Metonymy and Word-Formation

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Their Interactions and Complementation

By

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CHAPTER ONE

INTRODUCTION

The present volume is concerned with how two understudied phenomena, metonymy and word-formation, interact and complement each other in everyday use of language. The two phenomena have always been considered as less than central in the study of language. This is true of metonymy even within the cognitive linguistic framework, let alone outside it. Recent years have seen a sort of awakening and ever more intensive cognitive linguistic research on metonymy, but it is still less well understood than one might wish for. At the same time, the picture that appears to be emerging from this recent surge of interest in conceptual metonymy seems to indicate that its role in structuring human thought, behaviour, including linguistic behaviour, is no less central than that of conceptual metaphor.

Word-formation, on the other hand, has always been considered to be peripheral as far as the study of grammar is concerned. It is seen as occupying a place between grammar proper on the one hand, i.e. syntax and inflectional morphology, and the lexicon on the other.

In spite of their marginalization both metonymy (together with metaphor) and word-formation are of immense importance in enriching our vocabulary stock, and therefore in extending, refining and systematizing human conceptualizing capacity. Part of this is certainly due to the fact that they interact in doing so. They do not simply compete and block each other (although this is also sometimes the case), but rather complement each other. What I mean by complementing each other is not to be equated with the usual exclusionary linguistic interpretation of the term complementary, i.e. they are not in a relation of complementary distribution, whereby one excludes the other. What I have in mind in using the term complementary is that one builds upon the other, and that this can take place not just once. However, the two should not be conflated or equated. Metonymy is not part of word-formation, and word-formation constructions, of course, cannot be attributed solely to the application of metonymy. Most of the time they do not work in unison, what is more, their working in unison seems to be an exception rather than a rule, i.e. it is a limiting case of their interaction. Rather, they seem to operate most of the time in a cyclical fashion,

following each other in smaller or bigger incremental steps, which makes the whole picture quite messy. Due to the natural attraction of cognitive linguistics to a holistic perspective, this may sometimes become less than obvious, and the operation of one may come to seem inseparable from the operation of the other.

Needless to say, conceptual metaphor and word-formation interact in a similar fashion. In this volume I choose to concentrate on metonymy because the role of metaphor in word-formation seems to be more obvious, and has been discussed in a number of works. Another reason why I concentrate on metonymy is that some recent work seems to confuse or conflate the two (cf. Janda 2010a and b, 2011, 2014; Nesset 2010; Basilio 2006, 2009; Colman and Anderson 2004; Colman 2008).

In the Introduction to the present volume I first place conceptual metonymy and word-formation in a wider context, i.e. consider them as two powerful strategies used to lexicalize concepts. This is followed by a brief overview of central concepts and assumptions in word-formation. A chapter devoted to defining conceptual metonymy, describing its types and functions, as well its role in grammar, prepares ground for the formulation of the goals and the central hypothesis of the volume—demonstrating that, contrary to some recent views voiced in the literature, conceptual metonymy and word-formation processes do not work in unison as far as the central patterns of word-formation are concerned, more specifically, that one does not automatically trigger the other. The evidence in support of this claim is provided in the individual sections of Chapter Three, in which I review word-formation processes one by one and check how they interact with conceptual metonymy, starting from the most marginal ones, and then proceeding towards the central ones, as well as in Chapter Four in which I consider how metonymy and word-formation can block and compensate each other. The volume closes with a chapter recapitulating the findings of Chapters Three and Four and the outlooks for future research.

The goals and the hypothesis of the volume largely determine its methodological foundation. The analysis will rest on a usage-based oriented cognitive linguistic approach (although the stress will be on the doctrinal consequences of the usage-based model, very close in spirit to its Langackerian interpretation, rather than on hard and fast corpus-linguistic procedures). Needless to say, the discussion will be informed mainly by English data, but will be regularly enriched by a cross-linguistic perspective, comparing English data with what is found in a variety of Slavic, Germanic, Romance, Uralic, and other languages.

1.1 Communicative needs and lexicalization strategies

In order to appreciate how conceptual metonymy and word-formation interact and complement each other they must be both considered in a wider perspective. A good starting point in the analysis of their relation seems to be the framework of functional onomatology, introduced by Mathesius (1929, 1975), as a study of linguistic denomination (the semantic activity of giving names to concepts. More recently, Lehrer (1992: 29) introduces a similar notion of lexical packaging of concepts:

> By lexical typology, I refer to the characteristic ways in which language lexicalizes concepts; that is, packages semantic material into words.

