



CONTRASTIVE WORD-FORMATION TODAY: RETROSPECT AND PROSPECT

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ABSTRACT

This paper proposes an exploratory bird's-eye view of contrastive word-formation research, an area which, to date, remains largely under-researched in the three fields in which it partakes, namely morphology, contrastive linguistics and lexicology. Studies in contrastive word-formation, as well as their meta-analysis in terms of scope, objectives and data, are presented in a critical survey of the literature, together with an extensive bibliography (1960–2010). A new contrastive methodology for future research is looked into and the major practical applications of contrastive word-formation in bilingual lexicography and translator training, among others, are overviewed. Contrastive word-formation, it is argued, should be set within a more rigorous theoretical and methodological framework, which would be characterised by a dynamic conception of the *tertium comparationis* and the use of empirical data drawn from multilingual corpora.

KEYWORDS: Word-formation; contrastive linguistics; cross-linguistic studies; *tertium comparationis*; corpus linguistics.

0. Introduction*

Contrastive word-formation is at the intersection of two major areas: word-formation (which is encapsulated in the broader fields of morphology and lexicology) and contrastive linguistics.¹ It is now gradually emerging as a field of

* This paper was first presented at the *English Word-Formation in Contrast* seminar of the 10th *Conference of the European Society for the Study of English* (Università degli Studi di Torino, Italy). I am greatly indebted to two anonymous reviewers for their insightful comments on the first draft of this paper.

¹ Morphology is here viewed as “the branch of linguistics that deals with words, their internal structure, and how they are formed” (Aronoff and Fudeman 2005: 1–2). It is traditionally divided

study in its own right and yet very little is known about the studies that have dealt with the topic so far, whether directly or indirectly, recently or not. The aim of this article is therefore to give a general overview of studies in contrastive word-formation and to address some key issues that are directly relevant to the field, focusing specifically on the proposal of a new contrastive methodology for the cross-linguistic study of word-formation which would be based on a dynamic conception of the *tertium comparationis* (or TC for short) and the use of corpus data drawn from both comparable and translation corpora. The article centres around five main research questions, with special emphasis on the third one:

- (1) What is the place occupied by contrastive word-formation studies in the three main areas of research in which they take part (morphology, contrastive linguistics and lexicology)?
- (2) What are the major trends and issues in the field to date?
- (3) How can the traditional three-step contrastive methodology (i.e. description, juxtaposition and comparison) be used in contrastive word-formation and which *tertium comparationis* (or common platforms of reference) are suitable for the cross-linguistic study of word-forming devices?
- (4) What are the advantages of relying on data extracted from computerised corpora in contrastive word-formation studies?
- (5) What practical applications can contrastive word-formation have in lexicography, translator training, foreign language learning and teaching and natural language processing?

Accordingly, the article is organised in five sections. Section 1 examines the place of contrastive word-formation in morphology, contrastive linguistics and lexicology. Section 2 then offers a survey of ca. 70 studies (1960–2010) as well as their meta-analysis in terms of scope, objectives and data. Section 3, which is the major focus of this paper, assesses to what extent the traditional three-step contrastive methodology can be used in contrastive word-formation and what types of *tertium comparationis* can be set up. Sections 4 and 5 are devoted, respectively, to the use of corpus data in contrastive word-formation and to the practical applications of corpus-informed contrastive word-formation studies.

into two sub-branches: inflectional morphology (or inflection) and lexical morphology (or word-formation). Lexicology can be defined as “the study of the *lexicon* or *lexis* (specified as the vocabulary or total stock of words of a language)” (Lipka 2002: 9). It is a vast discipline that encompasses other fields of research such as lexical morphology, phraseology, lexical semantics and etymology, among others.

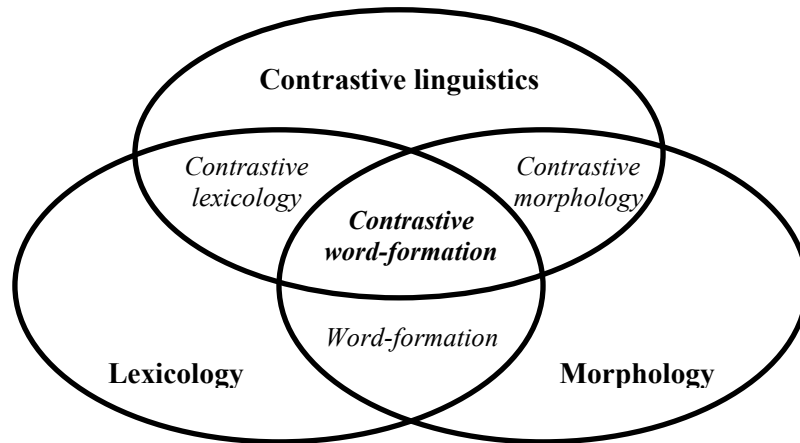


Figure 1. Contrastive word-formation at the crossroads between three fields.

1. Contrastive word-formation at the crossroads between three fields

Contrastive word-formation (also referred to as contrastive or cross-linguistic lexical morphology) is situated at the crossroads between morphology, contrastive linguistics and lexicology (see Figure 1, which graphically represents contrastive word-formation at the intersection of these three fields). The present section aims to characterise contrastive word-formation by examining the place it occupies in these three areas of research. The following observations are based on the examination of a range of conference programmes and proceedings, journal articles, monographs, handbooks and bibliographies, which are assumed to reflect accurately the current trends of the disciplines under scrutiny.²

Stein's (1973), Beard and Szymanek's (1988) and Scalise's (2005) bibliographies³ suggest that few contrastive studies have been carried out to date in

² The following resources, for example, were consulted in the field of morphology:

- conference programmes and proceedings: *International Morphology Meeting* (IMM), *Mediterranean Morphology Meeting* (MMM), *Décembrettes*;
- journals: *Yearbook of Morphology* (now *Morphology*), *Word Structure*;
- handbooks: Štekauer and Lieber (2005), Booij et al. (2000) and Spencer and Zwicky (1998).

³ Scalise's online bibliography is available at: <<http://morbo.lingue.unibo.it/biblio-lexical-morphology-a-bibliography.html>> (last accessed 12 April 2011).

morphology per se, as the field is mainly dominated by monolingual and typological studies. Admittedly, contrastive morphology is addressed in some morphological studies, but only indirectly: many of them rely on cross-linguistic data to construct theoretical models or assess their validity. Their backgrounds and aims, however, are clearly not contrastive. Although contrastive morphology has received scant attention in morphology, morphological typology has recently been reappraised. However, typology and contrastive linguistics, though complementary, are separate branches of research. In view of the obvious differences between the two fields, it can safely be assumed that advances in morphological typology do not necessarily go hand in hand with advances in contrastive morphology.⁴ Typological descriptions, however, can enrich contrastive word-formation studies, where the universal typologies of word-forming strategies provided by typological morphology can be very useful for setting up a *tertium comparationis* (see Section 3).

In the same vein, the tallying of the number of studies dealing with contrastive word-formation in the main bibliographies of contrastive linguistics, i.e. Hammer and Rice (1965), Sajavaara and Lehtonen (1975) (which covers the period 1965–1975) and the Contragram bibliography⁵ (early 20th century to 2002), which all together represent ca. 2,200 studies, reveals that contrastive word-formation studies account for less than 1% of the listed references. Likewise, word-formation plays a rather subordinate role in contrastive lexicology (a notable exception to this trend is Paillard 2000), which has so far mainly focused on verbs, discourse markers and connectors (see Johansson 2007 for an overview). A possible explanation for this neglect is the widespread belief that lexicology is concerned with words, collocations and other multi-word units and not with elements below the word level.

As shown in this section, contrastive word-formation falls not between two, but between three linguistic stools – morphology, contrastive linguistics and lex-

⁴ Typology aims to investigate all the world languages, or at least a representative sample from a wide variety of language families, by focusing on so-called universal features. Contrastive linguistics, by contrast, usually compares two or more languages, both from the point of view of their similarities and differences (Sorés 2008). In addition, contrastive researchers usually have a deeper knowledge of the languages they investigate than typologists who have to rely on various types of data, such as dictionaries, grammars and native speakers' judgements, as it is impossible for them to master all the languages they include in their studies (König 2008). It is also noteworthy that while typologists are mainly interested in the existence or non-existence of a particular form (e.g. derivational prefixes), contrastive linguistics offers finer-grained analyses.

⁵ The Contragram bibliography is available at: <<http://www.contragram.ugent.be/>> (last accessed 12 April 2011).

icology – and remains under-researched in each of these three disciplines. This neglect is surprising, especially in view of (1) the present-day vitality of lexical morphology, contrastive linguistics and lexicology, (2) the variety of topics investigated in these three fields and (3) the relative ease with which word-forming elements can be investigated in computerised corpora (by means of form-based queries).

2. Survey of studies in contrastive word-formation

This section outlines the main trends in contrastive word-formation by presenting the results of a survey of studies published over a period of around fifty years (1960–2010). Approximately 70 contrastive word-formation studies from the fields of morphology, contrastive linguistics and lexicology were examined in terms of their topics, aims and data (a selected list of references, which might be useful to researchers embarking on or interested in contrastive word-formation, is provided in Appendix 1).

The survey first reveals that while word-formation seemed to hold centre stage in early contrastive projects in Poznań, Zagreb and Budapest, it has not been addressed in more recent large-scale corpus-based contrastive projects such as those carried out in the Nordic countries (e.g. *Sprak i kontrast*).⁶ Moreover, the field is very much restricted in scope: it mainly deals with suffixation, compounding and prefixation (in that order). Suffixation is by far the most frequently investigated topic (more than one third of the total number of studies under scrutiny), followed by compounding and prefixation (ca. one fifth each). Conversion and so-called ‘minor’ word-formation processes, by contrast, are clearly neglected, such as:

- Subtractive processes: back-formation, as in *mass-production* → *to mass-produce*, blending as in *smog* (*smoke* + *fog*), abbreviation (initialisms, as in *USA*, and acronyms, as in *UNESCO*) and clipping (also called truncation), as in *laboratory* → *lab*;
- Reduplication: e.g. *flip-flop*.

It is also noteworthy that the vast majority of studies have theoretical and descriptive objectives. Only one fifth of the studies are geared towards practical

⁶ See <<http://www.hf.uio.no/ilos/forskning/prosjekter/sprik/english/>> (last accessed 12 April 2011).

applications. However, as stated by Bujas (1969: 30), “in spite of the apparent structural amorphousness of the lexis, investigation of large texts is to reveal productive formulas of contrastive description, directly applicable to the practical needs of teaching, translation and dictionary-making.” These possible applications will be discussed in Section 5.

