak*, 2004).

The use of a comparative ending for the Dutch noun *wol* 'wool' implies an adjectival interpretation of this word and hence a property reading. Thus, the semantic interpretation of the noun is coerced into the property 'soft'. This example is special in that it is an incidental case of poetic language use, but it is understood without any problem.

The use of adjectival degree endings on nouns can also be found in cases where the noun has developed into an evaluative modifier with an abstract meaning, and has thus

acquired the status of affixoid (Booij & Hüning 2014, Hüning & Booij 2014, Battefeld et al., this volume). For instance, the Dutch noun *pracht* 'splendour, grandeur' has acquired the more general meaning 'excellent' when used as a modifier in compounds, as in *pracht-professor* 'excellent professor', and *pracht-aanbod* 'excellent offer'. The evaluative modifier status of such compound constituents may lead to syntactic recategorization of such nouns into adjectives (Van Goethem & De Smet 2013; Van Goethem & Hiligsmann 2014). In Italian, the second noun of a (left-headed) compound may have acquired such a more abstract meaning, thus allowing for comparative and superlative forms (Grandi et al. (2011)). For instance, the noun *lampo* 'lightning' has developed the meaning 'quick, instantaneous' when used as the modifier in N+N compounds, as in *operazione lampo* 'quick operation'. Similarly, the noun *bomba* 'bomb' has developed the evaluative meaning 'sensational' when used as a modifier in such compounds, as in *notizia bomba* 'sensational news'. The evaluative meaning may lead to the recategorization of these words as adjectives. This recategorization, in turn, is made explicit by the use of a type of inflectional marking that is characteristic of adjectives, the suffix for the superlative degree (SUP). All examples are from Grandi et al. (2011).

(12)   a.   Dopo una operazione lampo ed un recupero *lamp-issimo*, Baresi torna in campo per la partita più importante.

'After a quick operation and a very quick rehabilitation (lit. a rehabilitation lightning-SUP), Baresi has taken the field for his most important match'

         b.   Notizia *bomb-issima*! Priest Holmes si ritira?

'Breaking news (lit. news bomb-SUP)! Is Priest Holmes withdrawing?'

In this case, the imposition of superlative endings on words that are formally nouns strengthens the abstract modifier interpretation of these nouns. That is, this coercion is made possible thanks to the Italian left-headed compound constructions [N *lampo*]ₙ 'lit. lightning N, very fast N' and [N *bomba*]ₙ 'lit. bomb N, sensational N'. The adjectival interpretation of these nouns is also shown by the possibility to use degree modifiers such as *molto* 'very'*, piu* 'more', and *talmente* 'so' before these and similar nouns in the compound types [N *chiave*]ₙ 'key N' and [N *fiume*]ₙ 'lit. river N, long N' (Grandi 2009); see also Van Goethem (2015) for French constructions with *clé*:

(13) a. Alcune vitamine svolgono ruoli *molto chiave* nell'equilibrio ormonale.

'Some vitamins play very crucial roles (lit. roles very key) in hormonal equilibrium'

b. I Magic hanno pagato molta inesperienza, mi aspettavo un ruolo *più chiave* di Dwight Howard.

'Magic paid for lack of experience; I would have expected Dwight Holland to play a more crucial role (lit. role more key)'

c. Un processo *più fiume* di ogni precedente, data la mole dei documenti e la massa che mobilitadi figuranti e comparse.

'A far longer trial (lit. lawsuit more river) than any previous one, due to the great amount of documents and extras involved'

d. Hai fatto una riunione *talmente lampo* che hai fatto tutto da solo!

'You've held such a short meeting (lit. meeting so lightning) that you've done everything yourself'

In conclusion, adjectival inflection may signal a modifier interpretation of nouns in specific contexts, and thus it shows its category-changing power. Normally, inflection is not category-changing, but under certain conditions this appears to be possible.

3. Construction-dependent morphology and category change

In this section we will deal with a number of cases in Dutch in which words of a certain word class occur in syntactic or morphological slots of another word class. The leading idea in the analysis of these cases is that the use of independently available morphological processes may be triggered and hence boosted by specific morphological or syntactic constructions.