Understood this way, lexical typology is an inventory of lexicalization strategies functioning as means of closing lexical gaps (in the sense of Lipka 1992: 152, and 2002: 188) which arise due to the continuous refinement and enrichment of our conceptual system caused by the changes in the extra-linguistic reality. The outcomes of this process are various types of lexicalizations. In linguistic theory, lexicalization is a notoriously polysemous notion with several layers of more general or more specific meaning. I will take it here, in one of its fairly specific senses, to mean something like clothing one's concepts with linguistic labels, i.e. their verbalization by whatever means (although the term can also refer to the phenomenon by which some such labels become more or less firmly established in the lexicon of a language (and stored in the mental lexicon), or to a process by which linguistic expressions become semantically opaque or demotivated).

Among the lexicalization strategies found in language after language, we should mention the following:

a. onomatopoeia

b. word manufacture

c. lexical borrowing

d. recycling already existing lexical units, which can happen in two ways:
   i. by putting existing linguistic units to new uses through reinterpretation (i.e. making words polysemous by means of conceptual metaphors and metonymies), or

ii. by making use of word-formation patterns, i.e. combining some existing lexical elements, be it words (free morphemes or combinations of free morphemes) or bound morphemes.

Onomatopoeia, as a specific case of sound symbolism, is the phenomenon of creating words that phonetically evoke their referents, generally some sort of auditory events, by imitating or resembling the sound of the event, e.g. *quack* for the sound produced by a duck, or *moo* for the sound produced by a cow, etc. Owing to their vividness, onomatopoeic expressions can be used in a wide range of contexts. It is masterfully exploited in the middle of the poem by Alfred Noyes ("The Highwayman") in order to intensify the suspension. The two stanzas describing the highwayman approach on his horse the inn where he was to meet his love, the landlord's daughter, both begin with *tlot-tlot*, imitating the sound of horse hooves. This contrasts with the unnatural silence awaiting him at the scene, due to the fact that in order to ambush him soldiers stormed the inn in the evening, taking the landlord's daughter prisoner, tying her as a lure to her bed. The silence is broken when the landlord's daughter sacrifices herself in order to warn him:

(1) *Tlot-tlot; tlot-tlot!* Had they heard it? The horsehoofs ringing clear;
Tlot-tlot; tlot-tlot, in the distance? Were they deaf that they did not hear?
Down the ribbon of moonlight, over the brow of the hill,
The highwayman came riding—
Riding—riding—
The red coats looked to their priming! She stood up, straight and still.

Tlot-tlot, in the frosty silence! *Tlot-tlot*, in the echoing night!
Nearer he came and nearer. Her face was like a light.
Her eyes grew wide for a moment; she drew one last deep breath,
Then her finger moved in the moonlight,
Her musket shattered the moonlight,
Shattered her breast in the moonlight and warned him—with her death.

In child language, the words imitating the sounds may be (metonymically) extended to denote the entities or events that bring about the sounds in question, e.g. animals, machines, or some bodily actions. Cf. the following example from a Croatian webpage counselling parents on how to play with 9—10 months old babies:

(2) Ako beba kaže *"vau-vau"*, Vi odgovorite: "Da, to je pas!".
'If the baby says "woof-woof", you reply: "Yes, this is a dog!"

However, this need not be restricted to childrenese/parentese:

(3) This little *meow* was digging into the last trash on the block when his future daddy spotted him. And then, the rest is this history that we speak here! The man froze in his steps when he heard this restless kitty hopping madly in the trash just outside his office.

In some cases, we note that this extension yields conventional words. Most notably, a number of birds are named, at least in part) after the sound they are perceived as making, e.g. *bobolink, cuckoo* (German *Kuckuck*, Italian *cuculo*, Hungarian *Kakukk*, Czech *kukačka*), *hoopoe* (Lat. *Upupa epops, Ital. l'upupa*, Croat. *pupavac*), *weero, chiffchaff, chickadee, whip-poor-will*, *peewit*, *gang-gang cockatoo*, or *kookaburra* (a loanword from Wiradjuri, a Pama-Nyungan language, in which the bird is called *guuguubarra*). Other species of animals are also occasionally named in this way: *ai* (better known as maned sloth) *katydid* (an insect in the cricket family Tettigoniidae), or *wow-wow*/*wou-wou* (the agile, or silvery gibbon).

