

Some reflections on metonymy and word-formation

Mario Brdar¹ & Rita Brdar-Szabó²

¹*Josip Juraj Strossmayer University, Osijek*

²*Loránd Eötvös University, Budapest*

Abstract

The present article is concerned with the question about the nature of the metonymic phenomena that can be observed in word-formation. We argue that, contra Janda (2011), very little metonymic takes place in word-formation per se, as part of grammar, and that metonymic phenomena that can be observed in relation to word-formation phenomena are actually lexical in nature, in the fairly strict sense of the term. Specifically, we demonstrate on a series of suffixations, compounds and reduplications that most of the time we either have metonymic shifts prior to word-formation, or metonymic shifts posterior to word-formation. In other words, metonymic shifts are either found in the input for word-formation, or operate on its output. Metonymy seems to operate simultaneously with a word-formation process only with what has been referred to as non-concatenative morphology.

Key words: metonymy; word-formation; grammar; suffixation; compound; reduplication.

1. Introduction: Grammar, word-formation and metonymy

It is a wide-spread view that metonymic shifts primarily affect the lexical meaning. In other words, what gets shifted is the meaning of individual words, most commonly of nouns. Consequently, metonymy is considered to hardly play any significant role outside the lexicon, i.e. it is largely irrelevant to grammar. This point of view that, metaphor and metonymy play very different roles in the organization of the grammatical component, although both are recognized in cognitive linguistics as basic processes, is tacitly held even by many linguists working within the cognitive framework. Metaphorical extensions are extensively assumed to have taken place in almost all areas of grammar, making it possible to account for scores of phenomena in an intuitively appealing way. The phenomena that were successfully tackled as cases of metaphorical extensions range from modality (the development of epistemic modality out of deontic one, as first argued for by Sweetser 1990), to the use of grammatical morphemes such as past tense markers in English

(Taylor 1989: 149), to the grammaticalization of the *going to*-future from the verb + adverbial construction (Heine, Claudi and Hünemeyer, 1991: 241ff), to the extension of transitive (Taylor, 1989: 206ff) and ditransitive constructions (Goldberg, 1995), to give just a few of more widely known examples.

It has actually often been explicitly noted that, unlike metaphor, metonymy has hardly any impact on grammar. This type of claim has almost invariably been made on the basis of a discussion of referential or nominal metonymies (cf. Nunberg, 1979, 1995; Copestake and Briscoe, 1995). There are two problems with such claims.

First, it is not immediately clear what is meant by impact on grammar, or “grammatical corollaries” (as Copestake and Briscoe put it, 1995: 16). Second, there is a rapidly growing body of literature that convincingly shows that metonymic processes are crucially involved in shaping a number of central areas of grammar. We may point out some monographs and edited volumes demonstrating that conceptual metonymy has a series of long-ranging grammatical ramifications, i.e. that it actively helps determine the shape of grammatical systems, e.g. Waltereit (1998), Ruiz de Mendoza and Otal Campo (2002), Brdar (2007), Panther, Thornburg and Barcelona (2009), and Sweep (2012). There are also numerous articles dealing with the relationship between metonymy and grammar, e.g. Panther and Thornburg (1999, 2000, 2009), Barcelona (2003, 2004, 2005, 2012), Brdar-Szabó and Brdar (2004), works by Ruiz de Mendoza and his collaborators (Ruiz de Mendoza 2007; Ruiz de Mendoza and Peña Cervel 2002; Ruiz de Mendoza and Pérez Hernández 2001), or Sweep (2009, 2011).

Grammatical aspects of metonymy as a conceptual contiguity have only recently come to the fore of attention. It has been recognized that metonymy has an important regulating or motivating role in grammar, i.e. it can trigger certain phenomena in grammar in the sense of making them possible or sometimes even necessary. This simplified way of looking at things might imply that the relationship between metonymy and grammar is one-way traffic whereby grammar is infinitely plastic and therefore easily formed by metonymic processes.

However, the relationship between metonymy and grammar is as often as not much more complex and practically always involves some two-way traffic. Whether a certain type of metonymy is available in a given area in a given language is dependent on the ecological conditions present in the system (as envisaged in a usage-based model). In other words, grammatical factors may also be expected to play a role in constraining the application of various types of metonymy. Let us just point out that the situations in which metonymy seems to be the optimal and necessary grammatical solution already imply mutual accommodation of what metonymy can do in theory and the current state of the grammatical system involved (i.e. a balance between what metonymy can do in theory and what the current state of the grammatical system involved allows it to do). Of course, we also have to think of the other limiting case, when the grammatical

system is completely shut down and impermeable for metonymic processes. In between, we find a whole range of possibilities, e.g. a language may opt for alternative strategies available (and well-entrenched) in its system and thus avoid using metonymy.

In sum, we can talk about the impact of metonymy on grammar, but also about the impact of grammar on metonymy. Punning on Barcelona's (2004) title, grammar can be "behind metonymy", but it can also be in front of it, or even stand in its way.

Boundaries between lexicon, grammar (and pragmatics, because metonymic phenomena spill over into areas traditionally considered to be the domain of pragmatics) are largely artificial if one assumes a cognitive linguistic perspective on language. It is also often recognized, even in traditional approaches, that the phenomena of word-formation (i.e. derivational morphology) serve as good illustration of such a continuum or interface. They are in grammar with one foot, but in lexicon with the other. It is possible, for heuristic reasons, to talk about "metonymy in, under and above the lexicon", as in Barcelona (2012), where metonymic phenomena related to word-formation are discussed both as being under and above the lexicon, although they are mostly discussed as being above the lexicon, within the section on metonymy in grammar. In fact, there is a whole gamut of recent works dealing with the relation between metonymy and word-formation as part of grammar (e.g. Basilio, 2009; Benczes, 2004, 2005, 2006, 2009, this issue; Dirven, 1999; Hüning, 1996; Imamović, 2006, 2011; Janda, 2010a and b, 2011; Kövecses and Radden, 1998; Nessel, 2010; Panther and Thornburg, 2001, 2002).