3.1. The op het A-e af construction

Let us return to the PP-construction [*op het* A-*e af*] mentioned in (6). Here are some more examples, mainly found on the internet (Google search 20.08.2014):

(14) a. dun op het anorectisch-e af (Vonne van der Meer, *Zomeravond*, p. 58)

thin on the anorexic off

'so thin that it is almost anorexic'

b. op het briljant-e af 'almost brilliant' (source Google search, 20.08.2014)

op het gemen-e af 'almost mean'

op het knapp-e af 'almost handsome'

op het lullig-e af 'almost silly'

op het onbehoorlijk-e af 'almost indecent'

op het smerig-e af 'almost dirty'

op het stinkend-e af 'almost stinking'

op het trivial-e af 'almost trivial'

Internet search reveals that this construction is very productive, as there is huge number of different types. There are not specific adjectives that tend to be used in this construction, all evaluative adjectives can be used here. Its meaning is a conventionalized abstract interpretation of the construction [*op* Det N *af*]PP 'towards the N', as instantiated by the PP *op het doel af* meaning 'towards the goal'. The (deadjectival) nouns in this abstract construction with the meaning 'almost A' all have the form [A-*e*]. This type of nominalized adjective is not unique for this construction. Generally, it is possible to nominalize a Dutch adjective into a neuter noun (with def. sg article *het*) by means of the suffix -*e*:

(15)   a.   Het gemen-e is dat …

            The mean-e is that

            'The mean thing is that ...'

       b.   Ik waardeer het briljant-e van deze redenering

            I appreciate the briljant-e of this reasoning

            'I appreciate the brilliance of this reasoning'

The same suffix can also be used to create non-neuter personal nouns that select *de* as their def. sg. article, as in *de grot-e* 'the big (man)'.[3] A remarkable property of these nominalized adjectives is that they are transparent in that the adjectival base is still accessible for modification with an adverb (Booij 2002: 52), as shown by the following examples:

(16) Nou […] hebben we weer *het heel gewone* nodig om *het buitengewone* hier

goed te begrijpen.

Now have we again the very ordinary necessary for the extraordinary here well

to understand

'Now we need again the very ordinary in order to well understand the

extraordinary here'

(Google search 23.10.2014, from a sermon by Wim van der Schee).

het volstrekt normale van zijn gedrag, het ingetogene, fantasieloze (Simon

Vestdijk, *De koperen tuin*)

the absolutely normal of his behaviour, the modest, imagination-less

'the absolutely normal nature of his behaviour, the modest, imagination-less

nature'

The examples (15) and (16) illustrate that the use of the nominalizing suffix *-e* for creating

property-denoting nouns from adjectives is not dependent on the occurrence of this adjective

in the *op het A-e af*-construction. Yet, we have to specify the class of nouns in this

construction as having the form A-*e* because other deadjectival nouns or nominal phrases

cannot be used in this 'almost A'-construction:[4]

(17) a. *op de [[smerig]$_A$-heid]$_N$ af

on the dirti-ness off

'almost dirty'

b. *op de smerige eigenschap af

on the dirty property off

'almost dirty'

Thus we observe an interesting case of construction-dependent morphology: this construction requires words of a particular morphological structure, i.e. a deadjectival nominalization in *-e*. This structure must be visible to the construction as a whole. The visibility of the internal morphological structure of the denominal adjectives is also a prerequisite for their co-occurrence with adverbs, since adverbs need adjectives as their determinata. Transparency of complex words in constructions has been observed for various other constructions of Dutch in Booij (2010: Chapter 9). Similar evidence is provided by Scott (2014), who shows that the possibility of using the inflected article *der* 'of the' in Dutch depends on the presence of a plural suffix (as in *het lot der dier-en* 'the fate of.the animal-s', or, in the case of singular nouns, the presence of specific derivational suffixes such as *-ing* and *-heid*. For instance, in *de taak der regering* 'the task of.the government', the use of *der* is licensed by the presence of the suffix *–ing*. This reflects the fact that *-ing* is a suffix that used to create nouns of feminine gender, which matches the historically feminine *der* in the construction. However, present-day Dutch does not distinguish feminine gender anymore, only common versus neuter gender. With other types of nouns the use of *der* for 'of the' is impossible. For instance, a singular deverbal noun ending in *-er* (of common gender) does not allow this use of *der*: **het brood der bakk-er* 'the bread of.the baker'. That is, "the genitive marker *der* became associated with particular derivational suffixes" (Scott 2014: 125).