As regards the data used, about one third of the studies included in the survey are introspection-based, i.e. the authors base their claims on invented examples and native speakers’ judgements. Another third is dictionary-based (both monolingual and bilingual dictionaries are used). The use of computerised corpora as the main source of data is not widespread (only ca. one sixth of the studies surveyed; see Section 4 on the use of corpora in contrastive word-formation). Another sixth of the studies examined in this survey combine different sources of data (e.g. lexicographic data and experimental tests). In sum, contrastive word-formation is still very much rooted in the example-based and dictionary-based traditions.

3. Towards a new contrastive methodological framework for the cross-linguistic study of word-formation

Contrastive studies crucially require the adoption of a methodological framework (see James 1980; Krzeszowski 1990; Chesterman 1998). Surprisingly, however, very few studies in contrastive word-formation are based on a rigorous and consistent contrastive methodology (a notable exception is Dressler and Ladányi 2000).

3.1. The methodological steps of contrastive studies and their usefulness to contrastive word-formation

This section provides a general outlook on the basic methodological and theoretical principles of contrastive studies and assesses their applicability to contrastive word-formation. Three seminal works have presented principled frameworks for contrastive analysis, notably James (1980), Krzeszowski (1990) and Chesterman (1998). They constitute the starting point of the methodology proposed here.

According to James (1980: 30, 63), contrastive analysis consists of two major steps: (1) description, where each of the observed languages is described at

the appropriate level (e.g. phonology, lexis, morphology, syntax, etc.) and (2) juxtaposition for comparison. In the same vein, Krzeszowski (1990) sets up three steps for “classical” contrastive studies, i.e. contrastive studies where no generative framework is adopted: (1) description, as no cross-linguistic comparison is possible without a prior description of the elements to be compared, (2) juxtaposition, which consists in determining what is to be compared with what, i.e. deciding what platform of reference or *tertium comparationis* constitutes the starting point of the contrastive analysis and (3) comparison or contrastive analysis proper. These three steps, as well as the proposed methodology for contrastive word-formation, are described below and illustrated more concretely with their direct implications within the framework of a corpus-based contrastive study of prefixation in English and French writing (see Lefer 2009).

3.1.1. Description

The minimum requirement for the first step is that the descriptions of the elements to be compared should be cross-linguistically parallel, i.e. the languages need to be described through the same model of description (James 1980: 63) and within the same theoretical framework (Krzeszowski 1990: 35, 107–108). This first step is crucial as it can heavily influence the reliability of the results of the contrastive analysis. If the same data from the observed languages are described on the basis of different models, the descriptions will highlight different facets of the data. The contrastive researchers will be uncertain about the contrasts they identify as they can be description-induced (i.e. reflections of the use of two different models) rather than data-induced (i.e. true linguistic contrasts) (James 1980: 63–64). Likewise, descriptions relying on different theoretical frameworks could lead to incompatible and incomparable results. One solution to circumvent this problem and achieve parallel descriptions, James (1980: 64) argues, is to “describe L1 and L2 data independently, using the models which yield the fullest descriptions of either language, and then translate these two descriptions into a form that is model-neutral”. In other words, the two (or more) languages under investigation should first be described for their own sake, respecting their language-dependent features and following the models that best describe the observed language, before formulating a language- and model-neutral description of the object of study. Another solution proposed by James, which will not be adopted here, is to show a descriptive imbalance in favour of L2 (i.e. the second or foreign language) in pedagogically-oriented contrastive studies.

As is commonly reported in the literature, the fact that we use labels such as “derivative”, “affix”, “compound”, “blend”, etc. to refer to a certain category in different languages does not necessarily mean that we are talking about the same thing (James 1980: 167; Chesterman 1998: 32). Metalinguistic labels may be misleading and the contrastive analyst should be aware of the “danger of regarding entities as comparable just because they are called by the same name” (James 1980: 167). The methodological step of description is highly complex in the field of contrastive word-formation as most basic notions such as derivation, compounding and derivational affix still lack clear-cut definitions. The complexity of this first description step should therefore not be overlooked. The definition of derivation as the addition of an affix to a base, for example, is both rather simplistic and extremely vague. In addition, a wide range of contradictory views are found in the literature, even more so when two (or more) languages are taken into consideration. The major reason behind this is that the borderlines between word-formation processes such as, for example, derivation and compounding are permeable. On the one hand, words which were once compounds can now be seen as affixed forms (e.g. *user-friendly*). On the other, though this is much rarer, word-formation elements that were once affixes can take on a new life as words and be used as lexemes (e.g. *ex*) (see Bauer 2005). Current morphological theory, as it stands, does not accurately account for the notions of derivation and affix and for the borderline between derivation and compounding (see e.g. Bauer 2005; Prčić 2005, 2008; Kastovsky 2009). The same can be observed for other word-forming devices (see e.g. Renner 2008).

To illustrate this first descriptive step, the defining criteria for derivative and affix status adopted in Lefer’s (2009) contrastive study of English and French prefixation are presented in Table 1.⁷

3.1.2. Juxtaposition or establishing a *tertium comparationis*

The second step of contrastive studies is juxtaposition. The key issue of juxtaposition is to determine on what basis to compare elements across languages (James 1980: 65). In other words, explicit criteria for comparison have to be formulated so that the contrastive study meets the comparability requirement

⁷ The choices made by the researchers mainly depend on their overall objectives and on the weight given to formal, etymological and semantic factors. The adoption of different defining criteria for derivative and affix status are liable to lead to different results as different sets of data are either included in or excluded from the analysis.

Table 1. Cross-linguistic defining criteria for derivative and affix status adopted in Lefer (2009).

Defining criteria for derivative status	
Formal analysability	Only words that can be perceived as analysable as a base (whether it is bound or free) plus an affix or several affixes are taken into account.
Semantic transparency	Words made up of a base and an affix are discarded and classified as monomorphemic if they are semantically opaque, i.e. if it is impossible to deduce the meaning of the derivative from the meaning of its base and affix.
Recurrence	The existence of a derivational paradigm where the base of the derivative occurs in several other words with a similar meaning is used as another defining criterion for derivative status.
Defining criteria for affix status	
Position	Derivational affixes are either word-initial (prefixes) or word-final (suffixes) but they cannot occur in both positions.
Syntactic autonomy	Derivational affixes are bound lexical morphemes. However, a number of free grammatical morphemes (and to a lesser extent, free lexical morphemes) can develop affix status.
Meaning	As a rule, derivational affixes convey a stable semantic content. In addition, they tend to have a weaker referential meaning than free forms. Derivational affixes having a corresponding free form are considered as derivational affixes on condition that (a) they convey meanings other than the ones found with the corresponding independent word or (b) they convey a more restricted range of meanings than the corresponding free forms (see Amiot 2005). In addition, initial combining forms ⁸ that (1) show a tendency to play a subordinate role with respect to the root; (2) are more general or abstract in meaning; and (3) express cognitively relevant, recurring components of meaning which are organised in paradigmatic relations with the meanings expressed by other prefixes, are considered as prefixes (see Iacobini 1998; Prčić 2005).
Nature of the base	Derivational affixes typically attach to free bases (derivatives with a bound root are often lexicalised derivatives).
Frequency	Derivational affixes tend to be used repetitively in the formation of words.

⁸ Combining forms, which can be word-initial or word-final, are here defined as Greek (or occasionally Latin) elements which are combined to form so-called neo-classical compounds that “were not produced for use in the classical languages but are modern formations for use in modern languages” (Bauer 1998: 405) (e.g. *astrology*). The concept of combining form is much debated in the literature (see e.g. Kastovsky 2009, where it is argued that the category is superfluous and can be discarded).

that is central to all contrastive endeavours (Chesterman 1998: 29). Comparability should not be equated with absolute identity here, but should rather be viewed as a degree of shared similarity (James 1980: 168–169; see also Chesterman 1998). James (1980: 169) summarises the issue of comparability as follows:

How does one set about comparing anything? The first thing we do is make sure that we are comparing like with like: this means that the two (or more) entities to be compared, while differing in some respect, must share certain attributes. This requirement is especially strong when we are *contrasting*, i.e. looking for differences, since it is only against a background of sameness that differences are significant.

James's view is shared by Krzeszowski (1990: 15), who states that “all comparisons involve the basic assumption that the objects to be compared have something in common, against which differences can be stated”. This background of sameness or common platform of reference has traditionally been referred to as the *tertium comparationis*. It is described as follows by Goddard and Wierzbicka (2008: 205–206):

To describe and compare any set of things, one must have some terms of comparison which are stable and equally applicable across the entire set of things being compared, i.e., some *tertium comparationis*. For example, to compare the climates of different countries we rely on standardized measures of temperature, rainfall, wind speed, hours of sunlight, and so on. To work properly, these parameters have to apply equally well to the various items being compared and to work equally well under different local conditions. It would be no good to have thermometers which reacted differently at the equator and at the higher latitudes, or which only worked properly in the temperate zones. The same applies to contrastive linguistics. It too needs descriptive parameters which are stable and language-neutral, in the sense of not depending on the idiosyncrasies of any individual language.

Building a consistent TC is all-important in contrastive studies because the choice of the TC constitutes the determining factor in establishing similarities and differences between the phenomena compared (Krzeszowski 1990: 15). In other words, the results of a contrastive study largely depend on the TC adopted. The direct link between the TC and the results of the contrastive analysis is best illustrated by means of the oft-cited squares/rectangles example. If squares and rectangles are compared with respect to their angles, we find that the two figures are identical. If, on the other hand, the lengths of their sides are compared,

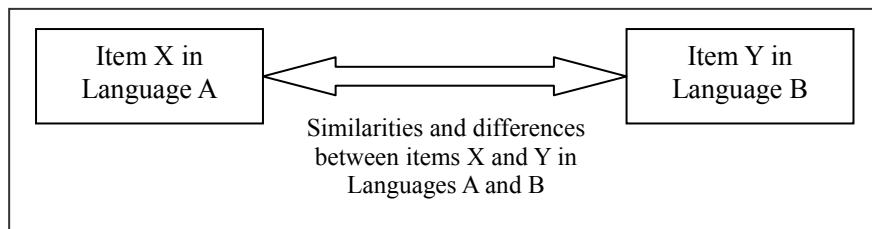


Figure 2. Contrastive analysis without any *tertium comparationis* (adapted from Pekelder 2010: 23).

we find that they are different. Depending on the TC adopted, the same objects can turn out to be similar or different.

The comparison involved in a contrastive analysis without any TC is represented in Figure 2, where the items under investigation are compared to each other directly.

Instead, the elements to be compared should first be described in relation to the TC adopted, which makes it possible to describe the similarities and differences between items X and Y in relation to the TC. Krzeszowski (1990: 117) rightly notes that the TC, i.e. the shared properties of the elements to be compared, literally “the third term of a comparison”, should be outside the scope of comparison itself. This is illustrated in Figure 3, where it can be seen that the items X and Y are first described in relation to the TC before the analyst can describe the major similarities and dissimilarities between the items under investigation.