The question we are concerned with in this article – whether metonymic phenomena that can be observed in word-formation are properly speaking of grammatical, or of lexical nature – may seem to be out of place in light of what we have stated above. Nevertheless, we think that this question should be asked, and answered. All the more so, in view of the claims voiced in Janda (2010a and b) and Nessel (2011), where word-formation, specifically suffixation, is as good as equated with metonymy. In other words, they claim that metonymic shifts take place simultaneously with word-formation processes.

Our claim will be that very little metonymic takes place in word-formation *per se*, as part of grammar, and that metonymic phenomena that can be observed in relation to word-formation phenomena are actually lexical in nature, in the fairly strict sense of the term. Specifically, we would like to demonstrate that most of the time we either have metonymic shifts prior to word-formation, or metonymic shifts posterior to word-formation. In other words, metonymic shifts are either in the input for word-formation, or operate on its output.

The article is organized as follows. After this introduction, we briefly present Janda's views on word-formation (suffixation) as metonymy. Then we move on to demonstrating that metonymic effects that can be observed in word-formation are

either results of metonymic shifts, either preceding, or following word-formation, i.e. operating either on the base, or on the complex word coming into existence as a result of word-formation. We first consider some types of suffixation in a cross-linguistic perspective, and then some cases of intensifying adjective compounds in English. In the final part, we compare these with some non-concatenative word-formation processes for which metonymic account has been offered in literature and draw some tentative conclusions about the involvement of metonymy in word-formation.

2. Word-formation (suffixation) as metonymy

Janda (2011) begins by drawing a parallel between lexical metonymy and word-formation metonymy using some examples from English, Russian and Czech:

(1) PART FOR WHOLE

- a. *We need a good head for this project.*
- b. Russian *brjuxan* (lit. ‘belly’-an) ‘person with a large belly’
- c. Czech *břicháč* (lit. ‘belly’-áč) ‘person with a large belly’

(2) CONTAINED FOR CONTAINER

- a. *The milk tipped over. [...]*
- b. Russian *saxarnica* (lit. ‘sugar’-nica) ‘sugar-bowl’
- c. Czech *květináč* (lit. ‘flower’-áč) ‘flower-pot’

The English examples are of course standard examples of lexical metonymies, but it is positively difficult to recognize the word-formation constructions 1 (b-c) and 2 (b-c) as metonymies. Janda argues that in both (1) and (2) metonymic sources (the underlined parts) are used to access metonymic targets and then goes on to say that

... [w]ord-formation performs parallel CONTAINED FOR CONTAINER metonymies in the Russian and Czech examples, which are derived from *saxar* ‘sugar’ and *květina* ‘flower, flowering plant’ respectively. (2011: 361)

Understanding what the expression “perform metonymy” is supposed to mean here is not an easy task, and even less so if “word-formation” is added as the subject of the clause. We may suppose that what she means is that metonymies are derived from the bases in question, i.e. metonymic shifts arise in the course of derivation. On the other hand, it is possible that the first part of the quotation means that metonymic operations take place after derivation, i.e. we have metonymies linking two readings of suffixations. The former does not make much sense for a number of reasons. The latter would make sense, but it appears that this is not what Janda has in mind.

To buttress her claim Janda mentions the intimate link between word-formation and metonymy that was occasionally observed in linguistic literature. She first notes that Jakobson, who talks about metonymy as a contiguity relationship [1956](1980: 84), points out somewhat later that “words derived from the same root, such as *grant* – *grantor* – *grantee* are semantically related by contiguity” [1956](1980: 87). As recognized by Janda herself, this remains at the level of an isolated hint. She also mentions Padučeva (2004: 163), who notes that a metonymy expressed lexically in one language might be expressed via word-formation in another. However, Janda fails to notice that it does not follow from this that the former is expressed via word-formation metonymy. In fact, Padučeva consistently draws a distinction between lexical derivation (i.e. word-formation) and semantic derivation (metaphor and metonymy). Similarly, Apresjan (1974: 5) says that

[...] the semantic relationships between the meanings of some polysemantic words can be similar to the semantic relationships between words within a certain type of word formation; therefore polysemantic words, together with some types of derivatives, are one of the means of linguistic synonymy (in a broad sense of the word) [...].

On a most general level, claiming that suffixations are metonymies by virtue of being constructions consisting of a base word and a suffix would mean that all derivational suffixations, and then probably all prefixations (and since compounding can be seen as a special type of prefixation, probably all compounds too), are results of metonymic extensions as such. If we do not draw an absolute dividing line between derivational and inflectional morphology, there is no principled way of precluding metonymy from being present in every case-marked noun, or finite verb form etc. Janda actually applies the same approach to the Russian aspectual system (cf. Janda, 2008, 2011; and Janda and Nessel, 2010), but again provides practically no evidence, apart from claiming that there is a parallel between what she identifies as four types of perfectives on the one hand and the four points on the contiguity scale by Peirsman and Geeraerts (2006). Such a metonymy concept would inflate the phenomenon beyond any acceptable measure, and ultimately make it theoretically and descriptively useless: if everything in grammar is a priori metonymic, it is trivial to qualify anything as metonymic as it does not add anything to our knowledge, i.e. our understanding of language.