One might assume that the core set of such onomatopoetic words seems to be fairly stable and not susceptible to frequent innovation, but it turns out that new expressions of this type can easily be added. Innovations are often found in multi-modal discourse, such as cartoons. Chris Ware in his graphic novel *Jimy Corrigan: The Smartest Kid on Earth* (which is largely with very little text) thus introduces *SNNLZP* for a nose being blown, *CLTKTY* for change inserted into a vending machine. However, onomatopoeia is clearly limited with respect to concepts that can be lexicalized using it.

New words are sometimes created *de novo*, i.e. from scratch, "with no source except the letters of the alphabet or the phonemes of the language" (Bauer 2000: 833), e.g. *barf* 'to vomit' (created in the late 1950s), or *to boff* 'to have sexual intercourse' (the first known use dating back to 1937). This method of producing new words is often referred to as word manufacture (Bauer 2006: 498), although some authors use the term coinage instead (Cannon 1987: 157). The latter term is, however, more often used in the sense of neologism in general, as in Strang (1970: 27). Some trade names apparently arose in this way, e.g. *Kodak* (George Eastman claimed to have used an anagrams set to create the name) or *Exxon*. The exact time of their coinage is not only well known in the case of such deliberate formations, but also in the case of some other words, e.g. *googol* '10^{10}, an enormous number', which was made popular by American mathematician Edward Kasner in the 1940's, but

which was actually coined by Kasner's 9-year-old nephew, Milton Sirotta, in 1920. It is also believed that *Google* is a deliberate misspelling of *googol*. The intention of the founders of the company founders was to make more accessible a virtually infinite amount of information on the web, which reflects the idea of an enormous number. However, the verb *google* was an early 20th century cricket term used in reference to a type of breaking ball, also called *googly*. What is more, note that William Morgan DeBeck, an American cartoonist, is remembered as the creator of the comic strip *Barney Google*, later renamed as *Barney Google and Snuffy Smith* (1919).

In light of the fact that letters of the alphabet or the phonemes of a language can be combined in numberless ways, the number of words genuinely created de novo is surprisingly small in natural languages. It turns out that even some of the stock examples used in literature to illustrate this method of coining new words are not created completely from the scratch. It is almost part of linguistic folklore that *quark* 'an elementary particle and a fundamental constituent of matter, any of a class of six fundamental fermions, two in each of the three generations,' was coined by Murray Gell-Mann. The physicist said in a private letter of June 27, 1978, to the editor of the *Oxford English Dictionary* that he had been influenced in his choice by James Joyce's book *Finnegans Wake*. He allegedly had the phonological form for the word in his mind, i.e. the sequence of phonemes, something like /ˈkwɔːrk/, but was unsure how to spell the term, until he came across the word *quark* in a poem within James Joyce's book:

> Three quarks for Muster Mark!
> Sure he hasn't got much of a bark
> And sure any he has it's all beside the mark.

The poem and the accompanying paragraphs carry several names of birds (*lark, buzzard, rooster*, *seaswan, seahawk, seagull, curlew, plover, kestrel*, and *capercallzie*) and words suggestive of birds (*shrillgleescreaming*). It is therefore quite possible that *quark* in the poem is used to refer to the noise produced by ravens. The word is also used as a verb, and is then synonymous with *to caw, to croak*, and the dialectal onomatopoetic verbs such as *to quawk* and *to squawk* (American Heritage Dictionary Editors 2004: 231). Gell-Mann states it clearly in his 1995 book (*The Quark and the Jaguar*) that he was aware of the fact that *quark* was intended as an imitation of the cry of the gull, as well as that it was supposed to rhyme with *Mark*, viz. that it should be pronounced as /ˈkwɑːrk/. So he admits there that he "had to find an excuse to pronounce it as" /ˈkwɔːrk/. In the above mentioned letter he writes:

> I employed the sound "quork" for several weeks in 1963 before noticing "quark" in *Finnegans Wake*, which I had perused from time to time since it appeared in 1939 … The allusion to three quarks seemed perfect … I needed an excuse for retaining the pronunciation quork despite the occurrence of "Mark," "bark" "mark," and so forth in *Finnegans Wake*. I found that excuse by supposing that one ingredient of the line "Three quarks for Muster Mark" was a cry of "Three quarts for Mister …" heard in H.C. Earwicker's pub.

To this, we should also add that *quark* is also used as a noun to refer to a type of soft, creamy curd cheese, made from cow's milk that is coagulated by the lactic acid produced by bacteria rather than by the use of rennet. The word is borrowed from German, which most likely borrowed it from West Slavic languages (Upper Sorbian, Czech and Slovak *twaroh*, Lower Sorbian *twarog*, Polish *twaróg*). This word can be pronounced either way—/ˈkwɔːrk/ or /ˈkwɑːrk/.

