

# On Conversion, Relisting and Zero-derivation<sup>\*</sup>

A comment on Rochelle Lieber: *English word-formation processes*

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In this paper, I will argue that Lieber's (1992, 2004, 2005) theory of conversion as 'relisting' of lexical items meets several empirical problems in languages such as English, German and Dutch. We will show that conversion is subject to several grammatical constraints which is unexpected, if conversion would be a matter of relisting of lexical items. We will present an alternative in which conversion is considered to be an instantiation of derivation, and argue that the phonological, semantic and morphological constraints that pertain to conversion can be explained under this view.

## 1. Introduction

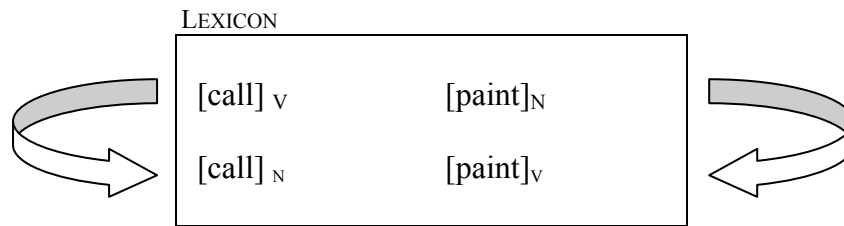
Lieber in her chapter on English word-formation processes (Lieber 2005) gives an excellent overview of a huge literature on this subject. Commenting on such an overview could easily become a boring and rather uninteresting placing of footnotes. Moreover, putting oneself in such a commenting position could easily be misinterpreted as suggesting that one has a similar grasp of the literature. I would not dare to claim such a thing. Far from it. So, rather than risking the qualification 'boring', I would like to go for the qualification 'bold'. That is, I would like to go into the word-formation process of conversion (the fourth word-formation process discussed by Lieber), discuss the proposal by Lieber and present my own analysis as an alternative.

The phenomenon of morphological conversion, also often referred to as zero-derivation or implicit transposition has received quite some attention in the literature (see a.o. Lieber 1981, Don 1993, Beard 1995). The general approach taken in the analyses of conversion is that it involves a base, which is lexically stored with its categorial information, and that this base can be used, either or not after some morphological zero-operation, in a different category. Some authors argue for a derivational relationship between the base and the derivative; others, most prominently Lieber (1981, 1992, 2004, 2005), argue for a 'relisting' analysis, which roughly entails that the same linguistic form is listed in the lexicon again, but with different categorial information than it originally (i.e. lexically) had. This analysis considers conversion not as a morphological, or even a grammatical process, but rather as the result of *coinage*, a process belonging to the domain of language use and involving pragmatic information. I have tried to catch this idea in a picture under (1).

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(1) Lieber's 'relisting':



Is there a possibility of differentiating the results of a productive morphological process and the results of coinage? Following Schultink's (1961:113) definition of a productive morphological process (2), we might state that morphological rules are applied unintentionally, while coinage is an intentional purposeful process.

(2) Morphological Productivity according to Schultink (quoted from Booij 1977: 4):

Productivity as morphological phenomenon is the possibility which language users have to form an in principle uncountable number of new words unintentionally, by means of a morphological process which is the basis of the form-meaning correspondence of some words they know.

Lieber (1992:163) claims that English speakers are aware when they use converted forms:

- (3) [...] if conversion is a sort of relisting in the lexicon then it is a kind of creative coinage [...], rather than a truly productive form of word formation. As such, new instances of conversion should show the characteristics of other creative coinages. We should perceive recent coinages as new or odd. They should strike us as cute or funny or objectionable. They should, in short, be the sort of new words that we notice. My impression again is that this is true for English. New verbs formed by conversion from nouns often do strike us as odd or outlandish.

Plag (1999:14) points out that Schultink's notion of productivity is hard to operationalize, because the notion of intentionality is rather vague, since some speakers of a language will have a higher awareness of the use of their language than others. So, this claim of Lieber might be difficult to evaluate, at least for me as a non-native speaker. Let us leave this matter undecided for now.