More specifically, there are a number of technical and/conceptual problems with Janda’s proposal. The most important one is that both the source concept and the target concept are explicitly expressed by the base word and the word formation construction, respectively. Note that in the definition by Kövecses and Radden (1999), or Panther (2005) only the source concept is associated with a metonymic vehicle. Janda’s model, on the other hand, has not one but two items simultaneously functioning as metonymic vehicles. On the one hand, the metonymic source, which Janda says is the base word, is linguistically manifest, i.e. it is nested within the complex word associated with the putative metonymic target, which makes it sort of backwards manifest in the sense that we must work our way down

from the word-formation construction to its base word – it is not immediately accessible (this is indicated by the heavy dashed line in the figure). It need not be even readily accessible, due to a number of reasons, e.g. the base may be realized in a slightly modified form in the suffixation (cf. *amplify* – *amplification*), the link between the base and the suffixation may be less than perfectly transparent, i.e. it may be affected by idiomatization due to entrenchment, etc. On the other hand, the metonymic target, which is supposed to be accessed indirectly via metonymic vehicle, is also directly accessible. This makes both the vehicle and the target explicit, or linguistically manifest, which does not make much sense.

Another problem is that a considerable number of suffixes shift the word class of the suffixation, e.g. the addition of a suffix to an adjectival base may result in a complex noun, or the addition of a suffix to a nominal base may result in a morphologically complex verb, etc. Let us take English or Norwegian homographs *bake* (v.) – *baker* (n.), as a fairly simple example. While both the bases and the suffixations in (1-2) b. and c. are nominal, i.e. the metonymic vehicle is manifest as a noun and the putative metonymy is a noun, as the suffixes in question are word-class maintaining, the verbal base such as *bake* can hardly be believed to provide simultaneous access to both the concept of ‘baking’ as activity and ‘baker’ as the participant in the activity.

3. Metonymic shifts prior or posterior to word-formation

In this part we present evidence that metonymic shifts do not arise in the course of derivation, but either operate on the end-result of word-formation, i.e. the complex word, or on the base that functions as input. The former appears to be more frequent than the latter, and will be discussed in that order.

3.1. Metonymic shift operating on the output of word-formation

The labels logical metonymy, logical polysemy, and regular polysemy have been applied to describe recurring patterns of lexical alternation in which the related senses of a word are predictable on the basis of a pattern observed for words denoting objects of the same category. Basically, one and the same lexical item in such a category can be used to refer holistically to an object, or to one of its parts, or more or less amorphous material constituting the object, or material into which the object in question can be processed. This phenomenon of turning the former into the latter is referred to as grinding (Pelletier, 1975), and comes in two major types, as animal grinding and as plant grinding. In the case of animal grinding the lexical item denoting an animal species acquires additional senses, primarily coming to refer to the flesh of the animal in question, not necessarily always conceived

as foodstuff, i.e. as meat of that animal, but also to some other substances/materials, e.g. fat or fur. In the case of plant grinding the lexical item denoting a plant acquires additional senses of part of the plant (its fruit) or product/material gained from it. The former is illustrated in the following English examples:

- (3) a. "I would not eat cat," he murmurs.
 b. We did not always eat turkey for Christmas dinner.

In cognitive linguistics this is treated as a subtype of WHOLE-FOR-PART metonymy, specifically OBJECT-FOR-MATERIAL-CONSTITUTING-THE-OBJECT within the *Constitution ICM* (Radden and Kövecses, 1999: 32). The lexical item labelling the concept of the whole animal stands here only for a particular aspect of the whole animal, i.e. its bodily substance/flesh/meat as processed and used as foodstuff. Even literally, the substance that we use as food is only part of the whole animal's body, as animals are skinned, boned, etc., and usually it is not the whole carcass that is meant, but rather some smaller portion of it.

Although this metonymy may appear fairly productive as far as English is concerned, which is also suggested by the terms used in some unification frameworks, such as logical metonymy/polysemy, or regular polysemy, an examination of cross-linguistic data reveals a slightly different picture. While this sort of conceptual conversion is certainly more or less always available in theory as an open pattern, the fact is that it is not so regularly made use of. Of course, one of the factors diminishing the productivity of this metonymy is the well-known historical incident in the course of which a number of lexical items were borrowed from Norman French that denoted the meat of certain domestic and wild animals, thus effectively blocking the polysemy from kicking in with a series of native Anglo-Saxon items (e.g. *cow* – *beef*, *calf* – *veal*, *pig* – *pork*, *sheep* – *mutton*, *deer* – *venison*).

Replacing metonymy by means of $N + N_{\text{meat}}$ combinations, realized as a compound noun, is quite wide-spread in German (with *Fleisch* 'meat' as the second constituent, i.e. as the compound head):

- (4) *Schweinefleisch* 'pig-meat', *Rindfleisch* 'cattle-meat', *Schafsfleisch* 'sheep-meat', *Ziegenfleisch* 'goat-meat'

Hungarian exhibits the same pattern, i.e. it has compounds with *hús* 'meat' as the second constituent, i.e. as the compound head:

- (5) *sertéshús* 'pig-meat', *marhahús* 'cattle-meat', *birkahús* 'sheep-meat', *kecskehús* 'goat-meat'

A language such as Croatian, which unlike Germanic languages or Hungarian, as good as lacks compounding as a word formation process, resorts to other syntactic or morphological means. First of all, for all cases of animals that are, culturally speaking, less usual or unusual as potential foodstuffs, there is the phrasal expression *meso (od) X_{gen}* 'meat of X'. However, the most important strategy is suf-

fixation, with a cluster of related suffixes, *-ina*, *-etina* and *-evina/-ovina*, used to derive names of meat of various animals:

- (6) a. *govedina* 'beef'
 b. *svinjetina* 'pork', *prasetina* 'piglet meat', *teletina* 'veal', *ovčestina* 'mutton', *koz(l)etina* 'goat meat', *guščetina* 'goose meat', *piletina* 'chicken meat', *konjetina* 'horse meat', *jeletina* 'deer meat', *jaretina* 'kid meat', *janjentina* 'lamb meat', *zečetina* 'rabbit meat', *nojetina* 'ostrich meat'
 c. *tunjevina* 'tuna meat', *veprovina* 'boar meat', *kitovina* 'whale meat', *jelenovina* 'deer meat'

Summing up what we have seen in the case of animal grinding, we can say that the application of this metonymy is seriously constrained in a number of languages, the replacement of the simple lexical item by a compound noun or suffixation results in the loss of this type of metonymy. In other words, word formation constructions can be used to get around metonymy-induced polysemy, i.e. resolve it.