Another word sometimes singled out as a result of deliberate word manufacture is *cowabunga*. According to Oxford Dictionaries, this is an interjection used to express delight or satisfaction, and can be linked with Edward Kean, an American writer who created the *Howdy Doody Show*, a children TV show running between 1947 and 1960. Chief Thunderdud, a character in the programme, began every sentence with nonsense words *kawabonga* or *kawa*. During the 1950s and 1960s surfers adopted the word, changing it slightly to *cowabunga*, as an expression of enthusiasm. In a 1965 *Peanuts* cartoon, one of its characters, the legendary dog called Snoopy, is shown using the word while surfing. More recently it was used in the cartoon show *Teenage Mutant Ninja Turtles* (1987–1996).

Finally, the word *blurb*, meaning 'short promotional description of a book, film etc. printed on the back or the rear dust-jacket of the book or the DVD case, often written by the people who have produced the book or the film or someone close to them, and intended to make people want to read it or see it,' seems to have been first used by the U.S. scholar Brander Matthews (1852–1929) in 1906 in "American Character," but was made popular 1907 by U.S. humourist writer Frank Gelett Burgess (1866–1951). The Dictionary of Americanisms says the word is "said to have originated in 1907 by Gelett Burgess in a comic book jacket embellished with a drawing of a pulchritudinous young lady whom he facetiously dubbed Miss Blinda Blurb." The jacket simply proclaimed "YES, this is a 'BLURB'!" and showed the picture the fictitious young woman called Miss Belinda Blurb, described as "in the act of blurbing." A *New York Times* article on May 17, 1906 (p. 7) explains

> It was the annual dinner of the American Booksellers' Association, and Gelett Burgess, author of "Are You a Bromide?" sent to every guest a copy of his work. Moreover, he had printed on the cover an example of the publisher's puff, which he dignified by the name of "blurb." This was it: "Say! Ain't this book a 90 horse power 6-cylinder seller? If we do say it as shouldn't. We consider that this man Burgess has got Henry James locked into the coal bin telephoning for 'Information.'"
> In his speech he went further and defined a "blurb" as a "sound like a publisher" and declared it was invented by the publisher who wrote across a copy of the magazine named after him. "I consider this number the best ever written."

As we can see from the selected examples of recent word manufacture in English, speakers do not too frequently make use of this possibility. What is more, the words created this way need not always be absolutely novel, as they may lean on or be motivated by some already existing phonological sequences (in the same or in some other language).

If a phenomenon, i.e. if a concept for which no lexicalization exists in a given language because of its relative novelty it may be referred to by adopting a word from a language used by a community familiar with the phenomenon/concept. Of course, words are occasionally borrowed for other reasons, such as prestige, or to replace taboo words with euphemisms, etc. The word in question gets over time more or less adapted phonologically and morphosyntactically so as to fit the system of the recipient language. Due to the complex history of the English-speaking world, English is among the languages exhibiting a significant number of lexical borrowings in a wide variety of lexical domains. Some of these borrowings found their way into English in its earliest stages, e.g. a considerable number of words from Old Norse and Norman French. There are also a number of words from indigenous Celtic languages, such as *avon, bard, bog, clan, corgi, crag, cromlech, druid, hog, lawn, paw, penguin, pet, slogan, trousers*, or *whisky*. With the christianization of the British Isles, English was enriched with many words of Latin origin. Due to steady development of science and arts in the Middle Ages and onwards, borrowing from Latin and Greek was quite intensive. Borrowings also came from many other languages that native speakers of English happened to interact with directly or indirectly. *Admiral, alcove, algebra, gazelle, harem, mummy*, *sheikh* and *zarf* 'a holder, usually made of ornamental metal, for a coffee cup without a handle,' were borrowed from Arabic; *booze, coleslaw, cruise, easel, loiter, meerkat* and *skipper* are considered to have originated in Dutch; *accord, aubergine, chassis, court, cuisine, debris, envoy, jolly, julienne, massacre, mayonnaise, mutton, niche, parboil, sauce, terrace* and *valet* are just a handful of very frequent words that came from French at

various points in time. Borrowings from German include *blitz, dachshund, doppelgänger, festschrift, gestalt, gneiss, kaiser, karst, kindergarten, lager, leitmotif, poltergeist, putsch, realpolitik, reich, waltz, Weltschmerz*, etc.