However, not being a native speaker of English makes me a native speaker of another language, which is Dutch. I have argued elsewhere (Don 1993, 2004) that conversion of nouns to verbs and verbs to nouns in Dutch are morphological processes, using the same logic that Lieber employs to show that conversion to verbs in English is not a grammatical process. That is, English converted verbs, according to Lieber, display a much wider variety of argument-structures than e.g. verbs derived with the suffix *-ize* do. If conversion would have been a case of zero-derivation, so her argument goes, then we would expect the zero-affix to show similar behaviour as the overt affixes. Since no other overt affix shows this wide variety of argument-structures, conversion cannot be an instantiation of affixation.

I have shown that Dutch converted verbs and converted nouns do show class behaviour in this sense, i.e. they have properties that can be argued to stem from the zero-affix, or the

conversion process. Summarizing my argument in a nutshell; Dutch nouns converted from verbs all have the same gender; verbs converted from nouns and adjectives also share a number of properties, most prominently that they are regularly inflected. So, on this basis I have argued for directional morphological conversion rules. However, class behaviour of the ‘relisted’ items is not a sufficient argument for a grammatical process. Under Lieber’s hypothesis one could claim that the morpho-syntactic properties shared by the converted forms such as gender and inflectional class are ‘default’ properties that could have been inserted by some sort of patch, once relisting has taken place.

We will now argue on the basis of data from German, Dutch and English that conversion is a grammatical process. Basically, the argument is that conversion is governed by grammatical constraints; given the ‘relisting’ hypothesis it would be unexpected if grammatical constraints determine the process. We will discuss three types of grammatical constraints: phonological, morphological and semantic.

## 2. Grammatical restrictions on conversion

Neef (1999) in an interesting contribution on conversion in German shows that conversion to verbs is restricted by general constraints on the phonological form of verbs in this language. Without going into the particularities of his morphological theory, we can use his observations to demonstrate that conversion to verbs in German is only allowed if the resulting verb conforms to a set of phonological constraints.

Consider the following impossible verbs in German (Neef 1999: 216):

(4)	*Verb	Noun	gloss
	*intermezzo-en	intermezzo	‘intermezzo’
	*kaffee-n	kaffee	‘coffee’
	*kanapee-n	kanapee	‘sofa’
	*kanu-en	kanu	‘canoe’
	*paprika-en	paprika	‘paprika’
	*taxi-en	taxi	‘taxi’
	*turbo-en	turbo	‘turbo’

None of these nouns can be converted to a verb because that would violate a constraint in German that militates against final full vowels in the verbal stem; German verbal stems end in a consonant. Similarly, all verbs in (5) are impossible in German, due to the fact that their stem would end in a schwa; again, something which is not allowed in German (Neef 1999: 212):

(5)	*Verb	Noun	gloss
	*campagne-n	campagne	‘campaign’
	*hymne-n	hymne	‘hymn’
	*medaille-n	medaille	‘medal’
	*studie-n	studie	‘study’
	*witwe-n	witwe	‘widow’

These observations illustrate that conversion to verbs in German is subject to a set of grammatical (i.e. phonological) constraints. In case conversion would be a matter of relisting of lexical items, which is not a grammatical process, but something outside the grammar, it is hard to see how such an extra-grammatical process could be subject to grammatical constraints.

Even more interesting than the German case seems to be the Dutch case. Dutch has similar phonological constraints on the form of verbs (cf. Trommelen 1989). Just as in German, Dutch verbs do not end in a monophthongal full (not reduced) vowel. However, different from the situation in German, nouns ending in such vowels can be easily converted to verbs. So, we do find in Dutch converted verbs of the following type:

(6)	Verb	Noun	gloss
	koffie-en	koffie	‘to drink coffee’
	kano-en	kano	‘to canoe’
	taxi-en	taxi	‘to go by taxi’

In this respect Dutch behaves like English, and just as in English, there wouldn’t be a problem for the relisting hypothesis in this respect.