This is of course not to say that there is no polysemy and no metonymy in such cases of word formation. Returning to the examples of animal grinding, we note that the names of animals in English can be used as double metonymies, e.g. when we have an ostensive context in which a dish made out of the meat of one of these animals is contrasted with dishes made of the meat of other animals, as in:

- (7) ... so we headed there where, yes, I ordered turkey... and loved every single bite...

Here the name of the animal stands for the meat of that animal, which in turn stands for a dish made with that meat. Translating this into Croatian, we get, as might have been expected, the suffixation that is normally used to denote the meat of the animal, but is now used as a metonymy:

- (8) ... da, naručio sam puretinu, ... i uživao u svakom zalogaju...

This means that instead of a series of two metonymies, we may get a single metonymy in the translation. But note that the metonymic extension we postulate here is of the post hoc type, as far as the process of suffixation is concerned, i.e. it is an extension from one meaning of the suffixation in question to another.

Another interesting point is that some of the Croatian derived nouns listed in (6) above can also denote the skin of the animal in addition to its meat, e.g. *jelenovina* 'deer meat' or 'deerskin'. Similarly, *medvjedovina* may be used to refer to bear meat or bearskin. On the other hand, *dabrovina* may be used to refer to beaver fur or beaver fat, or just 'bearskin'. Babić (1986: 222) lists *risovina* as having only one meaning, 'lynx skin'. The cognate lexeme in Slovenian, *risovina*, however, apparently can be used in the skin sense and to refer to lynx meat, as well (cf. <http://r.abecednik.com/risovina.html>). Further, *svinina* 'pork', the Slovenian counterpart of Croatian *svinjetina* 'pork', in addition to meaning 'pork' has 'pig

leather' as its secondary meaning. Polish *wieprzowina*, in addition to meaning 'pork' also means 'a portion of a dish made of pork'.

The situation is of course similar in the case of plant grinding. In Slovenian, *smrekovina* 'pinewood', from *smreka* 'pine', in addition to denoting wood as material, can also be used to refer to furniture made from that wood. *Hrastovina* 'oakwood', from *hrast* 'oak', in addition to being used to refer to wood and furniture, can also be used to refer to the forest. *Bukovina* 'beechwood', from *bukva* 'beech', is used for wood and forest. Note that these additional metonymic senses, just like the metonymic sense of some examples of suffixations denoting meat above, are apparently lexicalized and noted as such in lexicographic work.

The lexicalization of such metonymic senses resulting from extending the meaning of the whole complex word, i.e. suffixation, is quite wide-spread. This is well-documented in Imamović (2006), who studies English suffixations in *-ion*:

- (9) a. *The Russian government had called a halt to the construction of a new project in the Rostov region.* ('the action of constructing a new project')
- b. *The British pavilion is an impressive steel and glass construction the size of Westminster Abbey.* ('an edifice', ACTION FOR RESULT OF THE ACTION metonymy) (2006: 54)

It will be seen that German and Hungarian compound nouns in (4-5) can also be used metonymically to refer to dishes and therefore also count as examples of metonymic shifts operating on the output of word-formation processes. Of course, compounds can often undergo metonymic shift, just like suffixations. Let us now consider some examples. The compound *blood pressure* is defined in OEDO as 'the pressure exerted by blood on the walls of blood vessels, esp. the systemic arteries; (*colloq.*) abnormally high (or, rarely, abnormally low) pressure of this kind'. Similarly to the suffixations above, it can easily be extended. In this specific example, it comes to mean something like 'the process of measuring blood-pressure' or 'readings of blood pressure', and can then also appear in the plural, as in:

- (10) a. *First, when you get it home, take several blood pressures in a row.*
- b. *... she was unable to locate any elevated blood pressure readings, and that several blood pressures were around 120/80.*

3.2. Metonymic shifts in the base (the input of word-formation)

We now take a look at some cases where the base undergoes a metonymic shift prior to its being combined with another lexical item. Some such cases, which also involve metaphoric shifts, are discussed in Panther and Thornburg's (2001) study on *-er* nominalizations. Mostly, they are non-verbal bases, as in:

- (11) *Wall-Streeter* ‘person professionally employed in Wall Street’, *hooper* ‘professional (vaudeville/chorus) dancer’, *upper* ‘anti-depressant pill’

We could also add here the English counterpart of Janda’s Russian example: *saxarnica* ‘sugar bowl’ – *sugar-bowl*. They can both, the suffixation and the compound, or just its head, be used as metonymies. We access the concept such as ‘sugar’ via the concept ‘(sugar) bowl’, which would make it the CONTAINER-FOR-THE-CONTENTS metonymy. But note that, as indicated by the brackets above, the head of the English compound is already metonymic, prior to compounding. Cf. also its German counterpart, also a compound word, *Zuckerdose*. Both the compounds and the heads, *bowl* and *Dose*, respectively, can be used metonymically, but in the case of compounds the metonymic potential/effect is inherited from the head. And certainly, metonymy is not the result of compounding itself.