Despite its utmost importance, the fundamental concept of the TC remains particularly vague in contrastive linguistics (Krzeszowski 1990: 15; see also Fisiak 1983, 1990). First, very few studies make explicit mention of the TC they adopt or justify their choice in any detail. This appears clearly from a survey of thirteen issues of the *Languages in Contrast* journal (2004–2010). Of the 73 studies included, only eight (ca. 11%) make explicit reference to the TC used (viz. Simon-Vandenberg and Aijmer 2002/2003; Altenberg 2004/2005; Lewis 2004/2005; Ramón 2006; Williams 2006, 2009; Fetzer 2009; Hüning 2009). In addition, it is often problematic to determine what kind of TC should be used for what kind of contrastive study. As will be shown below, phonological, morphological, lexical, syntactic, semantic and pragmatic contrastive studies are based on different types of TC and the choice of the TC is hard to make. Third, most contrastive researchers still rely on intuitive judgements or implicit criteria

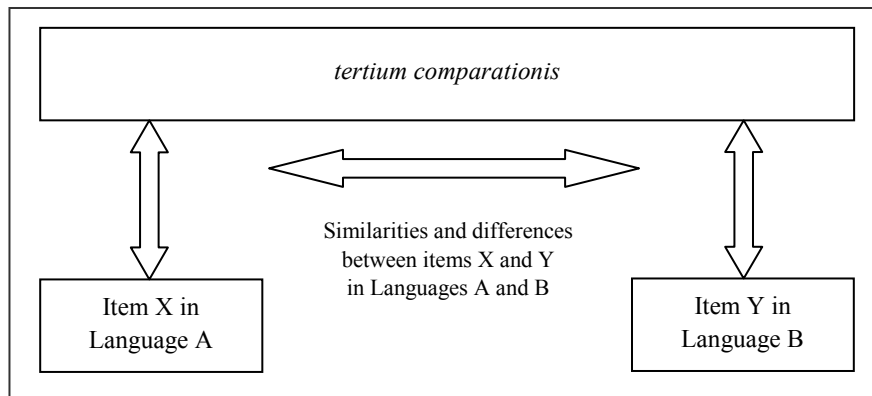


Figure 3. Contrastive analysis with a *tertium comparationis* (adapted from Pekelder 2010: 23).

in order to decide what to compare and why (see Fisiak 1983). This lack of consistency is highly problematic. As pointed out by Krzeszowski (1990: 37),

[t]he investigator himself often acts as the bilingual informant and decides what to compare on the basis of his own knowledge of the two languages. Unless more **explicit criteria** constraining the data are applied, such a procedure often leads to arbitrary decisions, which seriously undermine the rigour required in scientific investigations. [My emphasis, MAL.]

The issue of setting up a TC for contrastive word-formation is taken up in Section 3.2. In Lefer (2009), for example, a semantic TC based on the following categories was used: LOCATION, EVALUATION, NEGATION, QUANTITY, MODALITY and INCHOATIVITY (see Section 3.2). English and French prefixes were first described in relation to this semantic TC before being compared so as to bring to light their main areas of similarities and differences.

3.1.3. Comparison

Once a TC has been set up, the contrastive analyst can turn to the comparison phase, i.e. the contrastive analysis proper. Comparison is only possible once the elements to be compared have been described accurately, i.e. according to the

same principles or against the same theoretical background, and once the basis on which to compare the elements across languages has been established. Broadly speaking, three possible situations may arise in the comparison phase: (1) an item in Language A is identical in some respects with an equivalent item in Language B; (2) an item in Language A is different in some respects from an equivalent item in Language B; and (3) an item in Language A has no equivalent in Language B (Krzyszowski 1990: 37–38).

The comparison phase of the contrastive study of English and French prefixes carried out in Lefer (2009), for instance, brought to light that prefixation tends to be more productive in French writing than in English (in terms of realised productivity).⁹ The semantic TC revealed that the higher productivity of French prefixation is to be attributed mainly to reversative and reiterative prefixes (e.g. *dé(s)-*, *re-*), which are significantly more productive than their English counterparts. Conversely, English negative prefixation was found to be more productive than its French equivalent, especially because of the productive Germanic prefix *un-*.

3.1.4. The issue of circularity

Crucially, it has often been reported in the contrastive literature that the contrastive researcher runs the risk of circularity in establishing a TC. Chesterman (1998: 30) rightly emphasises that the result of the comparison may be no more than the initial assumption of comparability itself. The circularity issue is summarised by Krzyszowski (1990: 20) as follows:

The circularity consists in the following: we compare in order to see what is similar and what is different in the compared materials; we can only compare items which are in some respect similar, but we cannot use similarity as an independent criterion in deciding how to match items for comparison since similarity (or difference) is to *result* from the comparison and not to *motivate* it.

A standard solution to avoid circularity is the recourse to different levels of form and meaning (see Chesterman 1998: 52): (1) we can say that the meanings are

⁹ The notion of realised productivity (Baayen 2008) is one of the many facets of the complex phenomenon of morphological productivity. It is here defined as the number of different derivatives formed with a derivational affix in a given corpus.

equivalent (initial assumption) and the forms turn out to be more or less equivalent (result); or (2) we can say that the forms are equivalent (initial assumption) and the meanings prove to be more or less similar or different (result). Chesterman (1998: 54–61) has proposed an alternative “falsificationist” methodology to avoid circularity, i.e. Contrastive Functional Analysis (CFA). The main idea behind Chesterman’s CFA framework is that contrastive studies should produce hypotheses that can be tested empirically. The starting point of Chesterman’s model is the *perception* of a similarity of some kind between phenomenon X in language A and phenomenon Y in language B. This perception is the initial reason for making the cross-linguistic comparison and provides the initial comparability criterion. The perception may be vague or unspecified. The role of contrastive research is precisely to clarify and specify these initial perceptions. The contrastive analysts have to define the criteria by which the phenomena are judged similar and this is what Chesterman calls the similarity constraint, i.e. the constraint that “sets an upper bound to the range of phenomena considered to be relevantly similar, for the purposes of a particular study” (Chesterman 1998: 56). Chesterman’s comparability criterion corresponds to what James (1980) and Krzeszowski (1990) refer to as the *tertium comparationis*.

The researcher then has to formulate an initial identity hypothesis, which basically states that phenomena X and Y are identical and corresponds to the null hypothesis in experimental studies. This hypothesis can be empirically tested. The testing step consists in asking on what grounds the initial hypothesis can be supported or rejected and on what conditions it holds. This step can encompass many procedures, such as the selection of a theoretical framework, selection of additional data, use of corpora, appeal to one’s intuition, use of other bilingual informants, etc. The result of this stage is all-important: it is a statement of the evidence in favour of the initial identity hypothesis and a statement of the evidence against it. The evidence in favour of the initial identity hypothesis amounts to an explanation of why a similarity between the compared items was perceived in the first place. The evidence against, on the other hand, leads the contrastive researcher to reject the initial identity hypothesis because a number of differences are found between the compared elements X and Y. According to Chesterman (1998: 58), the evidence in favour constitutes the *tertium comparationis*:

The *tertium comparationis* is thus what we aim to arrive at, after a rigorous analysis; it crystallizes whatever is (to some extent) common to X and Y. It is thus an explicit specification of the initial comparability criterion, but it is not identical with it – hence there is no circularity.

ty here. Using an economic metaphor, we could say that the *tertium comparationis* thus arrived at adds value to the initial perception of comparability, in that the analysis has added explicitness, precision, perhaps formalization; it may also have provided added information, added insights, added perception.

As appears from the quote above, Chesterman proposes a different interpretation of the concept of TC in his CFA methodology than James (1980) or Krzeszowski (1990) in their more traditional methodologies. Traditionally, the TC was taken as the starting point of the comparison. Chesterman argues, however, that these traditional approaches risk circularity, as equivalence is both assumed at the start and arrived at in the comparison phase. Chesterman therefore advocates taking a perceived similarity as the starting point of contrastive studies. This perception is then refined, operationally defined as a similarity constraint and crystallised in the TC once the initial identity hypothesis has been tested.

3.1.5. The proposed methodology

The proposed methodology consists in adopting a slightly revised version of the traditional three-step contrastive methodology in contrastive word-formation, viz. (1) description, (2) juxtaposition (the establishment of a TC) and (3) comparison proper. In view of James's and Krzeszowski's recommendations in relation to the first step, I propose to proceed as follows:

- (1a) Provide intralinguistically consistent descriptions of the object of study. The categories used in the description in each language ought to be based on explicit criteria, show no overlap and encompass all relevant word-formation categories under scrutiny in the languages investigated. The descriptions should take into consideration insights from morphological theory in the languages compared (language- and model-dependent);
- (1b) Provide a description of the object of study that is cross-linguistically consistent. The purpose of this stage is to ensure that the categories used in the description of the object of study in the two (or more) languages are parallel and comparable, i.e. defined on the basis of the same explicit criteria (language- and model-neutral) (cf. Table 1);
- (1c) Add a data selection phase in the case of corpus-based contrastive word-formation (see e.g. Ramón 2006: 312 on the usefulness of the data selec-

tion step in corpus-based contrastive studies). This phase is rarely discussed in the literature. However, the corpus-based approach to contrastive word-formation requires the inclusion of a third sub-step in the description step, i.e. a data selection phase. The defining criteria used in the description step have to be operationalised as data selection criteria. In other words, it is necessary to devise a specific strategy to retrieve corpus data that are relevant for the researcher's purposes and that respect the criteria formulated in the description phase.

In addition, taking into consideration Chesterman's CFA methodology and his remarks on the problem of circularity, I propose a dynamic view of the TC. Studies can start from an initial TC which represents the perceived similarities between the object of study cross-linguistically (e.g. the meanings and sub-meanings conveyed by prefixes cross-linguistically), but the comparison phase should allow researchers to refine this perception by stating more precisely the main areas of similarities between the objects being compared (e.g. a careful examination of corpus data in the comparison phase led to the revision of the initial semantic TC adopted in Lefer (2009): it was found, for example, that despite the descriptions found in the reference literature and on which the initial TC was based, French *méga-* did not occur with the evaluative meaning of 'very' in writing. Rather, it seemed to be restricted to speech and speech-like genres such as blogs). Terminologically speaking, I have decided to use the traditional term *tertium comparationis* and view it as a dynamic notion rather than using the less common *comparability criterion* proposed by Chesterman (1998). In other words, a distinction is made between the initial TC in the juxtaposition phase and the refined TC after the comparison phase, thereby avoiding circularity. The methodology advocated here, provided it is systematically used, can lead to the formulation of reliable generalisations on the cross-linguistic use of word-forming devices and introduce more scientific rigour to contrastive word-formation research.

3.2. *Tertium comparationis* for lexical contrastive studies

As stated above, the different types of contrastive studies (phonological, lexical, syntactic, semantic, pragmatic or other) call for different types of TC. The present section examines the types of TC used in lexical contrastive studies in general and in contrastive studies of lexical morphology in particular, as the two are closely related.