The conclusion that word-internal morphological structure may have to be visible to syntax seems to speak against the principle of Lexical Integrity, but in effect it does not. As argued in Booij (2009), for complex words in syntactic constructions we have to distinguish between two aspects of Lexical Integrity, visibility and manipulability. The internal

morphological structure of complex words cannot be manipulated by syntax, but syntax may require visibility. Hence, the principle of Lexical Integrity must be formulated in such a way that it excludes the manipulability by syntax, but not the accessibility of word-internal morphological structure to syntax.

The construction *op het A-e af* is the unification of two independent constructions, the syntactic construction [*op het* N *af*]$_{PP}$ and the morphological construction [A-*e*]$_N$, and hence it inherits most of its properties from these two source constructions. However, this unified construction has acquired the specific meaning 'almost A', and has thus acquired a life of its own. The use of this construction boosts the productive use of deadjectival nominalization with the suffix -*e*. This makes it a case of *embedded productivity*: word formation processes becoming (more) productive in specific morphological or syntactic constructions (Booij 2010: 47-49). In some cases, the embedded word formation process is not productive in isolation. In that case we might speak of parasitic productivity, as the morphological construction is not productive in isolation. The unified constructional schema thus has the property of productivity, whereas one of the source schemas lacks this property. In other cases, such as the one discussed here, the embedded word formation process is also productive on its own. Yet, it has to be specified that it is an essential ingredient of the larger construction in which it is embedded.

3.2. The aan de [V]$_N$ construction

Dutch PPs with the preposition *aan* may be used to denote an event or a habitual action in which the object denoted by the noun plays a central role. Here are some examples:

(18)   a.   aan het bier

at the beer

'(having the habit of) drinking beer'

b. aan de thee

at the tea

'(having the habit of) drinking tea'

c. aan de pasta

at the pasta

'(having the habit of) eating pasta'

d. aan de pil

at the pill

'(having the habit of) using contraceptives'

e. aan de drank

at the drink

'(having the habit of) using alcoholic drinks'

f. aan de gang

at the going

'going on'

These PPs combine with verbs such as *zijn* 'to be', *krijgen* 'to get somebody' or *raken* 'to get':

(19) a. aan het bier zijn

at the beer be

'(having the habit of) drinking beer'

b. iemand aan de rijst krijgen

someone at the rice get

'to make someone eat rice (regularly)'

c.   aan de drank raken

at the drink get

'to start drinking (alcohol, habitually)'

This construction appears to be very productive with zero-converted verb stems, which function as common gender nouns and therefore select the determiner *de* which has to be present. Internet search provides an impressive amount of such conversions. Here is a small selection of cases (Google search, 20.08.2014) with verbs such as *gaan* 'to go', *zijn* 'to be', and *krijgen* 'to get':

(20)   a.   Hij zou eens […] *aan de babbel* gaan met Tupac

He would once at the chat go with Tupac

'He wanted to start chatting with Tupac'

b.   Het gebeurt vaker dat ze ineens *aan de vreet* gaan

It happens more.often that they all.of.a.sudden at the eat go

'It happens more often that they start gorging themselves all of a sudden'

c.   Nu kunt U "*aan de smul*" gaan.

Now can you at the feast go

'Now you can start feasting'

d.   Zelfs een dynamo kan *aan de ratel* gaan

Even a dynamo can at the rattle go

'Even a dynamo can start rattling'

e.   Gewoon buiten *aan de ren* gaan.

        Just outside at the run go

        'Just start running outside'

f.   Hij zal vandaag *aan de zwem* zijn

        He will today at the swim be

        'Today, he will be swimming'

g.   En ze daarna *aan de schrijf* krijgen.

