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***Semantic niches and analogy in word formation
Evidence from contrastive linguistics***

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Semantic niches and analogy in word formation

Evidence from contrastive linguistics

Matthias Hüning

Abstract

Word formation, like other lexical phenomena, seems to be a difficult terrain for contrastive linguistics, since it hardly allows for significant and insightful generalizations about the differences between two languages, as stated in the literature more than once.

This paper investigates one factor leading to morphological differences and contrasts between historically related languages (Dutch and German). It is argued that word formation processes often show semantic fragmentation: in the course of time they develop 'semantic niches', i.e. groups of words (subsets of a morphological category) kept together by formal and semantic criteria and extensible through analogy. When looking at word formation from a contrastive point of view, these niches seem to allow for better generalizations in terms of systematic differences between two languages than the category as a whole.

As a consequence, productivity should not be seen as an absolute notion, but rather as a local and gradual phenomenon. Morphology should not only account for the possibility of coining new words but also for their probability, because language comparison shows that even allegedly equivalent word formation processes often differ with respect to the probability of their use. The paper therefore argues in favour of an analogy approach that takes the existence of semantic niches seriously.

Keywords: *word formation, productivity, analogy, semantic niche*

1 Introduction

Word formation does not seem to be a very popular subject in contrastive linguistics.¹ Looking at the contents of this journal, *Languages in Contrast*, word formation has been a subject only twice in the seven volumes that appeared up to now (Heyvaert 1998; Van Goethem 2007). This is, I think, not a coincidence but symptomatical.

When it comes to the lexicon, contrastive linguistics has traditionally focused on interferences and on the so called 'false friends' in particular. Although those false friends like *bellen* in German (meaning 'to bark') and in Dutch (meaning 'to ring/phone') might be a problem in language teaching and in second language acquisition – especially from the point of view of production – linguistically they are not very exciting. They hardly allow for any interesting generalization; they have to be treated one by one.

There seems to exist some general belief that it is difficult or even impossible to come to substantial generalizations with respect to the lexical inventories of two languages. König & Gast in their recent book *Understanding English-German contrasts* (2007) admit that there "may be systematic contrasts in specific subsystems of the lexicon", but:

There are numerous contrasts and these contrasts are typically random and difficult to systematize. In the lexical domain we generally expect contrasts rather than parallels and the more interesting question is why we still find so many similar or even parallel lexical differentiations and polysemies between two

¹ This paper has been presented at the workshop *Reviving Contrastive Linguistics* at the Freie Universität Berlin (June 29 – 30, 2007). I want to thank the participants and the reviewers of this journal for their stimulating comments.

languages that have taken such strikingly different paths in their grammatical development. (König & Gast 2007: 260)

Contrasts that are random and difficult to systematize – not really something attractive for a linguist to work on. König and Gast do not stand alone with their scepticism, and this view on lexical contrasts can also be found with respect to word formation.

Since formal comparisons of individual lexical items do not seem to lend themselves to any significant generalizations, contrastive studies of word formation are better off if they are based on some conceptual framework. [...] As a matter of fact, any aspect of the meaning can serve as a basis for cross-linguistic comparisons. (Krzyszowski 1990: 75)

In this paper I will present some thoughts about the *tertium comparationis* in cross-linguistic comparisons of word formation processes. The overall impression that the formal part of word formation does not lend itself to comparison seems too pessimistic to me, but I agree that semantics usually is the more promising starting point for contrastive analyses. The question I want to raise is about the abstraction level we need in order to compare the semantics and the productivity of word formation processes.

Furthermore, I want to point out that language comparison might also have consequences for the description of the morphological system of one language and perhaps even for the theory of word formation. Comparison, especially when it is accompanied by a historical dimension, does tell us a lot about the nature of word formation and about the ways the morphological system is used by the speakers of a language.

2 Productivity and the rule vs. analogy discussion

In morphology, one usually looks at a certain word formation process, starting with a form, an affix for example, and one tries to examine the possibilities of word formation with this very affix. We try to find a regular pattern, to make generalizations on the basis of existing words, we try to come to grips with productivity, the language user's ability to form new words. This is in line with the well-known statement by Mark Aronoff:

the simplest task of a morphology, the least we demand of it, is the enumeration of a class of possible words of a language (Aronoff 1976: 17–18)

There are, generally speaking, two approaches to this task: a rule-based approach and an analogy approach. The rule-based approach definitely is the most prominent approach in structuralism and generative grammar. Because word formation rules tend to be overgenerating, they are usually accompanied by restrictions which systematically exclude certain input or output forms.