Let us take a look at some further English compound nouns of various types. The base of *hop-picking* (Adams, 1973: 58) is the verbal element *pick*. It has a number of related senses – dictionaries are likely to give the following a special status: ‘choose’, ‘break (flowers, fruits, or leaves) off the plant and collect’, ‘pull or remove something from a place using hand’. But a more detailed account, enriched with some historical data, such as the one provided by OEDO is very informative.

The first attested sense is the one in which the usual subject was a bird, ‘to pierce or strike with its beak or mouthparts; to peck or peck at’ (1250). At the beginning of the 14th century there appear two senses: ‘to take by robbery, to steal’, and ‘to probe or penetrate (a part of the body or a part of an animal’s body) with a pointed instrument so as to remove extraneous matter; to probe or penetrate with a finger, beak, etc., in a similar manner’. This means that the range of subjects was considerably wider, the idea of purpose and instrument also appear as part of its semantic structure. Basically, from an event in which a body part strikes and pierces something we witness a shift towards an event in which an instrument is used to pierce and enter something container-like (part of the human or animal body) with the intention of removing something, which gives the impression that we have a metonymic generalization. The parallel innovation, the sense of stealing is apparently a metaphorical extension of the older sense, but also implies the sense of removal accompanied by a transfer of possession. As the concept of a transfer of possession is now more important, the idea of piercing/entering a container in order to get hold of something is defocused. Around 1325-1330, there appear new senses in which the path of the moving instrument during the action of picking is shortened: ‘to detach and take (something) from where it grows, lies, or is attached, or from that which contains it, esp. with the fingers; to pluck, gather (growing flowers, fruit, etc.) (1325); ‘to take up with the fingers or beak; to lay hold of and take up (esp. a small object) from the ground or any low position; to lift lightly, smartly, or neatly; (occas. more generally) to gather’ (1330). As we can see, the instrument does not enter anything, but establishes a contact with a surface or perimeter of an object, and is used to repeatedly transfer something that is rela-

tively small from there towards the subject. The object being transferred may be something that is not supposed to be where it is transferred from (it is misplaced, scattered, etc.), or something that comes into existence where it is picked but is to be later processed/used by the subject. The focus here again shifts metonymically. From the original movement sense - movement of *x* between *y* and *z* -, new, richer senses developed which focus on the purpose, first the sense of the removal of *w* from *y*, and then gathering *w* at *z*. In the compound *hop-picking*, the sense present in the head is thus the result of a series of metonymic shifts that started almost 700 years ago.

In the case of *garden-party* (Adams, 1973: 61), the head again exhibits several senses, but the one that is found in the head of this compound is the result of a metonymic shift from a collective sense towards an event sense. The earliest collective sense exhibits the sense of competition/adversity, e.g. 1330: 'detachment of troops selected for a particular service or duty'. As early as 1387 we find that it can be used in a sense stripped of the idea of conflict. Now it means among other things 'a company of people, esp. one formed temporarily to engage in a shared activity such as travel or sport', which means that there is adversity involved. Finally, a record from 1707 shows that a new meaning developed metonymically from this less "conflict-focussed" collective sense: 'a social gathering, esp. of invited guests at a person's house, typically involving eating, drinking, and entertainment.' This can further be metonymically extended back to a collective sense, something like 'the people at a party', but the sense present in the compound is 'event'.

The two compounds show that if there is anything metonymic about them, it is the result of shifts prior to compounding, and normally affects the head. Of course, it is quite likely that in some compounds we may also come across metonymic shifts following the word-formation process of compounding.

Oxford Advanced Learner's Dictionary lists 6 senses of the noun *camp*, the first four of which denote places. One of them, 'a place where people are kept in temporary buildings or tents, especially by a government and often for long periods' is marked as the one that is found in compounds such as *concentration camp*, *prison camp*, or *transit camp*. This might be interpreted as sign that this sense arises due to joining the base *camp* with bases like *concentration* or *transit*, etc. into a compound. In other words, we might think that this sense is the result of the word-formation process itself. When we consider that the first sense listed in OALD is 'a place where people live temporarily in tents or temporary buildings', we might assume that this could be a plausible candidate for the case of metonymic shift of some kind taking place due to compounding. However, OEDO attributes the sense 'quarters for the accommodation of detained or interned persons' to the bare base, *camp*. Although it mentions the compound *concentration camp* (the note 'as *concentration camp*' follows the definition), all the examples listed contain only the simple noun *camp*. So, it turns out that if a metonymic link of a given type can be assumed

here, it is not due to compounding, but operates on the base prior to compounding.

In the remaining part of this section we will take a closer look at one particular type of intensifying compound adjectives in English illustrated below:

- (12) a. *Now, it's easy to visit, order take-out or have a piping hot pizza delivered to you.*
 b. *Why does your tongue stick to freezing-cold metal?*
 c. *The floor was damp and she was herself wringing wet, but fortunately this was a warm climate and she did not feel at all cold.*

Adams classifies them as a subgroup within comparative intensifying adjectives and states that “the second element is specified by a comparison with some quality characteristic of what the first element denotes” (1973: 98). While there is no denying that in terms of their meaning they are intensifying compounds, it is less than clear how the first element can denote any quality, and what kind of comparison there might be. In this respect this subgroup is quite different from the rest.

As for their form, they may be written with a hyphen or open. Adams (1973: 98) claims that “[t] second element is in all cases nominal.” While this is true of other subgroups, it certainly does not apply to our adjectives. The first element is invariably an *-ing* form, with a recognizable verbal force. This again makes them stand out as a subgroup from this category. The *-ing* form, which can itself be occasionally premodified (*stark staring mad, rip roaring stupid*), is followed by an adjective that is mostly monosyllabic.