3.2.1. *Tertia comparationis* in lexical studies

The issue of establishing syntactic TC holds centre stage in James (1980) and Krzeszowski (1990). By contrast, the types of TC that are suitable for contrastive lexical studies remain relatively vague. Altenberg and Granger (2002: 15) rightly note that “for lexis it is obvious that the compared items should express ‘the same thing’, i.e. have the same (or at least similar) meaning and pragmatic function [...]. However, what exactly this ‘thing’ is is not always obvious”. In their view, the only way to make sure that we are comparing like with like in lexical contrastive studies is to rely on translation equivalence (understood as semantic and pragmatic equivalence combined).¹⁰ Translation can be used as TC in view of the fact that translation competence requires the ability to move between utterances in different languages and to relate two things (Chesterman 1998: 39). Even though translation equivalence seems to be a good TC candidate for lexical contrastive studies, it should be viewed as perceived equivalence rather than absolute identity of meaning.

The researcher can establish translation equivalence by resorting to his/her own translation competence or by exploiting translation corpora (corpora of original texts and their translations into one or more languages; see Section 4). In this respect, Altenberg and Granger (2002: 17) point to the difficulty of deciding whether two lexical items¹¹ are equivalent across languages in translation corpora. It is well-known that translation corpora rarely contain translations that are literal renderings of the original, due to translation effects (traces of the source language and translation norms), additions, omissions, free renderings, etc. Altenberg and Granger (2002) therefore suggest a number of solutions to make sure that corpus-based translations are cross-linguistic equivalents, such as (1) to rely on Ivir’s procedure of back translation (Ivir 1983, 1987), i.e. “to restrict the comparison to forms in L2 that can be translated back into the original forms in L1” (Altenberg and Granger 2002: 17); (2) to adopt a quantitative approach to translation equivalence, i.e. only recurrent translation patterns are considered as equivalent (Krzeszowski 1990: 27); or (3) to resort to Altenberg’s mutual correspondence of two lexical items in a translation corpus (Altenberg 1999). If a lexical item X in language A is always translated by an item Y in

¹⁰ Equivalence is a much debated concept in contrastive linguistics, translation studies and lexicography (see Adamska-Sałaciak 2010 for an overview).

¹¹ The notion of lexical item (or lexical unit) as used by Altenberg and Granger (2002) is defined as a stable pairing of form and meaning (see Sinclair 1998). It includes both single words and multi-word units, which enter into a complex network of paradigmatic and syntagmatic relations.

language B, then items X and Y have a mutual correspondence of 100%. If, on the contrary, X and Y are never translated into each other, they display a mutual correspondence of 0%. In other words, “the higher the mutual correspondence value is, the greater the equivalence between the compared items is likely to be” (Altenberg and Granger 2002: 18). A small-scale corpus-based study of 100 French *in*-adjectives and 100 English *in*-adjectives and their respective translations, for example, found that the mutual correspondence of English and French negative *in*- equals 45.5%.¹² In other words, there is an approximate 50% chance that an English adjective prefixed in negative *in*- will be translated into a French *in*-adjective and vice versa. English *in*-adjectives were found to correspond to French *in*-adjectives in 59 translations out of 100 (e.g. En. *from that moment on we were inseparable* → Fr. *nous sommes devenus inséparables*), while French *in*- was found to correspond to English *in*- in 32 of the 100 translations examined (e.g. Fr. *rythme incessant* → En. *incessant rhythm*). Following the formula proposed in Altenberg (1999), this gives a mutual correspondence of 45.5%:

$$\frac{(59 + 32) \times 100}{(100 + 100)} = 45.5\%$$

By contrast, the mutual correspondence of the English negative *un*- and French *in*- (e.g. En. *unknown murderer* → Fr. *meurtrier inconnu*; Fr. *l'explication inévitable* → En. *the unavoidable explanation*) amounts to 21.5%. The results are presented in Table 2 and Table 3.

Table 2. Mutual correspondence of the English *in*- and French *in*-.

English <i>in</i> - and French <i>in</i> -	
English → French	59/100
French → English	32/100
Mutual correspondence	45.5%

¹² The fiction component of the PLECI translation corpus was used for this pilot study (see <<http://www.uclouvain.be/en-cecl-pleci.html>>, last accessed 11 May 2011).

Table 3. Mutual correspondence of the English *un-* and French *in-*.

English <i>un-</i> and French <i>in-</i>	
English → French	26/100
French → English	17/100
Mutual correspondence	21.5%

Importantly, mutual correspondence does not indicate where to draw the line between equivalent and non-equivalent lexical items (e.g. are the English *in-* and French *in-* equivalent morphological items if they display a mutual correspondence of ca. 50%?). Translation equivalence therefore remains a matter of judgement. It has been widely used as TC in lexical contrastive studies to date. However, as shown above, it remains an elusive notion (see also Bouton 1976; Krzeszowski 1990; Salkie 2002 on this point).

3.2.2. *Tertia comparationis* in word-formation

Scholars have often pointed out that word-formation seems to be a difficult field of investigation for contrastive linguistics (see e.g. Hüning 2009). This, it can be argued, partly stems from the difficulty of establishing a TC for contrastive word-formation.

Krzeszowski (1990: 69–90) identifies various research areas for lexical contrastive studies, such as simple words, word-formation, phraseological units and semantic relations between lexical items (polysemy, synonymy and antonymy). Concerning the issue of contrastive word-formation, Krzeszowski states that the contrastive analyst faces a vast area since lexical equivalents across languages may display considerable differences with respect to the word-formation processes used in the creation of words. In his view, no systematic correspondences can be identified, since simplex words in language A may correspond to derivatives or compounds in language B and vice versa. Krzeszowski (1990: 74–75) therefore concludes that

[s]ince 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. Such an analysis could involve a comparison of various means employed in the derivation of *nomina actions*, *nomina agentis*, *nomina loci*, and also of adjectives of intensity, inclination, possibility, ability, or of verbs of process, causation, instrument, and so on [...]. As a matter of fact, any aspect of the meaning can serve as a basis for cross-linguistic comparisons.

In other words, Krzeszowski insists that semantic *tertia comparationis* should be adopted in cross-linguistic comparisons of lexical morphology. This view is also found in Wójcicki (1988: 48), where it is stated that “the primary aim of contrastive morphology could be defined as the study of how certain cross-linguistic grammatico-semantic categories are realized by morphological means in the languages under consideration” (see also Rufener 1971; Cartoni 2008; Goddard and Wierzbicka 2008; Hüning 2009; Lefer 2009; Lefer and Cartoni 2011). In Lefer and Cartoni (2011), a semantic TC has been devised for the contrastive study of prefixation in French, English and Italian. The approach is largely inspired by Szymanek (1988), where it is argued that the concepts which can be expressed by means of derivation in any language are limited to a number of cognitive categories such as PERSON, OBJECT, NUMBER, POSSESSION, NEGATION, POSITION, SIZE, CAUSATION, AGENT and INSTRUMENT. In the case of English, French and Italian prefixation, a distinction is made between six major semantic categories: LOCATION, EVALUATION, NEGATION, QUANTITY, MODALITY and INCHOATIVITY. The categories are further divided into subcategories. For example, LOCATION is divided into SPACE and TIME, and within spatial location, a distinction is further made between different positions (IN FRONT OF, BEHIND, BESIDE, etc.).

Translation equivalence has also been put forward in contrastive word-formation as a possible TC (see Sprengel 1977: 194; Lowie 1998, 2000). According to Lowie (1998, 2000), the cross-linguistic overlap between derivational affixes can be situated at various levels: formal similarity, phonological similarity, semantic overlap and syntactic overlap (part of speech (POS) of the base and POS of the derivative). Lowie has introduced the concept of morphological translation equivalence, which he defines as the degree to which derivational affixes overlap semantically and syntactically across languages and which is operationalised as the percentage of actual translatability of affix X in language A into a particular affix Y in language B and vice versa (see Lowie 1998: 167, 2000: 178, 184). The concept of morphological translation equivalence can be related to Altenberg’s (1999) mutual correspondence discussed above. Note that unlike Altenberg’s corpus-based approach, Lowie’s approach is dictionary-

based. The dictionary-based approach can, however, seriously undermine the results of contrastive word-formation studies as issues pertaining to word-formation are largely neglected in bilingual dictionaries (see Section 5).

Needless to say, other types of TC can (and probably should) be used in contrastive word-formation. It is widely recognised that prefixes lend themselves better to semantic classifications than suffixes. The major role of prefixes is to modify the meaning of the base they attach to. Derivational prefixes therefore tend to convey distinct meanings. Suffixes, by contrast, have more general and grammatical meanings, as they mainly serve to change the category of the base they attach to (see e.g. Lehrer 2002: 526–527). In view of the fact that prefixes and suffixes fulfil different functions in word-formation, they call for different types of TC. TC based on the POS of the base and the POS of the derivative would probably be more suited for contrastive studies of derivational suffixation than semantic TC. Similarly, contrastive studies of compounding could rely on formal TC (e.g. compounding patterns such as [noun + noun], [noun + verb], etc.). The issue of establishing a TC for suffixation or other word-formation processes is, however, beyond the scope of this paper.

4. The use of computerised corpora in contrastive word-formation

Introspection and dictionaries, which have until now been the principal sources of examples and data in monolingual morphology, are gradually being replaced by corpus data. The term “corpus” is used here as “a collection of (1) *machine-readable* (2) *authentic* texts (including transcripts of spoken data) which is (3) *sampled* to be (4) *representative* of a particular language or language variety” (McEnery et al. 2006: 5). Baayen’s (1989) corpus-based measures of derivational productivity in Dutch marked a major turning point in the history of corpus-based word-formation in the early 1990s in that they sparked morphologists’ interest in computerised corpora. Baayen’s productivity indices were soon applied to English (Baayen and Lieber 1991; Baayen and Renouf 1996), French (Grabar et al. 2006), German (Lüdeling and Evert 2003) and Italian (Gaeta and Ricca 2006), among others. In addition to making quantitative studies of productivity possible, traditional or web-based corpora can be used in word-formation studies for a variety of purposes, including the following:

- To test intuitions, revisit introspection-based statements from the literature and empirically explore under-researched word-formation phenomena (e.g. Kjellmer 2001, 2003, 2005; Danks 2003; Davies 2004; Kaunisto 2007);

- To get new insights into rare morphological phenomena, such as constructed neologisms (e.g. derivatives, compounds, etc.), on the basis of dynamic corpora and appropriate automatic detection methods (see e.g. Renouf 1993; Renouf and Baayen 1998; Renouf and Bauer 2000; Bauer and Renouf 2001);
- To formulate new theoretical generalisations. As stated by Hathout et al. (2008: 67), “this massive increase in the amount of available data [...] can lead to new theoretical conclusions that would not have been possible with traditional data such as wordlists gathered from dictionaries”;
- To assess the impact of register, genre and domain on the use of word-forming devices. Plag et al.’s (1999) pioneering study, for example, examined the relation between register variation and derivational productivity in the *British National Corpus* and showed that the productivity of English suffixes is generally higher in writing than in speech. This finding led to the reformulation of the traditional definitions of productivity, which had until then failed to take into account stylistic variation (cf. also Baayen 1994; Duchet and Chaulet 2004; Grabar et al. 2006; Lefer 2009).