The picture that emerges is a very familiar one for a Dutch linguist. Van Haeringen, who was a professor of Dutch linguistics at Utrecht University during the middle of the last century, once characterized Dutch as ‘Dutch between German and English’ Van Haeringen (1956). And also here this motto of Dutch linguistics is applicable: where German has strict phonological constraints that have to be obeyed by all verbs including converted forms, English does not seem to have constraints on the form of verbs, and Dutch is somewhere halfway: it does have constraints on the form of verbs, but they are not respected under conversion.<sup>1</sup>

Apart from phonological constraints, conversion is also restricted by morphological constraints. For all three languages under consideration, English, Dutch and German, conversion to verbs from affixed bases seems to be extremely rare. As (Booij 2002: 136) puts it: “it is not easy to find derivationally complex nouns that feed conversion.” Liebers’ ‘relisting’-hypothesis has a partial explanation for this observation, but we think it is not completely satisfactory. The claim of the ‘relisting’-hypothesis is that only *listed* forms can be possibly *relisted*. In case of a fully productive derivational morphological process the outcome will not be listed in the lexicon, and therefore, we will not find derivationally complex bases of conversion. So, according to this hypothesis, the correct generalization would not be ‘converted forms have no derivational complex basis’ but rather something like ‘converted forms have no basis that is formed by a productive morphological rule’. However, looking at the ‘Germanic’ part of the Dutch lexicon, although we find a large number of unproductive affixes (8) that together derive a huge amount of adjectives and nouns, almost none of these nouns or adjectives can be converted to a verb. The only exceptions that we found were: *gehoorzamen* ‘to act in an obedient way’ from *gehoor-zaam* ‘obedient’ and some verbs ending in *-ier*.

(8) Unproductive nominal and adjectival affixes in Dutch:

-dom <sub>N</sub>	rijkdom	richness	*rijkdommen <sub>V</sub>
-erd/ aard <sub>N</sub>	rijkaard	someone rich	*rijkaard <sub>V</sub>
-eling <sub>N</sub>	dorpeling	someone from a village	*dorpelingen <sub>V</sub>
-erik <sub>N</sub>	bangerik	someone afraid	*bangerik <sub>V</sub>
-es <sub>N</sub>	voogdes	guardian (fem.)	*voogdes <sub>V</sub>
-in <sub>N</sub>	waardin	host (fem.)	*waardin <sub>V</sub>
-lijk <sub>A</sub>	vriendelijk	friendly	*vriendelijk <sub>V</sub>
-sel <sub>N</sub>	zaagsel	sawdust	*zaagsel <sub>V</sub>
-schap <sub>N</sub>	vriendschap	friendship	*vriendschap <sub>V</sub>
-zaam <sub>A</sub>	gehoorzaam	obedient	gehoorzaam <sub>V</sub>
-ier <sub>N</sub>	winkelier	shopkeeper	winkelier <sub>V</sub>
	rentenier	pensioner	

Similar observations hold for English. Also in English the correct generalization seems to be that affixed forms are not available for (verb-forming) conversion. Again, this can be explained by the relisting hypothesis only if it would all be productive morphology, but clearly this is not the case.

A second morphological observation is that in the so-called ‘romance’ part of the Dutch lexicon no conversion to verbs (or nouns) occurs. Converted verbs from bases such as the nouns in (9) are completely lacking. Again, if relisting would be a non-grammatical operation we cannot understand why a stratal difference in the lexicon would make a difference for relisting.