The number of such compounds is not particularly large – we have attested some 90-odd such *V-ing* + adjective combinations – but some of them are extremely frequent. What is more, it appears that the pattern is open for new combinations, i.e. it is not unproductive. All in all, the bases are among the most common adjectives in English, denoting general quality, temperature, age, mental disorder, intelligence, colour, plus some more specific qualities. There are also two antonymic pairs of adjectives:

- (13) *bad, good, cold, hot, new, mad, angry, stupid, drunk, cheap, white, red, pink, dull, wet, rich, dirty*

These combinations qualify as collocations that are more or less restricted. While there are some *V-ing* forms that are found with a number of bases that do not belong to a semantic group, there are some clear combinatorial preferences in some cases, based on mutual semantic closeness that we are going to discuss in more detail below. Thus, in the case of the bases such as *mad, cold* or *wet*, we find the following combinations:

- (14) a. *stark staring mad, (stark) raving mad, hopping mad, steaming mad, roaring mad, fighting mad, boiling mad, spitting mad, barking mad, steaming mad,*

fuming mad, blazing mad, seething mad, screaming mad, raging mad, burning mad, howling mad

- b. *freezing cold, freaking cold, killing cold, shivering cold, burning cold, stinging cold, piercing cold, aching cold, chilling cold, punishing cold, blistering cold, raging cold, blasting cold*
- c. *dripping wet, soaking wet, sopping wet, wringing wet, glistening wet, gleaming wet, drenching wet*

Several *V-ing* items collocate with more than one base (all the examples were retrieved from the Corpus of Contemporary American English (COCA)):

- (15) a. *blazing/steaming* $\left\{ \begin{array}{l} \textit{hot} \\ \textit{mad} \end{array} \right.$

- b. *Bachmann, too, is fighting to come back with a second act after a blazing hot summer and a victory in the Iowa GOP straw poll.*
- c. *Once mixture is steaming hot, stop stirring.*
- d. *Jethro is blazing mad.*
- e. *Major Hicks is on his feet, steaming mad.*

- (16) a. *roaring* $\left\{ \begin{array}{l} \textit{mad} \\ \textit{drunk} \end{array} \right.$

- b. *She was roaring mad and ready to kill.*
- c. *That night we got roaring drunk on sake.*

We return now to the construction's meaning. As pointed out above, there is hardly any element of comparison here, contrary to what is claimed by Adams. Instead, it is very easy to recognize that in the majority of cases there is a close semantic link between the two elements, which explains why some of the collocations are often so specific (although some premodifying items do not exhibit any such preferences).

The premodifying items, as a rule, belong to the frame or the ICM evoked by the base adjective. What is more, they tend to denote the effects or symptoms of the states or qualities denoted by the base adjective. For example, *screaming, roaring, spitting, fighting, howling, screaming, barking, raging, hopping, staring*, etc. may all be seen as various verbal, behavioural or kinetic symptoms of mental disorder. *Spitting, screaming* and *roaring* also combine with *angry*, which is very close to *mad*. In addition to this there also bodily symptoms: when one is angry or mad, bodily temperature rises, and this explains combinations with *fuming* or *steaming*. The combinations can be paraphrased as 'so mad as to go around V-ing'. Heat or thermal energy is, as we know, a form of energy caused by the motion of atoms or exothermic chemical reactions. It can be transferred and absorbed. It is accompa-

nied by some easily observable phenomena such as light, sound and emission of gas. In a folk model of heat, however, it is rather seen as the cause of light, various sounds and emission of gas. The more light, sound and gas is produced, the higher the temperature. This model also contains some facts of human experience concerning heat, specifically, how it interacts with human body and other objects. This is what the range of premodifying items actually captures. *Sizzling*, *piping* and *hissing* denote accompanying sounds; *fuming*, *steaming*, *smoking*, *boiling* and *bubbling* have to do with the emission of gases; *scalding* has to do with the reaction of a human body or the body of other animate being, etc. They all imply very high temperature, close to 100°C or above. Similarly, in the case of combinations with *cold*, we find premodifying items that either denote some physical phenomena that coincide with extreme cold (*freezing*), bodily reactions (*shivering*), or subjective perception of cold (*aching/piercing/stinging*). Again, a similar paraphrase is applicable: ‘so cold that it/one Vs, or that one feels Nv’. Checking other compound adjectives, we would find the same relation and a very similar paraphrase.

It appears thus that instead of comparative relation, we have a causative relationship across the whole group. Note that some of the premodifying items come from verbs that are unmistakably intransitive, e.g. *yawning*. In *yawning dull* ‘extremely dull’ (Adams, 1973: 98), however, we can observe a shift towards a causative sense; the construction could be paraphrased as ‘so dull that it makes one yawn’.

We would like to submit that what brings together the two elements in these combinations is the conceptual metonymy EFFECT FOR CAUSE. Lakoff and Kövecses (1987) capture the link between emotions and physiological symptoms by postulating the conceptual metonymy THE PHYSIOLOGICAL EFFECTS OF AN EMOTION STAND FOR THE EMOTION, but this appears to be a special case of the EFFECT-FOR-CAUSE metonymy, discussed in Kövecses and Radden (1998) and Panther and Thornburg (2000). This would mean that we have found another case where metonymic shifts operate on the input of word-formation process. It is not the base or head, but the premodifying or determinative element that undergoes this shift.