Likewise, contrastive word-formation can rely on contrastive corpus data to meet its descriptive, methodological, theoretical and applied objectives. Two major types of corpora are used in contrastive linguistics (see Johansson 2007): comparable corpora, which consist of original texts in two or more languages matched by criteria such as register, genre, domain, time of publication, size, etc.; and translation corpora, which consist of original texts and their translations into one or several languages. Translation corpora can be unidirectional or bidirectional. Multilingual corpora are ideal testbeds to verify the empirical validity of enduring – and largely introspection-based – claims on word-formation (such as the ones found in contrastive grammars), to build new theoretical models and to re-assess currently available morphological descriptions. Often advocated in contrastive research, the concurrent use of the two types of multilingual corpora (i.e. comparable and translation corpora) is especially useful in cross-linguistic morphological research. Comparable corpora represent authentic language use and, as such, provide reliable productivity and frequency counts. In addition, they tend to be relatively varied in terms of genres and domains, and are usually less limited in size than translation corpora. Translation corpora, by contrast, make it possible to determine how the meaning conveyed by a particular word-forming element is rendered in the target language, thereby allowing the researcher to establish direct semantic links between word-formation and

lexis or grammar. These extra-morphological connections are undeniably more difficult to detect on the sole basis of comparable corpora. Corpus-based contrastive word-formation studies are few and far between (see e.g. Heyvaert (1998) and Andor (2005), which make use of comparable corpora, and Cvílikaité (2007) or Mauroux and Paillard (2006), which are mainly based on translation corpora) and much remains to be done in this area.

5. Practical applications of contrastive word-formation

Contrastive word-formation has useful applications in a number of fields, such as bilingual lexicography, translator training, second/foreign language teaching and natural language processing. Some of these are briefly discussed in this section.

First, contrastive word-formation is of practical importance for bilingual lexicography, where issues pertaining to word-formation have been largely neglected (see Prčić 1999 for a similar claim regarding learners' dictionaries). Derivational affixes and compound parts¹³ are worthy of inclusion as main entries in bilingual dictionaries, to the benefit of dictionary compilers and users alike. Because of space limitations or time constraints, lexicographers cannot afford to list derived and compound neologisms exhaustively or give separate translations for each derived form or compound. If affixes and compound parts are listed as dictionary entries, however, users can decode complex words that are not included as headwords in the dictionary and obtain information on the semantics of word-forming elements and on the strategies they can use to translate complex words into the target language.¹⁴ When an affix in language A has no morphological equivalent in language B, non-morphological equivalents such as multi-word patterns and recurrent paraphrases can be included in the bilingual affix entry (e.g. English *Xless* [*airless room*] vs. French *sans X* 'without X' [*pièce sans air*]). A review of four recent English-French bilingual dictionaries (Lefer 2010) has brought to light the inadequate representation of derivational issues and promoted the concurrent use of comparable and translation corpora to

¹³ Compound parts are understood as the word-forming elements used in the coining of compounds.

¹⁴ It should be noted, however, that analysability and semantic transparency are not characteristic of all derivatives and compounds. This is, for example, not true for lexicalised ones. In other words, the decoding of the meanings of derivatives and compound words is only possible in cases where lexicalisation has not taken place.

palliate the shortcomings of current affix entries. Comparable corpus data prove to be especially useful for the compilation of short lists of word-forming elements to be incorporated as main entries on the basis of selection criteria such as productivity, frequency and generality/specificity, and for the identification of the various senses of polysemous affixes. Translation corpus data, despite their limitations, make it possible to lend empirical validity to lexicographers' intuitions and identify recurrent and systematic translation patterns. Contrastive researchers have often relied on lexicographic data as their main source of data (and this is especially true for contrastive word-formation). However, in a field where lexicographic descriptions are still very much unsatisfactory, it seems that contrastive analyses based on authentic data should be used to inform bilingual entries (from contrastive analysis to bilingual lexicography) rather than the opposite (from bilingual lexicography to contrastive analysis).

On a pedagogical level, the findings of contrastive word-formation could be fruitfully applied to translator training. Many courses in the translator trainees' curriculum are devoted to specialised subject fields such as economic or medical translation, which are characterised by many specific word-forming devices (e.g. neoclassical compounds in medicine). The results of contrastive word-formation could be used to inform awareness-raising activities, especially regarding derivational affixes for which there are two sets of equivalents in the target language or for which there are no morphological equivalents. It would be interesting to teach student translators, for example, that in academic texts (e.g. scientific articles), French *mono-/uni-* and *auto-* tend to be rendered by means of their morphologically congruent English counterparts rather than *one-*, *single-* or *self-*, which are typical of other genres, such as newspaper articles (see Bowker and Pearson 2002; Bowker 2003; Zanettin et al. 2003; Beeby et al. 2009; Rodríguez-Inés 2010 on the use of corpora as translation resources in translator training).

Some of the conclusions of contrastive word-formation studies may also have wider implications for second/foreign language teaching. Research into second language vocabulary learning and teaching has brought to light the paramount importance of lexical morphology. As pointed out by Nation (1994: 2584), "by focusing on frequent and regular prefixes and suffixes, vocabulary learning can be made much more manageable. This is because such a focus reduces the number of items to be learned and provides an approach to learning which relates to previous knowledge". Research has shown that the learning of derivational affixes greatly facilitates vocabulary expansion and can help learners work out the meaning of unfamiliar words (see e.g. Bauer and Nation 1993;

Laufer 1997; Schmitt and Meara 1997; Scarcella and Zimmerman 2005). However, studies have also shown that learners only have partial knowledge of word families, and hence, of word-formation processes (e.g. Schmitt and Zimmerman 2002). These studies have therefore emphasised the need for more direct attention to the teaching of complex words. In addition, the contrastive results may contribute to a better understanding of transfer in the field of word-formation,¹⁵ an issue which remains largely under-researched in second language acquisition, probably for lack of cross-linguistic morphological investigations.

On a practical level, the inventories and descriptions of word-forming patterns set up within the framework of contrastive word-formation studies may be relevant to the field of natural language processing to improve machine-aided translation systems (Cartoni 2008) and the automatic alignment of bi-texts (Kraif 2001) or to develop multilingual morphological analysers (Deléger et al. 2007; Maas et al. 2009), which are still sorely lacking (see e.g. Roark and Sproat 2007 for an overview of the computational approaches to morphology).

6. Concluding remarks

Contrastive word-formation, which is progressively establishing itself as a field of research in its own right, has been very much under-researched so far, especially in relation to conversion and “minor” word-formation processes such as blending, clipping and reduplication. In view of the lack of an available consistent methodological framework for contrastive word-formation studies, this article has set out to make explicit how a slightly revised version of the traditional three-step contrastive methodology can be used to ensure rigour and precision in a field where subjective and implicit criteria have frequently served as the sole basis to conduct contrastive research. In this respect, accurately defining the morphological objects to be compared across languages is of paramount importance, as well as precisely setting up a TC. It has also been argued that there are numerous advantages of relying on corpus data rather than introspection or dictionaries to refine the word-formation descriptions and models currently in use and to assess the impact of register, genre, domain and style on the use of word-forming elements across languages. Finally, the possible practical applications of the field have been outlined, notably in lexicography, where

¹⁵ Language transfer can be defined as “the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired” (Odlin 1989: 27).

much remains to be done to improve the word-formation coverage of bilingual and multilingual tools.

REFERENCES

- Adamska-Salaciak, A. 2010. "Examining equivalence". *International Journal of Lexicography* 23(4). 387–409.
- Altenberg, B. 1999. "Adverbial connectors in English and Swedish: Semantic and lexical correspondences". In: Hasselgård, H. and S. Oksefjell (eds.), *Out of corpora. Studies in honour of Stig Johansson*. Amsterdam: Rodopi. 249–268.
- Altenberg, B. 2004/2005. "The generic person in English and Swedish. A contrastive study of *one* and *man*". *Languages in Contrast* 5(1). 93–120.
- Altenberg, B. and S. Granger. 2002. "Recent trends in cross-linguistic lexical studies". In: Altenberg, B. and S. Granger (eds.), *Lexis in contrast. Corpus-based approaches*. Amsterdam: Benjamins. 3–48.
- Amiot, D. 2005. "Between compounding and derivation. Elements of word-formation corresponding to prepositions". In: Dressler, W.U., D. Kastovsky, O.E. Pfeiffer and F. Rainer. (eds.), *Morphology and its demarcations*. Amsterdam: Benjamins. 183–195.
- Andor, J. 2005. "A lexical semantic-pragmatic analysis of the meaning potentials of amplifying prefixes in English and Hungarian. A corpus-based case study of near synonymy". *Proceedings from the Corpus Linguistics Conference Series* 1(1). Available online at <<http://www.corpus.bham.ac.uk/PCLC/>>. (Last accessed 11 May 2011.)
- Aronoff, M. and K. Fudeman. 2005. *What is morphology?* Malden, MA: Blackwell.
- Baayen, R.H. 1989. A corpus-based approach to morphological productivity. Statistical analysis and psycholinguistic interpretation. (PhD dissertation, Vrije Universiteit Amsterdam.)
- Baayen, R.H. 1994. "Derivational productivity and text typology". *Journal of Quantitative Linguistics* 1. 16–34.
- Baayen, R.H. 2008. "Corpus linguistics in morphology: Morphological productivity". In: Lüdeling, A. and M. Kytö. (eds.), *Corpus linguistics. An international handbook*. Berlin: Mouton de Gruyter. 899–919.
- Baayen, R.H. and R. Lieber. 1991. "Productivity and English derivation: A corpus-based study". *Linguistics* 29(4). 801–844.
- Baayen, R.H. and A. Renouf. 1996. "Chronicling the *Times*: Productive lexical innovations in an English newspaper". *Language* 72(1). 69–96.
- Bauer, L. 1998. "Is there a class of neoclassical compounds, and if so is it productive?" *Linguistics* 36(3). 403–422.
- Bauer, L. 2005. "The borderline between derivation and compounding". In: Dressler, W.U., D. Kastovsky, O.E. Pfeiffer and F. Rainer (eds.), *Morphology and its demarcations*. Amsterdam: Benjamins. 97–108.