        And them then at the write get

        'And then getting them writing'

h.   Hoop dat jullie dan ook met veel plezier *aan de lees* gaan

        Hope that you then too with much pleasure at the read go

        'Hope that you will then start reading with much pleasure'

i.   nu ma, eens *aan de leer* gaan.

        now, Mom, once at the learn go

        'now, Mom, start learning'

j.   .Alles wat niet spijkervast zat kan dan *aan de wapper* gaan.

        Everything that not nailed sat can then at the waver go

        'Everything that was not nailed properly can start wavering'

k.   zijn darmen waar we mee *aan de kwakkel* zijn.

        his intestines which we with at the ail are

        'his intestines, with which we are ailing'

A crucial observation for the topic of this article is that most of these converted verb stems are not generally used as deverbal nouns, but only appear in this construction. In general, conversion of the type V > N is only marginally productive in present-day Dutch.

When the verbs are simplex, these nouns are always non-neuter nouns that select *de* as their definite singular determiner.

(21) *verb stem*   *non-neuter noun*

bouw 'build'   (de) bouw '(the) building'

koop 'buy'   (de) koop '(the) buying'

roep 'call'   (de) roep '(the) call'

trap 'kick'   (de) trap '(the) kick'

was 'wash'   (de) was '(the) washing'

Dutch verbs can always be used as nouns in their infinitive form (stem + *en*), which functions as a neuter noun and selects the singular definite article *het*. Conversion, however, creates *de-*nouns.

The use of new deverbal conversions is practically impossible, as illustrated by the following examples:

(22) {Het zwemm-en / ?de zwem}van kinderen moet aangemoedigd worden

{The swim-INF / /the swim} of children should encouraged be

'The swimming of children should be encouraged

{Het vret-en / ?de vreet} van gras is goed voor koeien

{The eat-INF / the eat} of grass is good for cows

'Eating grass is good for cows'

The question mark indicates that these converted nouns cannot be qualified as ungrammatical, but they are odd, inappropriate in contexts other than the [*aan de* [V]$_N$]$_{PP}$ construction. In contrast, within the [*aan de* [V]$_N$]$_{PP}$ construction nominalized verb stems are rampant, as we saw in (20). Most of these forms do not occur outside this PP; they are construction-dependent. Thus, this is another case of embedded productivity. The construction is a unification of two constructions, the prepositional phrase [*aan* Det N]$_{PP}$ and the conversion structure [V]$_N$:

(23)   <[*aan de* [V$_i$]$_N$]$_{PPj}$ ↔ [Involved in the (habitual) action SEM$_i$]$_j$>

Again, this unified construction has properties of its own, both in terms of meaning and in terms of the productivity of the conversion process involved. The V-stem can be inserted into the N-slot, and thus we create a kind of progressive form for the verb in the form of a PP. This progressive construction may be compared to another Dutch progressive construction of the form [*aan het* INFINITIVE]$_{PP}$ exemplified by the sentence *Jan is aan het fietsen* 'John is cycling', a construction that is discussed in detail in Booij (2010: Chapter 6). The difference between these two constructions is that the infinitive forms of verbs, which are inflectional in nature and have both verbal and nominal properties, can be used in all sorts of contexts and are unrestrictedly productive, whereas the type of conversion discussed here is dependent for its productive use on the [*aan de* [V]$_N$]-construction.

3.3. The [voor de N]$_{PP}$-construction

A third type of PP that may trigger change of word class is the construction [*voor de* N]$_{PP}$, illustrated in (24):

(24)   a.   voor de grap

for the joke

'for the fun of it'

b.   voor de lol

for the fun

'for the fun of it'

c.   voor de aardigheid

for the nicety

'for the fun of it'

The meaning of these PPs is 'with a non-serious intention'. The noun slot of this PP is filled by nouns that denote a non-serious attitude, but occasionally also by adjectives denoting this attitude, such as *geinig* 'funny', *gezellig* 'cosy', *grappig* 'funny', *leuk* 'funny, nice', and *lollig* 'funny' (Google search, 20.01.2015):

(25)   voor de geinig 'for fun'

voor de gezellig 'for cosiness'

voor de grappig 'for fun'

voor de leuk 'for fun'

voor de lollig 'for fun'