(9)	N / A	gloss	verb	derived verb	‘gloss’
	<i>argument</i> <sub>N</sub>	‘argument’	*argument	argument-eer	‘to make an argument’
	<i>flexibel</i> <sub>A</sub>	‘flexible’	*flexibel	flexibil-iseer	‘to make flexible’
	<i>muziek</i> <sub>N</sub>	‘music’	*muziek	music-eer	‘to make music’
	<i>objectief</i> <sub>A</sub>	‘objective’	*objectief	objectiv-eer	‘to make objective’
	<i>publiek</i> <sub>A</sub>	‘public’	*publiek	public-eer	‘to make public’

One could however argue that the nouns/adjectives in the left-hand column in (9) are all formally derived. That is, they contain a root, that does not occur on its own, such as *argum* and a formal affix, such as *-ent* (which have been italicized for convenience). But even if one assumes that these forms are morphologically complex, they illustrate the same point as we have seen above. Under the relisting hypothesis there is no explanation why these results of completely unproductive word formation processes are no candidates for relisting.

Note also that the affixes *-eer* and *-iseer* make verbs from the nouns and adjectives in the left-hand column. We will come back to that shortly.

### 3. Argument-structure

We would now like to give a further argument for the grammatical nature of conversion. The argument is unfortunately somewhat more complex than the previous ones, but the bottom-line is the same; if there are grammatical generalizations that pertain to conversion, they cannot be explained under a ‘relisting’ hypothesis. The ‘relisting’-hypothesis claims that just any lexical item can be relisted in another category. Under that hypothesis we do not expect to find generalizations with respect to the argument structure of converted verbs, or in the words of Lieber (2004: 95):

- (10) We can now confront the fourth of the basic questions which we raised in the introduction [...] how do we account for word formation in which there is semantic change without any concomitant formal change? The answer that emerges is a supremely simple one. In the case of conversion, the same semantic space is available for relisting of nouns and adjectives as verbs that would be available for the coinage of new simplex verbs. Conversion of verbs from nouns and adjectives in English simply is a form of coinage.

However, we hope to show below that the semantics of the converted verbs is best described in terms of the semantics of the underived nouns and adjectives that function as the base of conversion, and that the semantics of these verbs can be predicted to a certain extent from the semantics of the base. A converted verb in our opinion cannot have just any meaning that a simplex verb can have. Meanings that are not related in a straightforward manner to the nominal or adjectival base simply do not occur. In that respect conversion is exactly parallel to derivation.

Therefore, focussing on converted verbs in Dutch, we will now show that their semantics can be best understood in terms of the semantics of the underlying noun or adjective and that the kind of semantics that we end up with is not in any respect different from what we find in the derivation of verbs. More specifically, we will show that the kind of semantics we find in Dutch converted verbs can be fruitfully compared with the semantics of verbs that are derived by overt affixes in Dutch.

In order to substantiate such a claim, we should be able to independently determine what the converted verbs, and what the simplex verbs are in Dutch. If we accept the phonological restriction on underived verbs in Dutch given above, we have a starting point for the determination of converted verbs; those verbs that do not conform to this constraint should be conversions from either nouns or adjectives. Furthermore, earlier I have argued (Don 1993, 2004) that neuter nouns cannot be derived through conversion, and therefore should be considered underived; moreover, verbs that exhibit irregular inflection cannot be derived through conversion and should also be considered underived. Given these tests for simplex forms as our starting point, we can make the following observations.

First, there is a class of verbs in Dutch with phonologically identical nouns, the semantics of which can be paraphrased as ‘make / do N’. In these cases the noun denotes a thing or an event. Several examples are given in (11):

- |      |       |         |        |                   |
|------|-------|---------|--------|-------------------|
| (11) | feest | ‘party’ | feest  | ‘to have a party’ |
|      | kalf  | ‘calf’  | kalver | ‘to calve’        |
|      | kwijl | ‘drool’ | kwijl  | ‘to drool’        |

Following an analysis of Hale & Keyser (1993) and others, (e.g. Harley (1999)), we may assume that these verbs have a nominal basis which is combined with a verbal node that adds an external theta role. This verbal node can be roughly paraphrased as ‘make’ or ‘do’. Also in case we do not rely on such syntactic analyses of these verbs we can see that their semantics is derived from the semantics of the bare noun. In case we describe their semantics with Jackendoff-style LCS’s we end up with a structure in which the semantics of the noun is somehow part of the larger structure that corresponds to the semantics of the verb. LCS’s for these verbs could be something like the one given in (12):