- Bauer, L. and I.S.P. Nation. 1993. "Word families". *International Journal of Lexicography* 6(4). 253–279.
- Bauer, L. and A. Renouf. 2001. "A corpus-based study of compounding in English". *Journal of English Linguistics* 29(2). 101–123.
- Beard, R. and B. Szymanek. 1988. *Bibliography of morphology 1960–1985*. Amsterdam: Benjamins.
- Beeby, A., P. Rodríguez Inés and P. Sánchez-Gijón (eds.). 2009. *Corpus use and translating*. Amsterdam: Benjamins.
- Booij, G., C. Lehmann and G. Mugdan (eds.). 2000. *Morphologie: Ein internationales Handbuch zur Flexion und Wortbildung / Morphology: An international handbook on inflection and word-formation*. Berlin: Walter de Gruyter.
- Bouton, L.F. 1976. "The problem of equivalence in contrastive analysis". *IRAL* 14(2). 143–163.
- Bowker, L. 2003. "Corpus-based applications for translator training: Exploring the possibilities". In: Granger, S., J. Lerot and S. Petch-Tyson (eds.), *Corpus-based approaches to contrastive linguistics and translation studies*. Amsterdam and New York: Rodopi. 169–184.
- Bowker, L. and J. Pearson. 2002. *Working with specialized language. A practical guide to using corpora*. London and New York: Routledge.
- Bujas, Z. 1969. "Brief outline of planned work on derivation". *The Yugoslav Serbo-Croatian–English contrastive project reports* 1. 26–30.
- Cartoni, B. 2008. De l'incomplétude lexicale en traduction automatique : Vers une approche morphosémantique multilingue. (PhD dissertation, Université de Genève.)
- Chesterman, A. 1998. *Contrastive functional analysis*. Benjamins: Amsterdam.
- Civilikaitė, J. 2007. "The cases of non-equivalence between English and Lithuanian: A corpus-based solution". *Kalbotyra* 57(3). 46–55.
- Danks, D. 2003. Separating blends: A formal investigation of the blending process in English and its relationship to associated word formation processes. (PhD dissertation, University of Liverpool.) Available online at: <http://rdues.bcu.ac.uk/publ/Debbie_Danks_Thesis.pdf> (Last accessed 11 May 2011.)
- Davies, C. 2004. A corpus-based investigation of noun to verb conversion in English. (PhD dissertation, University of Liverpool.) Available online at: <http://rdues.bcu.ac.uk/publ/Ceri_Davies_Thesis.pdf> (Last accessed 11 May 2011.)
- Deléger, L., F. Namer and P. Zweigenbaum. 2007. "Defining medical words: Transposing morphosemantic analysis from French to English". In: *Proceedings MEDINFO 2007*. Amsterdam: IOS Press. 535–539.
- Dressler, W.U. and M. Ladányi. 2000. "On contrastive word formation: German and Hungarian denominal adjective formation". In: Dalton-Puffer, Ch. and N. Ritt (eds.), *Words: Structure, meaning, function. A festschrift for Dieter Kastovsky*. Berlin: Mouton de Gruyter. 59–74.
- Duchet, J.-L. and O. Chaulet. 2004. "Étude de l'affixation dérivationnelle par traitement automatique du lexique juridique canadien". *ASp* 43/44. 81–98.

- Fetzer, A. 2009. "Challenges in contrast: A function-to-form approach". *Languages in Contrast* 9(1). 73–97.
- Fisiak, J. 1983. "Present trends in contrastive linguistics". In: Sajavaara, K. (ed.), *Cross-language analysis and second language acquisition 1. (Jyväskylä Cross-Language Studies 9.)* Jyväskylä: University of Jyväskylä. 9–38.
- Fisiak, J. 1990. "On the present status of some metatheoretical and theoretical issues in contrastive linguistics". In: Fisiak, J. (ed.), *Further insights into contrastive analysis*. Amsterdam: Benjamins. 3–22.
- Gaeta, L. and D. Ricca. 2006. "Productivity in Italian word formation: A variable-corpus approach". *Linguistics* 44(1). 57–89.
- Goddard, C. and A. Wierzbicka. 2008. "Universal human concepts as a basis for contrastive linguistic semantics". In: de los Ángeles Gómez González, M., J.L. Mackenzie and E.M. González Álvarez (eds.), *Current trends in contrastive linguistics. Functional and cognitive perspectives*. Amsterdam: Benjamins. 205–226.
- Grabar, N., D. Tribout, G. Dal, B. Fradin, N. Hathout, S. Lignon, F. Namer, C. Plancq, F. Yvon and P. Zweigenbaum. 2006. "Productivité quantitative des suffixations par *-ité* et *-able* dans un corpus journalistique moderne". Paper presented at the TALN 2006 conference, Leuven, 10–13 April 2006.
- Hammer, J.H. and F.A. Rice. 1965. *A bibliography of contrastive linguistics*. Washington, DC: Center for Applied Linguistics.
- Hathout, N., F. Montermini and L. Tanguy. 2008. "Extensive data for morphology: Using the World Wide Web". *Journal of French Language Studies* 18(1). 67–85.
- Heyvaert, L. 1998. "Non-agentive deverbal *-er* nominalization in English and Dutch: A contrastive analysis". *Languages in Contrast* 1(2). 211–243.
- Hüning, M. 2009. "Semantic niches and analogy in word formation. Evidence from contrastive linguistics". *Languages in Contrast* 9(2). 183–201.
- Iacobini, C. 1998. "Distinguishing derivational prefixes from initial combining forms". In: Booij, G., A. Ralli and S. Scalise. (eds.), *Proceedings of the first Mediterranean conference of morphology*. Patras: University of Patras.
- Ivir, V. 1983. "A translation-based model of contrastive analysis". *Jyväskylä Cross-Language Studies* 9. 171–178.
- Ivir, V. 1987. "Functionalism in contrastive analysis and translation studies". In: Dirven, R. and V. Fried (eds.), *Functionalism in linguistics*. Amsterdam: Benjamins. 471–481.
- James, C. 1980. *Contrastive analysis*. Harlow: Longman.
- Johansson, S. 2007. *Seeing through multilingual corpora. On the use of corpora in contrastive studies*. Amsterdam: Benjamins.
- Kastovsky, D. 2009. "Astronaut, astrology, astrophysics: About combining forms, classical compounds and affixoids". In: McConchie, R.W., A. Honkapohja and J. Tyrkkö. (eds.), *Selected proceedings of the 2008 symposium on new approaches in English historical lexis (HEL-LEX 2)*. Somerville, MA: Cascadilla Proceedings Project. 1–13.
- Kaunisto, M. 2007. *Variation and change in the lexicon. A corpus-based analysis of adjectives in English ending in -ic and -ical*. Amsterdam and New York: Rodopi.

- Kjellmer, G. 2001. "Why *weaken* but not **strongen*? On deadjectival verbs". *English Studies* 82(2). 154–171.
- Kjellmer, G. 2003. "Lexical gaps". In: Granger, S. and S. Petch-Tyson (eds.), *Extending the scope of corpus-based research. New applications, new challenges*. Amsterdam and New York: Rodopi.
- Kjellmer, G. 2005. "Negated adjectives in Modern English: A corpus-based study". *Studia Neophilologica* 77. 156–170.
- König, E. 2008. "Reviving contrastive linguistics: A programmatic sketch". Paper presented at the 5th *International Contrastive Linguistics Conference*, 7–9 July 2008, Leuven, Belgium.
- Kraif, O. 2001. "Exploitation des cognats pour l'alignement". *TAL* 42(3). 832–864.
- Krzeszowski, T.P. 1990. *Contrasting languages. The scope of contrastive linguistics*. Berlin: Mouton de Gruyter.
- Laufer, B. 1997. "What's in a word that makes it hard or easy: Some intralexical factors that affect the learning of words". In: Schmitt, N. and M. McCarthy (eds.), *Vocabulary. Description, acquisition and pedagogy*. Cambridge: Cambridge University Press. 140–155.
- Lefer, M.-A. 2009. Exploring lexical morphology across languages: A corpus-based study of prefixation in English and French writing. (PhD dissertation, Université catholique de Louvain.)
- Lefer, M.-A. 2010. "Word-formation in English-French bilingual dictionaries: The contribution of bilingual corpora". In: Dykstra, A. and T. Schoonheim (eds.), *Proceedings of the XIV Euralex international congress*. Leeuwarden: Fryske Academy. 810–823.
- Lefer, M.-A. and B. Cartoni. 2011. "Prefixes in contrast: Towards a meaning-based contrastive methodology for lexical morphology". *Languages in Contrast* 11(1). 86–104.
- Lehrer, A. 2002. "Semantic relations of derivational affixes". In: Cruse, D.A., F. Hundsnurscher, M. Job and P.R. Lutzeier. (eds.), *Lexikologie / Lexicology. Ein internationales Handbuch zur Natur und Struktur von Wörtern und Wortschätzen / An international handbook on the nature and structure of words and vocabularies*. (Vol. 1.) Berlin: Walter de Gruyter. 525–532.
- Lewis, D.M. 2004/2005. "Mapping adversative coherence relations in English and French". *Languages in Contrast* 5(1). 33–48.
- Lipka, L. 2002. *English lexicology*. Tübingen: Narr.
- Lowie, W. 1998. The acquisition of interlanguage morphology. A study into the role of morphology in the L2 learner's mental lexicon. (PhD dissertation, Rijksuniversiteit Groningen.)
- Lowie, W. 2000. "Cross-linguistic influence on morphology in the bilingual lexicon". *Studia Linguistica* 54(2). 175–185.
- Lüdeling, A. and S. Evert. 2003. "Linguistic experience and productivity: Corpus evidence for fine-grained distinctions". In: Archer, D., P. Rayson, A. Wilson and T. McEnery (eds.), *Proceedings of the corpus linguistics 2003 conference*. Lancaster: UCREL. 475–483.