But note that the premodifying items in *V-ing* which denote effects come to metonymically evoke their sources or causes in these combinations. Some of these items have become lexicalized as adjectives in the same meaning as the bases with which they combine. According to Oxford English Dictionary Online (OEDO), the earliest attested sense of *piping* is ‘shrill, high-pitched; whistling; having a shrill, high-pitched, or weak voice’ (1390), the first entry for the combination *piping hot* meaning ‘so hot as to make a whistling or hissing sound’ is from 1568, but in the first half of the 19th century, *piping* alone comes to mean the same, in addition to its other meanings. In the case of *raving*, it is recorded in the sense of ‘delirious, frenzied, raging’ in 1521, slightly before the combination *raving mad* (1541). The first record for *scalding* in the sense of ‘scalding hot’ precedes the combination by more than a century and a half. Interestingly, the entry for *freezing* in OEDO fails to indi-

cate a similar development although it is clearly used in the sense of ‘extremely cold’. Of course, it must also be stated that this is not true of some relatively common premodifying items such as *screaming* or *stinking*. But regardless of which sense is first recorded, metonymy seems to be involved.

If both the base and the premodifying item eventually come to mean virtually the same thing, i.e. they become synonyms, either due to the conventionalization of the outcome of metonymic shifts at a point in time, or due to metonymic inferring, we appear to have a problem: the target concept is doubly made active, i.e. it is activated directly by the lexical items functioning as the base, but also metonymically, which results in a tautonymy of a kind. In rhetorical terms, it may be described as very close to *commoratio* - emphasizing a point by repeating it several times using different words, typically not adjacent ones, but rather spread throughout text/utterance.

It will be seen that we have still not explained whence the intensification effect comes. We believe that we should consider it a type of quasi-reduplication. In functional terms, there is no denying that it is very close to adjective reduplications, their main function being intensification. Moravcsik (1992: 323) defines reduplication as “a pattern where the double or multiple occurrence of a sound string, syllable, morpheme, or word within a larger syntagmatic unit is in systematic contrast with its single occurrence, with the iterated elements filling functionally non-distinct positions.” Reduplication can be syntactic, or purely lexical (even sublexical), but sometimes the boundary between the two is not clear. The outcome of reduplication as a morphological process is a single word, i.e. a complex morphological construction consisting of at least two parts. In traditional terminology, one part is considered the base, i.e. the part that is copied, and the other is considered to be the reduplicant, i.e. a copy of the base. The base is typically an independently existing word, occurring alone, and possibly in combination with other free or bound lexical forms. Consider the following examples from Marshallese (Shetter, 2004) in (17) and Zambian English (Crystal, 1995) in (18):

(17) *wah* ‘canoe’ vs. *wahwah* ‘to go by canoe’

(18) *quick-quick* ‘very fast’

Partial reduplication copies only a part of the base. The part that is reduplicated can be defined in terms of phonological or segmental units. For example in Agta, plural of nouns can be formed by copying not the whole stem but just its first (consonant-)vowel-consonant sequence (Healey, 1960: 7):

(19) a. *takki* ‘leg’ vs. *tak-takki* ‘legs’

In French the diminutive of *fille* ‘girl’ is formed also by partial reduplication: *fifille* ‘little girl’ (Rainer, 1998: 278). As for the position of the portion of the base that gets copied in partial reduplication, we can distinguish between initial, final and internal reduplication. It is initial or in the case of French *fifille* ‘little girl’, or in Kinyakusa *nyala* ‘get dirty’ vs. *nyamyala* ‘feel dirty’. It is final in Marshallese *kagir-*

gir ‘wear a belt’, while it is internal in Bikol *dar-akula* ‘big PL’. Because reduplication is sometimes considered to be a special case of affixation, a parallel is often drawn between the three possibilities for the placement of the copy relative to the base, and the three types of affixation, i.e. prefixation, suffixation, and infixation. It is of the prefixal type in Ponapean *we-wehk* ‘be confessing’ from *wehk* ‘confess’, while it is suffixal in Tamil *maram-kiram* ‘trees and suchlike’ from *maram* ‘tree’. It is infixal in Samoan *alolofa* ‘love PL’ from *alofa* ‘love SG’.

What appears from the above examples is not only that there are various possibilities for the placement but also that the size of the copy or reduplicant varies a lot and that is in some extreme cases phonologically very different from the base, so much so that it becomes almost unrecognizable. It does not follow from this that our intensifying compounds are such reduplications, but they come very close to this. Note that as a rule these V-*ing* + adj constructions are spelled open, i.e. as if they were two words. We would like to submit that they are fringe phenomena: they are apparently on the borderline between syntactic and morphological constructions, somewhere between commoratio and lexical reduplication. If they are so close to reduplications, or perhaps even some very marginal type of them, then they could be motivated in the same way as reduplications since they share the function of intensification.

Discussing the conduit metaphor, Lakoff and Johnson point out that reduplication exemplifies one of the submetaphors (or perhaps one of the mappings) of the conduit metaphor, i.e. MORE OF FORM IS MORE OF CONTENT (1980: 128):

Reduplication applied to noun turns singular to plural or collective.

Reduplication applied to verb indicates continuation or completion.

Reduplication applied to adjective indicates intensification or increase.

Reduplication applied to a word for something small indicates diminution.

The generalization is as follows:

A noun stands for an object of a certain kind.

More of the noun stands for more objects of that kind.

A verb stands for an action.

More of the verb stands for more of the action (perhaps until completion).

An adjective stands for a property.

More of the adjective stands for more of the property.

A word stands for something small.

More of the word stands for something smaller.

There is no reason why this should not apply to syntactic reduplications as well. It is also clear that Lakoff and Johnson focus on the iconic nature of reduplications.

However, a number of authors have argued against the iconicity of reduplication. Travis (1999) thus points out that it is not clear how reduplication could mean

both intensive and moderative if it were purely iconic. Were it truly iconic, we would expect the intensive reduplication to be, in some sense, bigger than the moderative reduplication, but in Tagalog, it is just the opposite: with verbal roots, the domain of the moderative reduplication is a foot, while the domain of the intensive reduplication is a syllable. Cf. also the case of Hopi dual and plural, described above, where reduplication fails to denote 'two'. In the present context, the biggest problem is how to account for the fact that reduplication can express both intensification and attenuation with adjectives and adverbs, as attested in countless languages.