(12) ( [EVENT ACT ( [THING *base* ] ) ] )

As we noted above, in the so-called ‘romance’ part of the Dutch lexicon, conversions to verbs are completely impossible. So, we do not find verbs like the ones in (9), however, we do find verbs with the suffix *-eer* based on nominal and adjectival bases that have exactly parallel semantics as the verbs in (11). Some examples were already given in (9). Therefore, the picture that emerges is that this type of verbs can be formed with *-eer* in the ‘romance’ part of the Dutch lexicon and through conversion in the ‘germanic’ part of the lexicon. The suffix *-eer* and conversion are in complementary distribution and seem to fulfil the same function in different strata of the Dutch lexicon.

A second class of verbs are the locational / locatum verbs of which we have given several examples in (13):

(13) *locational*:

Noun	gloss	Verb	
kist	‘coffin’	kist-en	‘to coffin’
keten	‘chain’	keten-en	‘to chain’
kuil	‘pit’	kuil-en	‘to pit’
pot	‘pot’	pot-en	‘to pot’
<i>locatum</i> :			
harnas	‘harness’	harnas-en	‘to harness’
olie	‘oil’	olie-en	‘to oil’
poeder	‘powder’	poeder-en	‘to powder’
kleed	‘garment’	kleed-en	‘to dress’

Again, the semantics of these verbs can be easily described in terms of the semantics of the base. For the locational verbs, we can think of an LCS as in (14a), and for the locatum verbs the LCS in (14b) seems adequate:

(14) a. ( [EVENT CAUSE ( [THING ], [EVENT INCH ( [STATE BE ( [PLACE AT ( [THING *base* ] ) ] ) ] ) ] ) ] ) ] )

b. ( [EVENT CAUSE ( [THING ], [EVENT INCH ( [STATE BE ( [THING *base* ], [PLACE AT ( [THING ] ) ] ) ] ) ] ) ] ) ] )

It is worth noting that exactly the same semantic characterization of verbs is found in verbs formed with the prefix *be-* (cf. Lieber & Baayen 1993). Verbs, such as, *bepoederen*, ‘to

powder' *beboteren* 'to butter', *bebossen* 'to forest', etc. have identical semantics but an overt affix.

A third class of verbs which can be argued to be derived from nouns and adjectives are the so-called change-of-state verbs, of which I give some examples in (13):

(15)	A / N		Verb	
	open	'open'	open	'to open'
	bleek	'bleech'	bleek	'to bleech'
	droog	'dry'	droog	'to dry'
	schimmel	'mould'	schimmel	'to mould'

Again, the semantics of these verbs can be easily derived from the semantics of the base and could be given the following LCS:

(16) ( [EVENT CAUSE ( [THING ], [EVENT INCH( [PROPERTY / THING *base*] ) ] ) ] )

Also this process of conversion is restricted to the 'Germanic' part of the Dutch lexicon, while in the 'Romance' part similar derivations are possible with the affix *-iseer* or *-eer*:

(17)	A / N		Verb	
	legaal	'legal'	legal-iseer	'legalize'
	neutraal	'neutral'	neutral-iseer	'neutralize'
	publiek	'public'	public-eer	'publish'

Having thus considered several types of conversion of nouns and adjectives to verbs, it seems that the semantics of all these verbs can be well understood if we incorporate the semantics of the base in the semantic description of the converted verb. Moreover, we have seen that in all these cases there are competing morphological processes expressed by overt affixes with the same semantic change.

This brief investigation into the nature of the semantics of converted verbs in Dutch does not demonstrate that Lieber's claim that converted verbs may have the same semantic space as underived verbs, is wrong. However, it does show that for a large number of converted verbs such a claim is unnecessary; that is, they can be accounted for by the grammatical apparatus needed to account for derivation. More importantly, we have not come across examples that would show that their semantics could not be understood in terms of the semantics of the base.