Although the strict rule/restriction-morphology brought up many interesting facts about word formation, it failed to explain one very basic insight, namely the fact that there are degrees in productivity and in probability. It doesn't explain why some of the possible words are formed more easily than others.

To explain this, other approaches seem more promising, approaches that do not work with non-violable well-formedness conditions in morphology, but with violable constraints. Johan Taeldeman for example wrote about 'relative restrictions' on word formation-rules some twenty years ago (Taeldeman 1985), and Van Santen argued in her (1992) dissertation in favour of not only possible words, but also probable words.

Language comparison shows that we have to deal with degrees in productivity and degrees in probability. The following example might suffice as an illustration. Two closely related languages like German and Dutch most often show equivalent morphological means which are not used exactly the same way or to the same extent. Take the case of A+N-compounding

in German and Dutch (cf. Hüning 2004a; Hüning to appear). Both languages have roughly the same possibilities to extend this category:

- (1) Compound (A + N) in Dutch and in German
dundruk – Dünndruck ('lightface')
kleingeld – Kleingeld ('(loose) change')
groothandel – Großhandel ('wholesale')

On the other hand both languages also use lexicalized classificatory NP's consisting of A+N:

- (2) Lexicalized NP (A + N) in Dutch and in German
zure regen – saurer Regen ('acid rain')
groene golf – grüne Welle ('phased traffic lights')
blinde passagier – blinder Passagier ('stowaway')

Although both options are available and productively used, speakers of Dutch do show a clear-cut preference for the NP in many cases where speakers of German use a compound. The following list could be easily extended with dozens of other examples.

- (3) Lexicalized NP in Dutch, compound in German
donkere kamer – Dunkelkammer ('dark room')
harde schijf – Festplatte ('hard disc')
vreemd woord – Fremdwort ('foreign word')
vrije schop – Freistoß ('free kick')
wild zwijn – Wildschwein ('wild pig')
volle maan – Vollmond ('full moon')
oud papier – Altpapier ('waste paper')
kleine hersenen – Kleinhirn ('little brain')
korte golf – Kurzwelle ('short wave')
vrije tijd – Freizeit ('free, spare time')
rode/witte wijn – Rotwein/Weißwein ('red/white wine')
dikke/dunne darm – Dickdarm/Dünndarm ('large/small intestine')
lage/hoge druk – Tiefdruck/Hochdruck ('low/high pressure')
rood wild – Rotwild ('red deer')
zwarte markt – Schwarzmarkt ('black market')

When comparing both languages one has to account for this difference. Stating that both languages have a productive word formation process 'A+N-compounding' to coin new classificatory names would be correct, but at the same time such a generalization would miss the central point. While the "enumeration of a class of possible words" (Aronoff) presumably would give us almost the same result for A+N-compounding in German and Dutch, the probability that a new A+N-compound is formed in Dutch is much lower than it is in German and the usability of A+N-phrases as classificatory names is much higher in Dutch. The challenge now is to describe the conditions under which the two languages use the compound or the NP. Is it possible to find an explanation for the observed differences and contrasts?²

Productivity in a strictly competence oriented definition is about the possibility to form new words. It is often opposed to morphological creativity: while productivity is applied to regular, rule-based processes, creativity is used for incidental, non-rule-based extensions of the lexicon. But, as Martin Haspelmath (2002: 98) rightly points out in his text book on word formation (*Understanding Morphology*), this distinction suggests productivity to be an absolute notion and as such it is not very insightful. Word formation is not (or should not be) about possible and impossible words only. It should also be interested in likely and unlikely

2 This question is in the center of one of our recent projects. We are going to investigate A+N compounds and phrases in Dutch and German from a synchronic and psycholinguistic perspective and also from a historical point of view in order to describe the differences and to find explanations for the differences.

words and neologisms. In the line of this argumentation Haspelmath discusses degrees in productivity.

However, in this book we will not adopt this terminological distinction between productivity and creativity. Instead, we will say that morphological rules can be more or less productive, and, the less productive a rule is, the more will a neologism be noticed and the fewer unconscious neologisms will be formed. (Haspelmath 2002: 100–101)

He then reflects on the role of analogy in word formation.