However, it must be noted that it is naive to expect reduplication to be iconic all the time and everywhere, given its typical life-cycle, during which it is often endangered by haplology (cf. Anderson, 2009), and during which it assumes grammatical functions. On a most general level, iconicity is at work in reduplications because they entail the meaning of their bases, while the opposite is not true. Apparently there is no language in which non-reduplicated forms denote intensification, plurality, repetition, etc., while reduplications express concepts such as singularity, single occurrence, etc.

Further, it is also naive to question the iconicity in reduplication because the base is not repeated more than once to refer to an increased number of referents between two and indefinite. As an elegant solution to this problem, we point to the metonymy introduced by Van Huyssteen (2004: 280), when he discusses the repetitive function of Afrikaans verbal reduplications such as *lek-lek* 'licking repeatedly'. He claims that the metonymy at work in such reduplications is TWO PERFECTIVE EVENTS FOR AN INDEFINITE NUMBER OF EVENTS. The metonymy in question can easily be modified to cover the plurality in the case of nouns as well.

We propose here a slight elaboration that might make Van Huyssteen's solution even more acceptable and more widely applicable (e.g. to adjective and adverb intensification, and possibly also to adjective attenuation or deintensification). The first problem at hand is that, assuming a scale with an average, neutral degree on one pole, and an extreme degree on the other, reduplicated adjectives expressing intensification tend to go quite a way towards the extreme end of the scale, rather than remain in the vicinity of the average. In the case of plurality, the actual number is unspecified but can be anywhere on the scale, not necessarily in the 'large' part of the spectrum.

The second problem is that quantity is a conceptual domain that is not as appropriate for a direct conceptualization of properties and/or states (which are expressed by adjectives) as it is appropriate in the case of replicated objects and events. Nevertheless, we start from the assumption that the central function of reduplication is to express the quantification concept of replication with nominal referents. There is, we think, the highest possible degree of diagrammatic iconicity here, reflecting changes in states of affairs that are in experiential terms most easily and most directly perceptible. This is our conceptual point of departure.

Instead of working with a single metonymy based on number two, we suggest that the metonymy TWO FOR AN INDEFINITE NUMBER actually first reduces a normal numerical series to a simple numerical set with just two members, i.e. the cardinal number “one” on the one hand, and the rest of the numerical scale, on the other. This scale, including anything between two and an indefinite number of occurrences, is a tool that can handle reduplications expressing plurality and iterative aspect. But it can be the conceptual source for another metonymic shift, i.e. THE WHOLE SCALE FOR THE UPPER END OF THE SCALE (cf. Brdar-Szabó and Brdar, 2010), as the reverse of the metonymy THE UPPER END OF A SCALE FOR THE WHOLE SCALE, discussed by Radden and Kövecses (1999: 32). This second metonymy is what makes it possible for reduplications to express intensification with adjectives and adverbs in conjunction with the conceptual metaphor QUALITY IS QUANTITY (Kövecses, 2005: 176), possibly via QUALITY IS SIZE (cf. Goatly, 2007: 35f), which provides a conceptual bridge between the realms of quantity and quality.

4. Discussion and some tentative conclusions

We have seen that in the areas of word-formation that we examined any metonymic shifts that may be detected either take place before the word-formation process, or afterwards. Specifically, we found that in suffixations metonymic shifts typically operate on the outputs of the word-formation process following the assembly of the complex word, but also that in some cases metonymy operates prior to suffixation, i.e. on the bases of suffixations. As for compounds, we have again seen that metonymic shifts tend to operate either on the base which functions as the head, or on the base that functions as the modifying item, prior to compounding, or on the whole compound words, i.e. they follow the assembly of the complex word.

In the case of intensifying compound adjectives, such as *piping hot*, we actually suggested that there are two metonymies. The first, as predicted, operates on the modifying item before composition, but we admitted that there might be another metonymic shift that is responsible for the intensifying effect that appears to be simultaneous with the assembly of the morphologically complex word. However, if there is indeed this second metonymic shift it is the same as the one that we postulated for reduplications. In other words, we are no longer dealing with a prototypical case of compounding but with a formation that is at best somewhere on the border-line between compounding and reduplication.

Several cases of metonymic shifts are discussed in relevant literature that apparently coincide with some word-formation phenomenon. Dirven (1999) is the first in a series of studies on conversion as a metonymically motivated word-formation phenomenon. Kövecses and Radden (1998) and Radden and Kövecses (1999) discuss several cases of reductions of word forms, such as abbreviation (*UN*

for *United Nations*), acronyms (*NATO*), and clipping (*exam* for *examination*) as metonymies. These are considered by Bierwiazzonek (2007) to be subtypes of what he calls formal metonymy.

On a final note, we would like to suggest that metonymy seems to operate simultaneously with a word-formation process only with what has been referred to as non-concatenative morphology. Conversion, blending, reduplication, clipping, as well as various types of shortening would belong here. It should be noted that the status of most of these as belonging to word-formation properly speaking has been called into question by several researchers. On the other hand, concatenative processes such as affixation and compounding either precede or follow metonymic shifts.

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Received May 25, 2013

Accepted for publication June 12, 2013

Authors' address:

Josip Juraj Strossmayer University
Faculty of Humanities and Social Sciences
Department of English Studies
Lorenza Jäger 9
31000 Osijek

Eötvös Loránd University
Department of Germanic Studies
Rakóczi út 5
H-1088 Budapest
ritamario@dravanet.hu