#### 4. A possible alternative

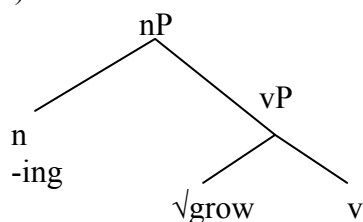
In this section we will sketch an analysis of conversion that treats conversion similar as any other word-formation process. We base ourselves on the observations and generalization made above and we have caught the analysis in a framework proposed by Marantz (1997, 2000).



- (20) a. tomatoes grow in Mara's garden  
 b. Mara grows tomatoes
- c. the growth of tomatoes  
 d. \*Mara's growth of tomatoes
- e. growing tomatoes pleases Mara  
 f. Mara's growing of tomatoes

(20a) and (b) illustrate that the lexical item *grow* can be either used as an inchoative or as a causative verb. However, from (20c-f) we may conclude that the causative reading is only possible with the gerund of *grow*, i.e. *growing*, but that this reading is unavailable with the derived nominal *growth*. Following a proposal by Chomsky (1972), Marantz accounts for this deviant behaviour of the derived nominal by assuming that the causative reading of the verb is derived in syntax, and that the derived nominal is never inserted under a verbal node; its morphological relation to the verb is indirect: they are only formed on the basis of the same root but *growth* is not derived from the verb. The fact that the gerund does allow for the causative reading can then be attributed to the fact that it is nominalized after the root has been inserted under a verbal node. The structure in (21) illustrates this:

(21) (gerund)



Word-formation on the basis of roots can be unproductive and due to idiosyncrasies. In this model, this is explained as follows. The head merging with the root in (19a) has at its disposal all the information present on the root. Therefore, any idiosyncratic information on the root will be available during interpretation. However, in (19b) the head attaching at a 'higher' level cannot look into the combination of the root with the earlier head. Therefore, any particular information coded on the root is unavailable during the interpretation of this latter word-formation process.

Applying this model to conversion, we may assume that some roots can be combined both with a verbal head (without any phonological spell-out) and with a nominal head (again without any phonological effect). This would correspond to a non-directional analysis of the type (18b). However, given this model, it is also possible that a root first combines with a categorial head ('below category-assignment'), and only after that ('above category-assignment') it combines with yet another categorial head. Such an analysis would correspond to a directional analysis as in (18a). In other words, Marantz' model allows for both types of morphological relations. This implies that, given his model, we would expect that there would be languages making full use of these possibilities.

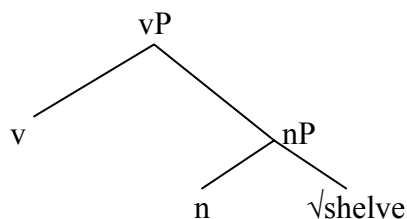
Arad (2003) has shown on the basis of Hebrew data that we need both structural possibilities, i.e. both the structure in (18a) and (18b) to account for the full range of data in this language. Arad (2003) argues that in Hebrew the same root can be combined with

different patterns (or binyanim), leading to different interpretations. For example, the root  $\sqrt{\text{btx}}$  can be combined with the pattern CaCaC, leading to the phonological form *batax* ‘trust’, while in combination with the pattern CiCCeC *biteax* has the interpretation ‘insure’. So, the same root receives a different interpretation when combined with a different head. Next to this type of morphology, Arad shows that the language also has word-formation based on words, rather than roots. For example, the noun *misgeret* ‘frame’, derived from the root  $\sqrt{\text{sgr}}$  can be the source for a denominal verb *misger* ‘to frame’. This process of word-formation from words rather than roots is characterized by two properties: contrary to word-formation on the basis of roots, which allows for all kinds of idiosyncratic interpretations, the semantics of the denominal verbs is predictable and implies the meaning of the underlying noun. Furthermore, the phonology of the word-based forms is always based on the phonology of the noun. In the example here, the part *mi-* for example stems from the noun creating pattern miCCeCet.