The most frequently used of these PPs is *voor de leuk*, but other adjectives may come into play as well, as in a column on this phenomenon by Paulien Cornelisse in the newspaper *NRC-Handelsblad*, 11 January 2014 from which the examples in (25) are taken. What we see

here is how a specific construction of the form [*voor de* [A]$_N$]$_{PP}$, with A being *leuk*, is generalized in that the slot for the A can be filled by other, semantically similar adjectives. That is, the change from adjective to noun is restricted to adjectives of a specific semantic category, and in a specific PP-construction. Hence, this type of coercion is lexically restricted, and does not feature the same degree of productivity as those discussed in sections 3.1. and 3.2. One adjective, *leuk*, functions as leader word and creates a niche for similar adjectives to be used as nouns in this construction.

3.4. Category change in verbal constructions

As discussed in Booij (2010), the construction of particle verbs can take place on the basis of nouns and adjectives which are then converted into verbs, as is illustrated by the following examples (from Booij 2010: 133); the verbs are presented here in their quotation form, the infinitive (stem + *-en*):

    (27)   a.   *adjective*   *verb*

                  sterk 'strong'   aan-sterk-en 'to convalesce'

                  zwak 'weak'   af-zwakk-en 'to weaken'

                  dik 'thick'   in-dikk-en 'to thicken'

                  fris 'fresh'   op-friss-en 'to refresh'

                  diep 'deep'   uit-diep-en 'to deepen'

          b.   *noun*   *verb*

                  beeld 'image'   af-beeld-en 'to represent'

                  polder 'id.'   in-polder-en 'to drain, to reclaim'

                  aap 'monkey'   na-ap-en 'to imitate'

hype 'id.'   op-hyp-en 'to turn into a hype'

huwelijk 'marriage'   uit-huwelijk-en 'to marry off'

Noun-to-verb conversion is productive in Dutch, but verbs like *apen, beelden*, and *huwelijken* do not exist on their own, and the N to V conversion *polderen* only exists with a different meaning, 'to compromise'. Again, it is the unification of these particle verb constructions with the N > V and A > V conversion constructions that has the effect of changing adjectives and nouns into verbs. We are certain that category change has taken place, as these particle verbs are split in main clauses, and the second part then behaves as a verb, with the required properties of finite verbs, as in:

(28)   Nederlanders polder-den de Zuiderzee in

Dutchmen polder-ed the Zuiderzee in

'Dutchmen reclaimed the Zuiderzee'

This case of embedded productivity of zero conversion of adjectives and nouns into verbs is found for a number of particles. In particular, the particles *aan, af, in, na, op* and *uit* are used in this type of conversion (Booij 2010: 133).

The formation of participial adjectives from nouns, verbs, and adjectives can also be triggered by a morphological construction in which the particle *uit* 'lit. out, finished' is combined with an adjective that has the form of a participle. This construction has been dealt with in detail in Booij & Audring (2007) and is exemplified in (29) with examples taken from Booij & Audring (2007). These words with *uit* mean 'done with, having enough of':

(29)   a.   We zijn volledig uit-ge-praat

We are completely out-talked

'We are completely done with talking'

b.   Zij is nu wel uit-ge-zwanger-d

She is now really out-ge-pregnant-d

'She is now really done with being pregnant'

c.   Mijn dochter is nu uit-ge-kleuter-d

My daughter is now uit-ge-toddler-d

'My daughter is now done with raising toddlers'

These words are adjectives in participial form. Their syntactic behaviour is that of adjectives even though they have the form of a verbal participle. The corresponding verbs do not exist, or only with a completely different meaning. The verb *uitpraten* does exist but means 'to solve one's disagreements', and the verbs *uitzwangeren* and *uitkleuteren* do not exist at all.