The proportional formula of analogy seems to be a general feature of human cognition that is applied in all kinds of non-linguistic situations [...] (Haspelmath 2002: 102)

He calls the application of the analogical proportion in morphology with a single word serving as the analogical model 'local analogy', and he admits to the possibility that there might be more than a single model in analogical word formation. But as soon as one does so, the question arises what the difference is between analogy and rule in word formation. Especially when we take a word-based model of word formation, this difference becomes vague and morphological analogy and morphological rules could be seen 'as one and the same thing' (Haspelmath 2002: 103).

Twenty years before Haspelmath, Laurie Bauer already wrote in the conclusion of his *Introduction to English Morphology*:

It might [...] be worth speculating whether language users work by analogy whereas linguists interpret such behaviour in terms of rules, so that a linguist's description is inevitably a fiction. (Bauer 1983: 296)

In my view Bauer's speculation gets to the core of the matter. New words are coined not according to an abstract word formation rule, but according to the model of one or more existing words. This is not to say that word formation is in principle irregular, there is a great deal of regularity in word formation patterns. In some cases the group of model words is so large that analogy and rule even become indistinguishable. Franz Rainer is right in saying:

Both analogists and rule-based morphologists thus generally agree on the existence of both single word-analogy and completely general patterns, but each of them conceives of the opposite end as the normal case. (Rainer 2003: 197–198)

And I also agree with Rainer when he guesses, on the basis of his experience, that

there is a strong tendency in the literature to overestimate the degree of generality and productivity of word-formation rules. (Rainer 2003: 198)

Very often it is possible to identify a model, a 'leader word' or a 'leader group', for a certain neologism. Most often the analogy is based on specific semantic characteristics of the model word(s). In this way 'semantic niches' are created in which a certain word formation process gets productive.

The term 'semantic niche' is not new, it is an established concept in the European tradition of morphology. It goes back to Baldinger (1950) and is used in text books like Erben's *Einführung in die deutsche Wortbildungslehre* (Erben 2000). It is primarily used to denote a series of derivatives with an identical categorial meaning, formed with the same affix. Franz Rainer has revived this notion in the context of his description of semantic fragmentation processes (Rainer 2003).

There also seems to be a renewed interest in analogy, starting with work by Bybee and Skousen (Bybee 1988; Skousen 1989) and with Becker's (1990) dissertation. Now we find arguments in favour of the analogy approach even in a text book like Haspelmath's *Understanding Morphology*, and recent books like Esa Itkonen's *Analogy as Structure and*

Process (2005) or Dieter Wanner's *The Power of Analogy* (2006) show the renewed interest in analogy in linguistics in general.

In what follows I will try to demonstrate that language comparison supports the importance of semantic niches and analogy in morphology. My examples are chosen quite randomly since my point is a general one and many word formation processes would lend themselves to illustrate it.

3 Examples

3.1 Piggery

The Germanic languages borrowed the suffix *-ery* from French:

(4) French: *-erie* > Dutch: *-erij*, German: *-erei*, English: *-ery*

Many interesting observations about German *-erei* can be found in Plank's *Morphologische (Ir-)Regularitäten* (Plank 1981); Dutch *-erij* has been described in detail by myself (Hüning 1999). For English, the 'Collins Cobuild English Guide' on word formation lists four meanings:

- (5) -ERY
- | | |
|-------------|--------------------------------|
| 1 Actions | bribery, flattery, mockery |
| 2 Behaviour | bravery, foolery, snobbery |
| 3 Places | bakery, brewery, winery |
| 4 Groups | greenery, jewellery, machinery |
- (Sinclair 1991: 49–51)

There are some problems with this oversimplified classification, but this is not what I want to discuss here. I would like to pay attention to meaning 3, the 'Places'.

- (6) Places
- ery** combines with verbs or nouns to form new nouns. Nouns formed in this way refer to a place where something is done or kept. For example, a 'bakery' is a place where bread and cakes are baked; a 'piggery' is a building where pigs are kept. (Sinclair 1991: 50)

Dutch and German also use this morphological possibility extensively; the *bakkerij/Bäckerei*-type is very productive in both languages. But there is a gap in Dutch and German (when compared to English): words like *piggery* do not occur. We do have German *Schweinerei* or Dutch *zwijnerij*, but the meaning is quite different...

The OED calls this use "another frequent use" of *-ery*. Its function is "to denote the place where certain animals are kept or certain plants cultivated, as *piggery*, *rookery*, *swannery*, *vinery*" (OED 1989). This use is absent in Dutch or German. But in Middle Dutch, we find a meaning that comes close. For a word like *visserij / fishery* Dutch and English share meanings like 'the right of fishing' or 'place where fish can be caught'.