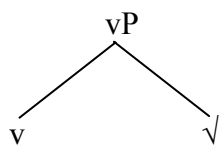
We may now ask ourselves whether conversion should be analysed as type (18a) or as type (18b), or that both types of analyses are applicable to different types of conversion. Looking at the English data it seems clear that conversion to verbs in English is a productive process that is based on words, rather than roots. The semantics of the derived verbs is based on the semantics of the underlying words, and there are no phonological constraints that restrict the scope of the process. These are clear indications that it is a word-based process. The only problem for this analysis is that conversion to verbs is rare or even impossible on the basis of affixed words. If these affixes attach to roots, then in principle, we would expect them to be potential candidates for conversion to verbs. We will come back to this issue shortly.

In German, contrary to English, the process of conversion to verbs is far more limited in scope. We may account for this by assuming that the process in German is root-based rather than word-based. So, the difference between English and German in this respect can be illustrated by the structures in (22a) for English and (22 b) and (c) for German:

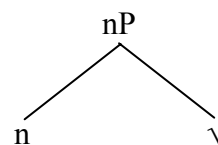
(22) a.



b.



c.



The fact that there is a phonological constraint on the form of verbs in German that is also applicable to ‘converted verbs’ can now be understood as follows. It is important to see that the constraint can only be evaluated at the root level. Once the root has merged with a categorial head to form a word, it receives a phonological interpretation and at that point in the derivation, the constraint can be evaluated. However, once this word has been formed, there is no later stage in the derivation that can look into this phase. Now, with respect to the

constraint on verbs, the root-based conversions simply are indistinguishable from underived verbs.

Recall from the previous discussion that Dutch is a language in which conversion to verbs is based on words that have a category. In terms of the analysis given above, this would entail that Dutch, just as English, has verb forming conversion based on words, rather than on roots. This predicts that Dutch converted verbs are not sensitive to the phonological restrictions on the form of verbs, which we have shown above to be correct.

At first sight problematic for this account is the observation that affixed roots in English and Dutch convert only to a very limited extent. This is not what we would expect under the theory given, since roots whether or not affixed should in principle be available for conversion.

Let us first turn to Dutch. As we have seen, Dutch has quite a large number of unproductive ‘Germanic’ affixes that never form the input for conversion. Furthermore, Germanic affixes in Dutch avoid stacking. That is, although the selectional criteria of the affixes would allow for certain affix combinations, only few of these combinations are actually attested. A very productive affix like *-heid* may freely attach to Germanic affixes, and some forms in *-schap* may be affixed with adjective forming *-lijk*.<sup>3</sup> However, it seems that a parallel with English presents itself. Aronoff and Fuhrhop (2002) observe similar restrictions in the Germanic part of the English lexicon, leading them to the formulation of the monosuffix constraint, Aronoff and Fuhrhop (2002: 473):

- (23) MONOSUFFIX CONSTRAINT:  
Suffixes that select Germanic bases select unsuffixed bases.

We can now bring together two observations under the same explanation. First, we noted that conversion to verbs in Dutch is limited to Germanic stems; Romance stems never form the input for conversion. Therefore, if conversion to verbs is a form of affixation, we would expect something like the Monosuffix Constraint to hold, the relevant zero-affix being a Germanic affix, and therefore, we expect that stacking is (almost) impossible. This may explain the extreme scarcity of verb-forming conversion in Dutch on the basis of affixed ‘Germanic’ bases.