The construction instantiated in (29a) can be specified as follows:

(30) $<[uit\ [[ge\text{-}V_i\text{-}d]_V]_A]_{Aj} \leftrightarrow [\text{Done with SEM}_i]_j>$

When unified with conversions of the type $[A]_V$ and $[N]_V$, we get the following constructions that trigger conversion :

(31)   a. $[uit\ [[ge\text{-}[A]_V\text{-}d]_V]_A]_A$

          b. $[uit\ [[ge\text{-}[N]_V\text{-}d]_V]_A]_A$

These unified constructions, instantiated by the words *uitgezwangerd* and *uitgekleuterd* (29b,c), contain empty slots for As and Ns respectively. Thus, these two sub-constructions

(31) induce category change within a particular morphological construction, the [*uit* [*ge*-X-d]$_A$]$_A$-construction. Again, we see how the needs for the expression of certain concepts can be met. If we want to express the predicate 'be pregnant', for instance, in the context of the *uit*-construction, conversion of A to V is performed by means of unification of A > V conversion with the participial adjective construction. So we observe a case of embedded productivity, as the conversion of the adjective *zwanger* 'pregnant' to a verb *zwangeren* 'be pregnant' does not exist by itself, although it is not to be considered ungrammatical.

One might entertain a different formal analysis of these adjectives, without conversion being involved, in which the head, for instance *gezwangerd,* is derived directly from the adjective *zwanger*. That is, *gezwangerd* would have the structure [*ge* [*zwanger*]$_A$ *d*]$_A$. After all, we do find adjectives such as *ge-bruin-d* 'brown-ed' in which *ge ..d* may be assumed to be attached directly to the adjective *bruin* 'brown'. Similarly, we find denominal adjectives such as *ge-rok-t* 'skirted', as in *kort-gerokt* 'short-skirted'. This would mean that conversion from A or N to V is not involved in the formation of these adjectives, and that we assign them the structures [[*uit*][*ge* [*zwanger*]$_A$ *d*]$_A$]$_A$ and [[*uit*] [*ge* [*kleuter*]$_N$ *d*]$_A$]$_A$ respectively. The drawback of this analysis is that it does not do full justice to the interpretation of a word like *uitgezwangerd*. This adjective has a result interpretation 'having enough of being pregnant', which would follow naturally from a verbal interpretation of the stem *zwanger*: results presuppose events. Note that even in this analysis, the claim is confirmed that word formation may be boosted by the output being part of another complex word, since adjectives such as *gezwangerd* and *gerokt* do not occur as words by themselves.

4. Conclusions

When there is a mismatch between the need for expressing a semantic concept of a certain type and the word class of words available to express this concept, coercion can be invoked to resolve the mismatch, if the construction used has the power of override. Coercion may lead to category change of words, either by means of overt morphological marking or by means of conversion. In both cases, the use of this means of category change may be dependent on words appearing in specific syntactic or morphological constructions. This is what we refer to as 'embedded productivity'. This phenomenon can be accounted for in a constructional approach to syntax and morphology, because in such approaches grammar and lexicon are not split, and constructions (both morphological and syntactic ones) can be unified into derived, more complex constructions. These unified constructions have their own degree of productivity.

This analysis shows that the notion of 'construction' is essential for a proper account of such context-dependent word class changes. In most cases, the constructions involved are constructional idioms, that is, they have some lexically specified slots. The presence of specific words may help to recognize the construction and the change of word class. The availability of this kind of word class change enhances the flexibility of the language system. It also shows that the productive use of morphology cannot be analyzed in isolation, without taking its syntactic context into account. The position that word formation can be accounted for in complete isolation from syntax is ill-advised.

Notes

1. Broekhuis (2013) claims that, the use of adjectives as complements in PPs is restricted to temporal constructions like *sinds lang/kort* 'since long/recently' and some lexicalized constructions such as *van groot tot klein* 'from big to small, everyone' (Broekhuis 2013: 183).

However, the cases discussed here show that this type of use of adjectives is far more productive than Broekhuis suggests.

2. Lauwers (2014) comes to the same conclusion with respect to the French cases of constructional override in (1), namely that they cannot be seen as cases of normal conversion.

3. These two uses of the suffix -*e* are discussed in more detail in (Booij 2002: 50-52).

4. One exception that we found on the internet is *op het sexisme af* meaning 'almost sexist' [forum.politics.be/archive/index.php?t-46037.html]. We experience this example as rather odd.

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