This meaning can also be found in the Middle Dutch *zwanerij/swanerie* which seems to be even older than English *swannerie* and the meaning is again '(the right of) keeping swans', as in:

- (7) Item behoort ten voorseyden leene vrye voghelerie, visscherie en zwaenerie, ende van elcken coopman die gansen drijft over het voors. heerscip eenen gans, Diericx, Mém. 1, 425 (a. 1495). (MNW 1885-1952)
- [To the mentioned fief belongs: free 'birdery', fishery, and swannery, and one goose from every merchant who drives geese across the mentioned territory.]

In English we see that *swannery* gets another meaning through metonymy in the 16th century: 'place where swans are kept and reared'.

- (8) **swannery** - "A place where swans are kept and reared." (OED 1989)
1570 in *Archaeologia* (1812) XVI. 159 The true Copy of an old Paper, touching the Swannery found among my Father's Books, and intituled a Copy of the Ordinances for Swans, &c.
1754 *Pococke Trav. (Camden)* 95 At the swanery .. the walls are built of a stone full of shells.

Other examples include: *piggery* (1781) / *swinery* (1778), *cocoonery* (1839), *rookery* (1725), *wormery* (1952) – denominal derivations with the name of an animal as base word and used for a 'place where that animal is kept and reared'.

A word like *piggery* stands for a semantic niche in which the suffix *-ery* is used in English. It is a nice example of the well-known process that is described by Rainer as 'semantic fragmentation':

When the models are single words which have developed peculiarities setting them apart from other formations of the same kind, these peculiarities may be passed on to the neologisms formed after them and so give rise to a new type. (Rainer 2003: 208)

First *swannery* gets a new meaning, then it is taken as a model for the coining of other words (like *piggery*). A new type and a new semantic niche emerge. This kind of semantic fragmentation is a very common phenomenon in word formation, and – as far as I can see – an analogical approach is the only possible way to handle it.

Nowadays the word formation process with *-ery* only exhibits a very limited productivity in this special niche in English; we still find neologisms like *ostrichery* but the semantic niche is gradually taken over by compounds with *farm* (like *ostrich farm* which is the established word).

3.2 *-achtig*

The Dutch suffix *-achtig* is used to coin adjectives. It is a versatile affix with a wide range of potential base words and the derivatives have very different meanings. The semantics of *-achtig* has been investigated by Maesfranckx & Taeldeman (1998). They distinguish the following main groups:

- (9) Dutch *-achtig*
- (a) $[[X]_N + \text{achtig}]_A$ 'having $[X]_N$ '
heuvelachtig (*heuvel* – hill) 'hilly'
 - (b) $[[X]_N + \text{achtig}]_A$ 'being like $[X]_N$ '
aapachtig (*aap* – monkey) 'apish'
 - (c) $[[X]_A + \text{achtig}]_A$ 'kind of $[X]_A$ '
groenachtig (*groen* – green) 'greenish'
 - (d) $[[X]_V + \text{achtig}]_A$ 'inclined to $[X]_V$ '
babbelachtig (*babbelen* – to chat) 'chatty'

Besides these four main types, Dutch (and especially the south of the Dutch language area) has another type of derivatives in *-achtig*, called the 'affective' type by Maesfranckx & Taeldeman. The meaning of this type can be paraphrased as 'loving $[X]$ ', where X can be a noun, an adjective or a verb. The affective use of *-achtig* can be illustrated with the following examples:

- (10) *Ik ben niet zo taartachtig / blondachtig / telefoneerachtig.*
I am not very fond of cake / blond / phone calls.

With that many different possibilities, it does not come as a surprise that the different types are not fully productive and that it is very difficult to find the limiting factors. First and foremost we find rival word formation processes. Especially derivatives in *-erig* and *-ig* have developed the same semantic slots and it seems difficult or even impossible to delineate the domains of the different processes. Words like *modderachtig* and *modderig* seem to be synonymous (meaning 'muddy') and the difference between *groenachtig* – *groenerig* – *groenig* ('greenish') is also at best a minimal one. Maesfranckx & Taeldeman only see slightly more negative connotations with *-erig* and there seems to be a regional difference: *-erig* is more popular in the northern part of the Dutch language area while *-achtig* is more productive in the south.