Let us now turn to English. Also in English conversion to verbs of affixed bases seems almost impossible. Going through the long lists of denominal conversions in Clark and Clark (1979) I wasn’t able to find examples with Germanic affixes, although we found quite a number of examples with Romance suffixes. We have listed several examples in (24). The examples come from Clark & Clark (1979):

- (24) allow-ance<sub>N, V</sub>  
bound-ary<sub>N, V</sub>  
invent-ory<sub>N, V</sub>  
pack-age<sub>N, V</sub>

However, the picture in English is a little bit different from what we see in Dutch. The following examples illustrate our point:

(25)	Noun (eng.)	Verb (eng.)	Noun (Du.)	‘gloss’	Verb (Du.)
	address	to address	adres	‘address’	adress-eer
	camouflage	to camouflage	camouflage	‘camouflage’	camoufl-eer
	code	to code	code	‘code’	cod-eer
	perfume	to perfume	parfum	‘perfume’	parfum-eer

So, several English-Dutch cognates form the basis of derived verbs in *-eer* in Dutch where they correspond to converted verbs in English. This may cast doubt on our hypothesis that the Monosuffix Constraint is responsible for the absence of affixed conversions in English, since this constraint only applies to those affixes that select Germanic bases. However, verb-forming conversion in English seems to behave exactly parallel to affixes like *-er* in English that select both Germanic and Romance bases. For such affixes Aronoff and Fuhrhop (2002) observe that in those cases where they select a Germanic base, the Monosuffix Constraint holds, but in case they select for a Romance base, the constraint does not apply. This pattern is precisely what we find in English verb-forming conversion: Romance bases may be complex, but Germanic bases not. It will be clear that this immediately follows once we acknowledge the suffixing character of conversion.

#### 4. Conclusion

Above we have shown that Lieber’s hypothesis of conversion as relisting is confronted with several empirical problems. It is unclear how under this hypothesis, we can explain the fact that conversion is subject to several grammatical constraints. More specifically, we have shown that in German a phonological constraint severely restricts the number of potential conversions to verbs, while Dutch and English seem far more liberal in this respect. Of course, Lieber might argue that conversion to verbs is a completely different process in English and Dutch than in German but a unified analysis seems preferable. Moreover, there are also other empirical issues that point to such a unified analysis. In all three languages conversion to verbs is subject to similar morphological restrictions. Such restrictions cannot be explained under a relisting hypothesis.

Under the assumption that conversion is zero-derivation, more specifically, that it involves affixation of a zero-affix to a stem, we are able to explain several characteristics of the phenomenon in Dutch, English and German. We have shown that the phonological constraints on conversion in German may be the result of more general phonological constraints on the form of verbs in the language and that under a particular interpretation of a model of morphology as proposed by Marantz (2000) this can be understood. Furthermore, we can account for the difference with Dutch where similar constraints pertain to underived verbs but not to converted verbs. Converted verbs in Dutch behave as affixed verbs in this sense.

Apart from the observed phonological constraints, the idea that conversion is zero-derivation also enables us to account for several morphological restrictions on the process. It turns out that the Monosuffix Constraint as proposed by Aronoff and Fuhrhop (2002) makes precisely the correct predictions. This supports the idea that conversion is zero-suffixation.

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## **Notes**

<sup>1</sup> We have not been able to find many examples of nouns ending in schwa that can be converted to verbs in Dutch. *ordenen* ‘to put into order’ and *spaden* ‘to dig’ may be two cases in point. Note that these verbs conform to the no final schwa-restriction either by an inserted [n]: *orde*<sub>N</sub>→*orden-en*<sub>V</sub> or by deletion of the final schwa: *spade-en*<sub>V</sub>. However, this scarcity of examples may be due to the fact that there are not that many Dutch nouns ending in schwa and many of them are, at least formally, affixed.

<sup>2</sup> A caveat is in order here. The notion of a phase differs in some respects from this notion in Chomsky (2001). Further research should answer the question whether the two notions can be really unified.

<sup>3</sup> Baayen (p.c.) pointed out that there are more counterexamples to the Monosuffix Constraint in Dutch than expected. It may turn out that this constraint is too broad to capture the Dutch data. However, we observe that many suffix combinations that might be expected purely on the basis of their subcategorization are excluded in Dutch (see also Popma 1992). This requires some form of explanation. This same explanation then will also capture the fact that derived words are not a proper basis for verb-forming conversion, once we assume that conversion is a form of affixation.

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