- Maas, H.D., C. Rösener and A. Theofilidis. 2009. "Morphosyntactic and semantic analysis of texts: The MPRO tagging procedure". In: Malhow, C. and M. Piotrowski (eds.), *State of the art in computational morphology. Communications in Computer and Information Science* 41. 76–87.
- Mauroux, S. and M. Paillard. 2006. "Affixes dérivationnels causatifs: Contrastes français-anglais". In: Chuquet, H. and M. Paillard (eds.), *Causalité et contrastivité. Études de corpus*. Rennes: Presses Universitaires de Rennes. 20–33.
- McEnery, A., Z. Xiao and Y. Tono. 2006. *Corpus-based language studies: An advanced resource book*. London and New York: Routledge.
- Nation, I.S.P. 1994. "Morphology in language learning and teaching". In: Asher, R.E. (ed.), *The encyclopedia of language and linguistics*. (Vol. 5.) Oxford: Pergamon Press. 2582–2585.
- Odlin, T. 1989. *Language transfer*. Cambridge: Cambridge University Press.
- Paillard, M. 2000. *Lexicologie contrastive anglais-français. Formation des mots et construction du sens*. Paris: Ophrys.
- Pekelder, J. 2010. "Le tertium comparationis en linguistique contrastive: Problèmes et méthodes". *Linguistica Pragmensia* 20(1). 22–37.
- Plag I., C. Dalton-Puffer and H. Baayen. 1999. "Morphological productivity across speech and writing". *English Language and Linguistics* 3(2). 209–228.
- Prčić, T. 1999. "The treatment of affixes in the 'big four' EFL dictionaries". *International Journal of Lexicography* 12(4). 263–279.
- Prčić, T. 2005. "Prefixes vs. initial combining forms in English: A lexicographic perspective". *International Journal of Lexicography* 18(3). 313–334.
- Prčić, T. 2008. "Suffixes vs final combining forms in English: A lexicographic perspective". *International Journal of Lexicography* 21(1). 1–22.
- Ramón, N. 2006. "Mapping meaning onto form. A corpus-based contrastive study of nominal modification in English and Spanish". *Languages in Contrast* 6(2). 307–334.
- Renner, V. 2008. "Quelques remarques sur les quasi-lexèmes de type *e-* et *-holic*". In: Maniez, F. and P. Dury (eds.), *Lexicographie et terminologie : histoire de mots*. Lyon: Publications du CRTT. 147–156.
- Renouf, A. 1993. "A word in time: First findings from the investigation of dynamic text". In: Aarts, J., P. de Haan and N. Oostdijk (eds.), *English language corpora: Design, analysis and exploitation*. Amsterdam: Rodopi. 279–288.
- Renouf, A. and R.H. Baayen. 1998. "Aviating among the hapax legomena: Morphological grammaticalisation in current British newspaper English". In: Renouf, A. (ed.), *Explorations in corpus linguistics*. Amsterdam: Rodopi. 181–189.
- Renouf, A. and L. Bauer. 2000. "Contextual clues to word-meaning". *International Journal of Corpus Linguistics* 5(2). 231–258.
- Roark, B. and R. Sproat. 2007. *Computational approaches to morphology and syntax*. Oxford: Oxford University Press.
- Rodríguez-Inés, P. 2010. "Electronic corpora and other information and communication technology tools. An integrated approach to translation teaching". *The Interpreter and Translator Trainer* 4(2). 251–282.

- Rufener, J. 1971. *Studies in the motivation of English and German compounds*. Zurich: Juris Druck / Verlag.
- Sajavaara, K. and J. Lehtonen. 1975. *A select bibliography of contrastive analysis*. (Jyväskylä Contrastive Studies, 1. Reports from the Department of English, University of Jyväskylä, No. 1.)
- Salkie, R. 2002. "Two types of translation equivalence". In: Altenberg, B. and S. Granger (eds.), *Lexis in contrast. Corpus-based approaches*. Amsterdam: Benjamins. 51–71.
- Scarcella, R.C. and C.B. Zimmerman. 2005. "Cognates, cognition, and writing: An investigation of the use of cognates by university second-language learners". In: Tyler, A., M. Takada, Y. Kim and D. Marinova (eds.), *Language in use. Cognitive and discourse perspectives on language and language learning*. Washington, DC: Georgetown University Press. 123–136.
- Schmitt, N. and P. Meara. 1997. "Researching vocabulary through a word knowledge framework: Word associations and verbal suffixes". *Studies in Second Language Acquisition* 19. 17–36.
- Schmitt, N. and C. Zimmerman. 2002. "Derivative word forms: What do learners know?" *TESOL Quarterly* 36(2). 145–171.
- Simon-Vandenberg, A.-M. and K. Aijmer. 2002/2003. "The expectation marker of *course* in a cross-linguistic perspective". *Languages in Contrast* 4(1). 13–43.
- Sinclair, J. 1998. "The lexical item". In: Weigand, E. (ed.), *Contrastive lexical semantics*. Amsterdam: Benjamins. 1–24.
- Sorès, A. 2008. *Typologie et linguistique contrastive. Théories et applications dans la comparaison des langues*. Bern: Peter Lang.
- Spencer, A. and A.M. Zwicky. 1998. *The handbook of morphology*. Oxford: Blackwell.
- Sprengel, K. 1977. *A study in word-formation: The English verbal prefixes fore- and pre- and their German counterparts*. Tübingen: Narr.
- Stein, G. 1973. *English word-formation over two centuries. In honour of Hans Marchand on the occasion of his sixty-fifth birthday*. Tübingen: Narr.
- Štekauer, P. and R. Lieber (eds.). 2005. *Handbook of word-formation*. Dordrecht: Springer.
- Szymanek, B. 1988. *Categories and categorization in morphology*. Lublin: Redakcja Wydawnictw KUL.
- Williams, I. 2006. "Towards a target-oriented model for quantitative contrastive analysis in translation studies. An exploratory study of theme-rheme structure in Spanish-English biomedical research articles". *Languages in Contrast* 6(1). 1–45.
- Williams, I. 2009. "Discourse style and theme-rheme progression in biomedical research article discussions: A corpus-based contrastive study of translational and non-translational Spanish". *Languages in Contrast* 9(2). 225–266.
- Wójcicki, A. 1988. "Towards contrastive morphology: The comparative degree of Polish and English adjectives". *Papers and Studies in Contrastive Linguistics* 23. 47–59.
- Zanettin, F., S. Bernardini and D. Stewart (eds.). 2003. *Corpora in translator education*. Manchester: St. Jerome.

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APPENDIX 1

A SELECTED LIST OF STUDIES
IN CONTRASTIVE WORD-FORMATION (1960–2010)

- Andor, J. 2005. "A lexical semantic-pragmatic analysis of the meaning potentials of amplifying prefixes in English and Hungarian. A corpus-based case study of near synonymy". *Proceedings from the Corpus Linguistics Conference Series* 1(1). Available online at: <<http://www.corpus.bham.ac.uk/PCLC/>>. (Last accessed 11 May 2011.)
- András, L.T. 1980. "Spatial adjectives: an English-Hungarian contrastive study". In: Dezső, L. and W. Nemser (eds.), *Studies in English and Hungarian contrastive linguistics*. Budapest: Akadémiai Kiadó. 453–490.
- Andrassy, V. 1971. "Errors in the parts of speech in the English of learners from the Serbo-Croatian-speaking area". *The Yugoslav Serbo-Croatian–English contrastive project. Pedagogical Materials* 1. 7–31.
- Anscombre, J.-C. 2001. "A propos des mécanismes sémantiques de formation de certains noms d'agent en français et en espagnol". *Langages* 143. 28–48.
- Arnaud, P.J.L. and V. Renner. 2008. "English and French [NN]_N compounds. A categorial, morphological and semantic comparison". Paper presented at the *5th International Contrastive Linguistics Conference*, 7–9 July, Leuven, Belgium.
- Ascoop, K. and T. Leuschner. 2006. "Affixoidhungrig? Skitbra! Comparing affixoids in German and Swedish". *Sprachtypologie und Universalienforschung* 59(3). 241–252.
- Bauer, L. 1978. *The grammar of nominal compounding with special reference to Danish, English and French*. (Odense University Studies in Linguistics 4.) Odense: Odense University Press.
- Bertrand, C. 1986. "Quelques remarques sur les adverbes français en *-ment* et leur rapport avec les adverbes anglais en *-ly*". *Meta* 31(2). 179–203.
- Booij, G. and R. Lieber. 2004. "On the paradigmatic nature of affixal semantics in English and Dutch". *Linguistics* 42(2). 327–357.
- Bujas, Z. 1970a. "Derivation in Serbo-Croatian and English". *The Yugoslav Serbo-Croatian–English contrastive project reports* 2. 1–9.
- Bujas, Z. 1970b. "Composition in Serbo-Croat and English". *The Yugoslav Serbo-Croatian–English contrastive project reports* 3. 1–12.
- Cartoni, B. 2008. *De l'incomplétude lexicale en traduction automatique : Vers une approche morphosémantique multilingue*. (PhD dissertation, Université de Genève.)
- Csapó, J. 1981. "Possibilities and limitations of a contrastive study of lexical derivation". *Hungarian Studies in English* 14. 69–84.
- Csapó, J. 1982. "English denominal adjectives and their Hungarian equivalents". In: Dezső, L. (ed.), *Contrastive studies Hungarian–English*. Budapest: Akadémiai Kiadó. 21–38.

- Civilikaitė, J. 2007. "The cases of non-equivalence between English and Lithuanian: A corpus-based solution". *Kalbotyra* 57(3). 46–55.
- Dahech, D. 2007. "Les nominalisations déverbales en français et en arabe: Étude exploratoire des critères de classement". *Les Cahiers du CRISCO* 23. 128–138.
- Devos, F. and J. Taelleman. 2004. "Deverbal nouns and the agentive dimension across languages". In: Willems, D., B. Defrancq, T. Coleman and D. Noel (eds.), *Contrastive analysis in language. Identifying linguistic units of comparison*. Basingstoke: Palgrave Macmillan. 155–171.
- Dressler, W.U. and M. Ladányi. 2000. "On contrastive word formation: German and Hungarian denominal adjective formation". In: Dalton-Puffer, C. and N. Ritt (eds.), *Words: Structure, meaning, function. A festschrift for Dieter Kastovsky*. Berlin: Mouton de Gruyter. 59–74.
- Duncan, L.G., S. Casalis and P. Colé. 2009. "Early metalinguistic awareness of derivational morphology: Observations from a comparison of English and French". *Applied psycholinguistics* 30(3). 405–440.
- Farge, S. 2008. "Conceptualizing taste in French and German: Morphology and relativity". Paper presented at the *5th International Contrastive Linguistics Conference*, 7–9 July, Leuven, Belgium.
- Fedorowicz-Bacz, B. 1977. "Syntactic function of negative prefixes in English and Polish participial adjectives". *Papers and Studies in Contrastive Linguistics* 6. 111–122.
- Funk, W.-P. 1986. "Towards a definition of semantic constraints on negative prefixation in English and German". In: Kastovsky, D. and A. Szedek (eds.), *Linguistics across historical and geographical boundaries. Volume 2: Descriptive, contrastive and applied linguistics*. Berlin: Mouton de Gruyter. 877–889.
- Funk, W.-P. 1990. "On the semantic and morphological status of reversative verbs in English and German". In: Fisiak, J. (ed.), *Further insights into contrastive analysis*. Amsterdam: Benjamins. 441–459.
- Gast, V. and M. Hüning. 2008. "V+N-compounds in West Germanic". Paper presented at the *International Contrastive Linguistics Conference* 5, 7–9 July 2008, Leuven, Belgium.
- Gawelko, M. 1975. "Adjectifs dérivés de noms animés dans les langues allemande, française et polonaise. Étude de grammaire contrastive". *Revue roumaine de linguistique* 20. 271–283.
- Giurescu, A. 1975. *Les mots composés dans les langues romanes*. The Hague: Mouton.
- Guevera, E. and S. Scalise. 2004. *V-compounding in Dutch and Italian*. (Cuadernos de Linguística del Instituto Universitario Ortega y Gasset, Madrid.)
- Heinold, S. 2009. "Derivational morphology under the influence of language contact in French and German". *Journal of Language Contact*, Varia 2. 68–84.
- Heyvaert, L. 1998. "Non-agentive deverbal -er nominalization in English and Dutch: A contrastive analysis". *Languages in Contrast* 1(2). 211–243.
- Hüning, M. 2009a. "Semantic niches and analogy in word formation. Evidence from contrastive linguistics". *Languages in Contrast* 9(2). 183–201.
- Hüning, M. 2009b. "Adjective + Noun constructions between syntax and word formation in Dutch and German". In: Onysko, A. and S. Michel (eds.), *Cognitive perspectives on word formation*. Berlin: Mouton De Gruyter. 195–215.