Maesfranckx & Taeldeman also look at the distribution and the semantics of the German cognate of *-achtig*: the suffix *-haft*. They find that the 'affective' types cannot be formed with *-haft*, but the two suffixes apparently correspond on the 'non-affective' level, where *-haft* has all the possibilities mentioned in (9):

- (11) *fehlerhaft* – (*Fehler_N* – fault) 'faulty'
märchenhaft – (*Märchen_N* – fairy-tale) 'amazing, fabulous'
krankhaft – (*krank_A* – sick) 'pathological'
wehrhaft – (*wehren_V* – to struggle/resist) 'well-fortified'

The following examples will illustrate the equivalent use of *-achtig* and *-haft*:

- (12) Dutch *-achtig* and German *-haft*; meaning 'being like X'
 "Een ervan is de Fürstenhof, een *taartachtig* gebouw"³
 '... a building looking like a cake/torte'
 "Die Kopfbeckung [der Queen - MH]: leicht *tortenhaft*."⁴
 'the hat (of the Queen): looking a bit like a cake/torte'

The 'affective' use, on the other hand, is only found in Dutch:

- (13) 'affective' use of *-achtig*
 "Daar hebben we onze taartspullen gekocht om morgen voor mijn verjaardag een taart te maken. Ze zijn hier niet zo *taartachtig* ... dus dan zelf maar maken."⁵
 '... They are not so crazy about cake/torte here [in Sweden - MH] ... so we have to bake one ourselves'

While the possibilities are by and large the same for Dutch *-achtig* and German *-haft* (with the exception of the affective use in Dutch), the two languages differ greatly when it comes to actual language use. When one looks at the individual derivatives, there seem to be only very few corresponding words with Dutch *-achtig* and German *-haft* (Hüning 2004b). I have listed the derivatives mentioned by Maesfranckx & Taeldeman themselves, together with their translations:

- (14) Dutch *-achtig* with German translations
 (Dutch examples from Maesfranckx & Taeldeman 1998)

base = N: 'having [X]_N' / 'being like [X]_N'
koortsachtig ('feverish') - *fiieberhaft*
heuvelachtig ('hilly') – *hügelig*
stormachtig ('stormy') – *stürmisch*
aapachtig ('apish') – *affig* / *affenartig* / *affenhaft*
waterachtig ('watery') – *wässerig* / *wasserartig* / *wasserhaft* (?)

3 <http://josschmitz.nl/Midden-Duitsland/kassel.htm> (2007-07-17).

4 http://www.spiegel.de/fotostrecke/0,5538,PB64-SUQ9MjgxJm5yPTQ_3,00.html (2007-07-17).

5 <http://inekekempenaar.waarbenjij.nu/index.php?intMessageId=1280128> (20070717).

base = A: 'kind of [X]_A'
waarachtig ('truly') – wahrhaft
groenachtig ('greenish') – grünlich
kaalachtig ('kind of bald') – kahlend (?)

base = V: 'inclined to [X]_V'
babbelachtig ('talkative, chatty') – schwatzhaft
vreesachtig ('timid') – furchtsam
vergeetachtig ('forgetful') – vergesslich

The picture we get is fairly complex and confusing. Maesfranckx & Taldeman are probably right in saying that *-achtig* and *-haft* are equivalents of each other on the categorial level from a historical or etymological perspective, but synchronically this is useless, since equivalence of the two suffixes seems to be an exception rather than the rule. Looking at cases like this can easily lead to the impression that equivalence is purely lexical, that there is no such thing as equivalence between word formation processes (as a whole).

In his paper on 'semantic fragmentation' Franz Rainer quotes Leo Spitzer, who – because of this kind of observations – concludes that word formation has to be treated as part of lexicography.

Es ist ... notwendig, jede einzelne Wortbildung zu individualisieren. Der Grundsatz der neueren Lexikographie 'jedes Wort hat seine eigene Geschichte' gilt auch für die Wortbildungslehre. Die Serien von Wörtern gleicher Endung oder Vorsilbe sind 'mirages', sie zerfallen bei mikroskopischer Betrachtung ebenso wie die Lautgesetze: [...] So mündet denn die Wortbildungslehre von selbst in das Wörterbuch ein. (Spitzer, *Archivum Romanicum* 7, 1923, p. 198 (cf. Rainer 2003: 197))⁶

I don't think that this lexicographical view is right. Of course there is irregularity and idiosyncrasy, but there is also much regularity in word formation which should not be neglected. Comparisons like in (14) just look for regularity at the wrong level.

Again we could search for semantically motivated 'niches', held together by analogy. As soon as we leave the categorial level, semantically related groups can be found where we do indeed find a correspondence between *-achtig* and *-haft*. Such a semantic niche is for example formed by the words in (15): adjectives with the meaning 'being like X', where X denotes a person.

- (15) 'being like X', where X denotes a person
- | | |
|---|--------------------|
| <i>flegelhaft</i> - <i>vlegelachtig</i> | 'uncouth' |
| <i>mädchenhaft</i> - <i>meisjesachtig</i> | 'girlish' |
| <i>knabenhaft</i> - <i>jongensachtig</i> | 'boyish' |
| <i>eselhaft</i> - <i>ezelachtig</i> | 'foolish' |
| <i>gaunerhaft</i> - <i>schurkachtig</i> | 'rascally' |
| <i>professorenhaft</i> - <i>professorachtig</i> | 'like a professor' |

This group can easily be extended: the behaviour of a computer freak can be called *freakhaft* in German and *freakachtig* in Dutch.

- (16) Da ich mich für unheimlich viele Dinge interessiere und nichts *freakhaft* übertreibe wurde ich Lehrerin.
(<http://www.die-80er-jahre.de/forum/showtopic.php?threadid=4608>)

⁶ It is necessary to individualize every single word formation. The principle of recent lexicography that 'every word has its own history', is valid for word formation too. The series of words with the same affix are 'mirages', they fall apart on closer examination like the laws of sound change: so word formation automatically leads to the dictionary. [my translation – MH].

Ha mijn vriendin wordt af en toe echt gek van mij! Soms moet ze me er gewoon vanachter wegtrekken! Nee trouwen met me pc is me iets te *freakachtig!*
(<http://www.tweakers.net/gallery/49088>)

In Dutch other base words are also possible with *-achtig* to realize this 'being like X'-meaning: *een tafelpootachtig voorwerp* ('a thing that looks like the leg of a table'), but this is not possible with German *-haft*, which usually denotes a person. Even a base word like *Katze* ('cat') will be used metaphorically for a person in *katzenhaft*.⁷ With other base words German prefers *-artig*: the equivalent for *tafelpootachtig* would be *tischbeinartig*.

So (15) represents a semantic niche, where the (by Maesfranckx and Taeldeman) assumed equivalents *-achtig* and *-haft* correspond quite systematically in productive usage. There are other semantic niches, which do show regular equivalents in Dutch and German, but not the pair *-achtig/-haft*. Just one example as an illustration:

(17) 'Topographic adjectives'

Dutch: *heuvelachtig, bergachtig, steenachtig, struikachtig, rotsachtig*

German: *hügelig, bergig, steinig, strauchig, felsig*

> meaning: 'having (many) X'

In this restricted semantic domain Dutch *-achtig* and German *-ig* seem to correspond quite well. The question is of course: why does German have *-ig* and not *-haft*? The reason for this seems to be an etymological one; German reflects an old distinction which does not exist any more in Dutch. Pijnenburg (1993) has shown that Dutch *-achtig* has two origins. I will not go into any detail here, but it comes down to this:

(18) The twofold origin of Dutch *-achtig*

(a) *-echtig* < *-echt* + *-ich* (type *bergachtig*)

(b) *-(h)achtig* < *-haftig* < *-haft* + *-ig* (type *waarachtig*).

The suffixes (*-echtig* and *-achtig*) are converging as early as in the 13th century.

(Pijnenburg 1993: 46)

The German distinction between *-haft* on the one hand and *-ig* for the topographic adjectives on the other, still reflects the etymological difference in (18), a difference that disappeared in Dutch. This etymological argument thus explains the semantic equivalence of German *-ig* and Dutch *-achtig* on this restricted area of old topographic adjectives. It shows that equivalence in word formation that nowadays (synchronically) can only be described as semantically motivated (semantic niche) might be motivated by additional factors diachronically.

3.3 Conversion

Conversion from noun to verb is a productive process in Dutch, German and English.

Examples are:

(19) DUTCH	GERMAN	ENGLISH
<i>antwoord</i> > <i>antwoorden</i>	<i>Antwort</i> > <i>antworten</i>	<i>answer</i> > <i>answer</i>
<i>film</i> > <i>filmen</i>	<i>Film</i> > <i>filmen</i>	<i>film</i> > <i>film</i>
<i>douche</i> > <i>douchen</i>	<i>Dusche</i> > <i>duschen</i>	<i>shower</i> > <i>shower</i>

Noun to verb conversion is semantically very rich. The verbs in (19) can be paraphrased as:

(20) *answer* - 'provide with X' (ornative)

film - 'make into X' (resultative)

shower - 'do something with X' or 'use X' (instrumental)

This is meant only as a small demonstration of the basic possibilities; there are many possible meanings that I will not be able to discuss here (Marchand 1969; Plag 1999). Neef (2005)

⁷ See also the already mentioned *ezelachtig/eselhaft* (*Esel/ezel* - 'donkey').

examines restrictions on conversion in German and Plank (1981) presents very interesting thoughts about one special type of N-V-conversion: the ones with a base noun that is an animal name (like *Tiger – tigern*; *Kalb – kalben*).