- Hüning, M. and B. Schlücker. 2010. "Konvergenz und Divergenz in der Wortbildung. Komposition im Niederländischen und im Deutschen". In: Dammel, A., S. Kürschner and D. Nübling (eds.), *Kontrastive Germanistische Linguistik*. Hildesheim: Georg Olms Verlag. 783–825.
- Jastrab de Saint-Robert, M.-J. 1987. "Les syntagmes nominaux complexes en anglais et en français: Éléments de réflexion". *Meta* 32(3). 260–266.
- Kampers-Manhe, B. 2000. "La composition en français et en néerlandais". *Leuvense Bijdragen* 89. 157–172.
- Kastovsky, D. 1990. "Word-formation and translation". *Meta* 35(1). 45–49.
- Kenny, D. 2001. *Lexis and creativity in translation. A corpus-based study*. Manchester: St. Jerome.
- Keresztes, K. 1964. *Morphemic and semantic analysis of the word families: Finnish ETE- and Hungarian EL- "fore-"*. The Hague: Mouton.
- Kin Quah, C. 1999. "Issues in the translation of English affixes into Malay". *Meta* 44(4). 604–616.
- Kjaersgaard, P.S. 2005. "Articles possessifs et noms déverbaux – étude contrastive entre le français et le danois". Paper presented at the XVIe Congrès des romanistes scandinaves, August 2005, Copenhagen, Denmark.
- Krawczyk, E. 1988. "Classification of English prefixes and their Polish equivalents". *Neophilologica* 7. 35–58.
- Lefer, M.-A. 2009. Exploring lexical morphology across languages: A corpus-based study of prefixation in English and French writing. (PhD dissertation, Université catholique de Louvain.)
- Lefer, M.-A. and B. Cartoni. 2011. "Prefixes in contrast: Towards a meaning-based contrastive methodology for lexical morphology". *Languages in Contrast* 11(1). 86–104.
- Lewandowska, B. 1975. "On some properties of action nominals in Polish and their English equivalents". *Papers and Studies in Contrastive Linguistics* 3. 167–176.
- López Rúa, P. 2005. "Manipulation in translation: The case of Orwell's newspeak compounds". Paper presented at the *International Contrastive Linguistics Conference 4*, 19–23 September 2005, Compostela, Spain.
- Lowie, W. 2000. "Cross-linguistic influence on morphology in the bilingual lexicon". *Studia Linguistica* 54(2). 175–185.
- Maniez, F. 2001. "La traduction du nom adjectival en anglais médical". *Meta* 46(1). 56–67.
- Manova, S. 2003. Conversion and subtraction in Bulgarian, Russian and Serbo-Croatian. (PhD dissertation, University of Vienna.)
- Manova, S. 2005. "Towards a theory of conversion in Slavic: Evidence from Bulgarian, Russian and Serbo-Croatian". *Glossos* 6. Available online at: <<http://www.seelrc.org/glossos/issues/6/manova.pdf>>. (Last accessed 11 May 2011.)
- Marchand, H. 1971. "Die deadjektivistischen reversativen Verben im Deutschen, Englischen und Französischen: *Entmilitarisieren*, *demilitarize*, *démilitariser*". In: Bausch, K. and H. Gauger (eds.), *Interlinguistica*. Tübingen: Narr. 208–214.

- Marchand, H. 1974. "Reversative, ablative, and privative verbs in English, French, and German". In: Kastovsky, D. (ed.), *Studies in syntax and word-formation. Selected articles by Hans Marchand*. Munich: Wilhem Fink. 405–415.
- Martinet, H. 1980. "A functional and contrastive analysis of attributive adjectives ending in *-ant* and in *-ende* in French and Danish, respectively". *Papers and Studies in Contrastive Linguistics* 12. 37–70.
- Marton, W. 1970. "English and Polish nominal compounds: A transformational contrastive study". *Studia Anglica Posnaniensia* 2. 59–73.
- Mauroux, S. and M. Paillard. 2006. "Affixes dérivationnels causatifs: Contrastes français-anglais". In: Chuquet, H. and M. Paillard (eds.), *Causalité et contrastivité. Études de corpus*. Rennes: Presses Universitaires de Rennes. 20–33.
- Mealing, C. 1990. "German *ad hoc* compounds in translation". *Meta* 35(1). 177–187.
- Meesters, G. 2008. "Comparing interlingual affixes: Determining morphological relevance in different morphological systems". Paper presented at the *International Contrastive Linguistics Conference 5*, 7–9 July 2008, Leuven, Belgium.
- Mettinger, A. 1990. "Comparing the incomparable? English adjectives in *-able* and their rendering in Modern Chinese". In: Fisiak, J. (ed.), *Further insights into contrastive analysis*. Amsterdam: Benjamins. 423–432.
- Nicoladis, E. 1999. "'Where is my brush-teeth?' Acquisition of compound nouns in a French–English bilingual child". *Bilingualism: Language and Cognition* 2. 245–256.
- Nicoladis, E. 2002. "What's the difference between 'toilet paper' and 'paper toilet'? French–English bilingual children's crosslinguistic transfer in compound nouns". *Journal of Child Language* 29. 843–863.
- Nowakowski, M. 1976. "Nominals in contrastive studies. English nominal compounds and their Polish equivalents". *Papers and Studies in Contrastive Linguistics* 4. 141–152.
- Paillard, M. 2000. *Lexicologie contrastive anglais-français. Formation des mots et construction du sens*. Paris: Ophrys.
- Paillard, M. and N. Videau. 2008. "Les verbes français préfixés en *dé-* et leurs traductions en anglais". In: Paillard, M. (ed.), *Préfixation, prépositions, postpositions*. Rennes: Presses Universitaires de Rennes. 75–91.
- Percebois, J. 2001. "Fonctions et vie des sigles et acronymes en contextes de langues anglaise et française de spécialité". *Meta* 46(4). 627–645.
- Pounder, A. 2001. "Adverb-marking in German and English". *Diachronica* 28(2). 301–358.
- Rabadán, R., B. Labrador and N. Rámon. 2005. "Putting meanings into words: English '-ly' adverbs in Spanish translations". Paper presented at the *International Contrastive Linguistics Conference 4*, 19–23 Sept. 2005, Compostela, Spain.
- Reinheimer-Ripeanu, S. 1974. *Les dérivés parasynthétiques dans les langues romanes : Roumain, italien, espagnol, français*. The Hague: Mouton.
- Richman, S.M. 1970. "Spanish–Portuguese agreement in affixed words". *Studia Neophilologica* 42(1). 174–179.
- Rufener, J. 1971. *Studies in the motivation of English and German compounds*. Zurich: Juris Druck / Verlag.

- Sabetay-Schapira, C. 1980. "Préfixes et constructions analogues exprimant l'excès en italien et en roumain". *Travaux de Linguistique et de Littérature Strasbourg* 18(1). 239–247.
- Schapira, C. 1987. "Comment rendre en français les termes anglais dérivés et composés à la fois?" *Meta* 32(3). 342–346.
- Sifianou, M. 1992. "The use of diminutives in expressing politeness: Modern Greek versus English". *Journal of Pragmatics* 17. 155–173.
- Stosic, D. 2001. "Le rôle des préfixes dans l'expression du déplacement. Eléments d'analyse à partir des données du serbo-croate et du français". *Cahiers de Grammaire* 26. 207–228.
- Szymanek, B. 1985. *English and Polish adjectives. A study in lexicalist word-formation*. Lublin: Redakcja Wydawnictw KUL.
- Takada, H. 2008. *Le mot composé : Étude contrastive de certains types de mots composés japonais et français*. (Niigata University Scholar Series 8.) Niigata: Niigata University, Graduate School of Modern Society and Culture.
- Tchizmarova, I. 2005. Verbal prefixes in Bulgarian and their correspondences in American English: A cognitive linguistic analysis. (PhD dissertation, Ball State University.)
- Van der Auwera, J. 1995. "Les préverbes du néerlandais: Une comparaison avec l'allemand". In: André, R. (ed.), *Les préverbes dans les langues d'Europe : Introduction à l'étude de la préverbation*. Lille: Presses Universitaires du Septentrion. 77–94.
- Van Goethem, K. 2006a. La grammaticalisation comme paramètre en linguistique comparative. Le cas de l'emploi préverbal des prépositions du français et du néerlandais. (PhD dissertation, KU Leuven.)
- Van Goethem, K. 2006b. "L'emploi « préfixal » des prépositions *contre* et *tegen*. Une analyse contrastive". *Travaux de Linguistique* 52(1). 115–145.
- Van Goethem, K. 2007. "French and Dutch preverbs in contrast. A case study of French *sur-* and Dutch *op-* and *over-*". *Languages in Contrast* 7(1). 83–99.
- Van Goethem, K. 2008a. "The interaction between word structure and grammaticalization. Evidence from word-formation with French *entre-* and Dutch *tussen-*". *Word Structure* 1(1). 65–82.
- Van Goethem, K. 2008b. "Ancien élève versus oud-leerling: A comparative study of adjectives grammaticalizing into prefixes in French and Dutch". Paper presented at the 5th International Contrastive Linguistics Conference, 7–9 July 2008, Leuven, Belgium.
- Van Hoof, H. 2001. "La traduction des éponymes médicaux banalisés de langue anglaise". *Meta* 46(1). 56–67.
- Vannest, J., R. Bertram, J. Järviö and J. Niemi. 2002. "Counterintuitive cross-linguistic differences: More morphological computation in English than in Finnish". *Journal of Psycholinguistic Research* 31(2). 83–106.
- Wang, A. 2003. "A comparison of word-formation between English and Chinese". *Asian EFL Journal*.

- Welna, J. 1976. "Some Polish agent substantives and their equivalents in English – A study in contrastive lexicology and word-formation". *Papers and Studies in Contrastive Linguistics* 5. 83–102.
- Wilss, W. 1979. "German compounds of the type noun + adjective (umweltfreundlich) and their reproduction in English". *Meta* 24(2). 232–239.
- Zimmer, K.E. 1964. *Affixal negation in English and other languages: An investigation of restricted productivity*. Supplement to *Word* 20(2).
- Zwanenburg, W. 1987. "Le statut de la formation des mots savants en français et en anglais". *Meta* 32(3). 223–229.