In the context of this article I want to focus on one specific sub-type of the instrumental meaning as exemplified by the Dutch verb *schaatsen* (English 'skate'), which does not mean just 'using skates', but 'using skates for sports'. This element ('sports') can be found in many conversions in Dutch. In fact, almost every name of a sport can be used as a verb too.

(21) DUTCH	GERMAN	ENGLISH
schaats > <i>schaatsen</i>	eislaufen	to skate
ski > <i>skiën</i>	skilaufen/-fahren	to ski
voetbal > <i>voetballen</i>	Fußball spielen	to play soccer
tennis > <i>tennissen</i>	Tennis spielen	to play tennis
golf > <i>golfen</i>	Golf spielen	to play golf
hockey > <i>hockeyen</i>	Hockey spielen	to play hockey
volleybal > <i>volleyballen</i>	Volleyball spielen	to play volleyball
basketbal > <i>basketballen</i>	Basketball spielen	to play basketball
honkbal > <i>honkballen</i>	Baseball spielen	to play baseball
skateboard > <i>skateboarden</i>	Skateboard fahren	to skateboard (?)
judo > <i>judoën</i>	Judo betreiben	to practise judo

Incidentally we also find conversion in German. The verb *golfen* for example seems acceptable, but it is defective in its use: **er golft*, **er hat gegolft*. The same is true for a relatively new word like *snowboarden* (**er snowboardet*). The Dutch verbs, on the other hand, do not show this defectivity: *hij golft*, *ik snowboard*, *zij hebben gebasketbald* – all verb forms, including the participles are possible and fully acceptable.

In Dutch, conversion is highly productive in this restricted area of sports. Historically *tennissen* and *voetballen* are the oldest examples of this conversion type. They are used in Dutch since the beginning of the last century (according to the Dutch 'Woordenboek der Nederlandsche Taal', WNT 1882-1998). They are even older than the verb *schaatsen* for ice-skating, the Dutch national sport (the English verb *to skate* is older: the oldest reference in the OED is from 1696). And *voetballen* also still has by far the highest frequency according to the CELEX database (CELEX 1995). Other words like *volleyballen*, *honkballen* seem to be much younger, which does not come as a surprise since they stand for relatively young cultural attainments.

It is obvious that German and English lack the systematic possibility of conversion here.⁸ Nevertheless there appears to be some limited regularity: as long as a ball is involved, German and English seem to use the phrase with 'spielen' / 'play' consistently. The activities involved in other sports are referred to by other means.

Conversion again demonstrates the relevance of the semantic niche in word formation. Aronoff (1976: 45) was right when he concluded that "productivity goes hand in hand with semantic coherence". But real semantic coherence is hardly to be found on the categorial level or the level of a general word formation rule, it is found inside some semantic niche.

On the categorial level, everything very easily becomes messed up, as soon as one starts looking at more than one language. This holds even for two closely related languages like Dutch and German, the languages I am dealing with mostly. And the mess is not across the language boundary, it is inside our description of one language. The generalizations we made seem to be much less general than we thought, the predictions seem to be much less predicting. If one only looked at German, one probably would not even notice that there is a gap in the domain of noun to verb conversion, one would not even think of a rule like: 'you

8 In English gerund forms like *tennissing*, *basketballing* seem to be possible.

can form verbs out of nouns by conversion but not when the noun is the name of a sport'. It is by contrasting German and Dutch that one finds this semantic niche to be relevant.

How could we deal with such semantic niches? We could of course try to formulate a restriction to the conversion rule. Or we could change our point of view and focus on the description of the semantic niches conversion is actually productive in. I am not sure what the consequences of such an approach would be, but I think that it would be promising to at least try to take semantic niches seriously and to consider the implications for word formation and contrastive linguistics.

4 Conclusion

In the preceding sections I looked for the relevance of semantic niches and analogy in word formation from a contrastive point of view. Semantics turned out to be an essential factor in explaining differences and contrasts between the morphological possibilities of two languages. But it is, of course, not the only factor. There are others that I did not mention here.

We do, for example, find structural restrictions in one language that are not relevant for the other. There might also be a mix of structural, pragmatic and socio-cultural factors responsible for differences in the usage of morphological possibilities. Dutch, for example, is known as a language making extensive use of diminutives which are often very difficult to translate into English or German (Bakema et al. 1993). Dutch sentences like *het zonnetje schijnt lekker vandaag* (lit. 'the sun [DIM] is shining nicely today') show usages of diminutives absent in English or German. While there might be semantics involved, we need to consider other factors to account for this contrast. But in many other cases, the concept of the semantic niche turns out to be valuable for describing and explaining the differences between two languages, especially when we deal with two historically related languages.

Of course the kind of observations presented in the previous sections might be useful in itself, for example for the learning and the teaching of a foreign language. The combination of morphology and contrastive linguistics makes the language users aware of identical structures in L1 and L2 and systematic differences between the two languages. It is useful to know that it is possible to form verbs from nouns denoting a certain sport when learning Dutch. It is useful to reduce the irregularities, to show language learners the regular patterns, the systematic differences, the relevant analogies. The question is where to look for regularity.

With respect to morphological theory, the differences between related languages show us something about how language works, how language is organized and used by its speakers. Of course one could argue that some of the examples given above are examples of non-productive, non-regular word formation, which behaves differently from productive word formation rules. But my point is that there is no principled difference between the two. It is a matter of degree, and ultimately of quantity. Some groups, some 'semantic niches' are larger than others (see *bakery* vs. *piggery*).

It might be worth speculating about a sort of basic level on which word formation works. This could be the level of semantically coherent groups of words that can be used as input for a semantically coherent group of derivations. There is a good deal of evidence from the history of derivational patterns that supports the idea that the basic level of word formation might be that of the semantic niche. This would mean that we have to scale down our descriptions to smaller units. And these units should probably be semantically motivated. To prove the validity of these assumptions, more psycholinguistic research on the processing of morphologically complex words is needed.⁹

9 Experimental work by e.g. Harald Baayen and his research group already showed that paradigmatic and analogical effects do play an important role in morphology.

In my view analogy is not only behind irregularity and some instances of creative language use, but it is the driving force behind morphology as a whole. Note that, like Raimo Anttila said,

for all its limitations, proportional analogy is the only model that is spontaneously formulated by speakers themselves and thus has a greater psychological reality than any other model. (Anttila 1989: 105)

This means that we might have to look for a level below the traditional morphological category to account for morphological productivity and/or creativity. Mainstream morphology usually formulates abstract, very general and overgenerating rules for word formation processes. In order to make them descriptively adequate, all kinds of restrictions on the possible input and output of the rule have to be added.

An alternative and probably more adequate strategy would be: look for the prototypical cases, the leader words or groups. It should, in many cases, be possible to identify semantic niches in order to better understand the probability of a neologism and the productivity of a word formation process.

Such an approach to word formation, driven by semantics and analogy, is in line with some recent word based models of word formation (or at least these models could be easily adapted). I think for example of so called word-schemas as presented in Haspelmath's text book (2002). One could also think of 'construction morphology' (as a sub discipline of construction grammar) as recently proposed by Geert Booij (Booij 2005; Booij 2007). But in fact any word based approach working with templates rather than with morpheme based word formation rules should be adaptable to the needs of an analogy approach.

Contrastive linguistics would surely profit from a more fine-grained morphological description. As shown above, broad generalizations about word formation easily get meaningless in the comparison of two languages. It is not very instructive to say that Dutch and German (and English) have a word formation rule that derives verbs from nouns by conversion. We have to go into much more detail to get meaningful results. On the other hand it is also pointless to concentrate on individual words in order to find contrasts (Dutch *fiets* – *fietsen*, German *Fahrrad* – **fahrraden*). The interesting level is an intermediate level, but it is often very difficult to delimit the domain of comparison.

The other way around, morphology would definitely benefit from detailed contrastive analyses of word formation patterns. The examples presented above have shown contrastive linguistics to be a valuable method of revealing specific semantic niches of certain word formation processes. And by giving evidence to the importance of the concept of the semantic niche, contrastive linguistics can also contribute to morphological theory. Finally, language comparison also supports the idea that it is important to account for the distinction between possible and probable words, an insight not yet common in morphological theory.

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