Loanwords were in some cases adopted from a language that actually borrowed them from a third language. Thus the word *albatross* came into English from Arabic via Spanish, while *tundra* 'a large area of flat land in northern parts of the world where there are no trees and the ground is always frozen' comes from Kildin Sami (*tūndâr* 'uplands,' 'treeless mountain tract'), but was mediated by Russian (тундра).

In fact, there may be more than one intermediary or mediating language. *Alcohol* can be traced back to Arabic *al-kohl*, originally used to refer to *kohl*, the powder for painting eyelids made from finely ground stibnite, but also generally to other very finely powdered sulphide minerals such as galena, and later to any similar fine powder. The word entered Medieval Latin as *alcohol* in the 13th century in this later meaning (probably through Old Spanish mediation). The powdery consistency came about as a result of mechanical processing, i.e. crushing, or as the product of calcination, of sublimation and deposition, and sometimes of distillation. Because the famous alchemist Paracelsus thought that powders produced by sublimation were actually a kind of distillates, he extended the use of the word to refer to the distillate of wine, calling it *alcohol vini* "alcohol of wine" (it was actually ethanol), from which it was extended to the whole family of substances nowadays called alcohols in chemistry. From alchemist literature it spread into other European languages, a process in which Spanish and French played an important role. *An Universal Etymological English Dictionary* compiled by Nathaniel Bailey, published in London in 1721, still carries a definition of *alcohol* as referring to both powder and spirit, i.e. to liquid. While this etymology is embraced by Partridge (1966) and Klein (1965), Rachel Hajar[1] suggests that it comes from *al-kol* or *al-gawl*, an Arabic word she found to have two related meanings in ancient Arabic texts: 1. 'Genie or spirit that takes on varied shapes or a supernatural creature in Arabic mythology'; 2. 'Any drug or substance that takes away the mind or covers it'. Let us also point out that the Arabic *ḡawl* or *ḡūl* means among other things, 'ghoul, desert demon' and 'calamity, disaster'. Similarly, Persian *ǧul* means 'ghoul, an imaginary sylvan demon supposed to devour humans and animals'. Note that this word is used in the Qur'an (37:47) in the sense of 'the thing that gives the wine its headiness.'

[1] Hajar, Rachel (2000). Alcohol: Friend or foe? A historical perspective. In *Heart Views* 1.9: 341–344.

As can be seen in the above examples, borrowing may be particularly heavy in the case of certain domains such as arts, cuisine, science, etc. Some of these words are predominantly used by experts, but many have become part of general English. There are many special musical terms that were borrowed from Italian, such as *concertante, continuo, conetto, divertimento, dolce, espressivo, fioratura, glissando, intermezzo, largo, legato, largo, moderato, obbligato, parlando, scherzando, scherzo, tessitura*, etc. Not suprisingly, many words related to Asian martial arts, entered English directly from Japanese when these sports/skills were introduced in the Western world, such as *aikido, dojo, judo, jiujitsu, karate, kendo, and sumo*. A domain that has recently seen an influx of Japanese loanwords is the domain of logical puzzles. In addition to *Sudoku*, there is *Kakkuro* or *Kakuro*, a type of puzzle sometimes referred to in English as *cross-addition* or *cross sums*, then *Hanjie*, *Nurikabe, Futoshiki, Hashiwokabero, Kuromasu, Hitori*, *Tentaizu*, etc.

The three strategies we have reviewed above, onomatopoeia, word manufacture and borrowing, are limited in scope. Onomatopoeia is severely restricted to only certain types of referents and situations. The application of word manufacture is severely constrained by the phonotactic rules of the language and possible semantic and formal interference not only with items in the same language, but potentially also with some items in other languages. Finally, massive borrowing of lexical items is, as we have seen in the examples above, certainly possible, but it may make the linguistic system very unstable for a number or reasons (e.g. import of new phonemes, appearance of new grammatical elements, but potentially also putting the existing morphological paradigms in danger, etc.). To give an example of the case in point, we only need to think of English after the Norman Conquest, when it changed dramatically in many respects.

It is no wonder then that the most important strategies in closing lexical gaps have to do with recycling lexical units that already exist in a language. One way in which this can happen is by putting existing linguistic units to new uses through reinterpretation by means of conceptual metaphors and metonymies. The most conspicuous effect of this is that words become (more) polysemous, but they can also have some grammatical ramifications.

The other major way of extending the lexicon of a language in a productive way is by making use of word-formation patterns, i.e. combining units such as words and affixes into more complex polymorphemic units, and/or affect the morphological and phonological structure of words in other ways. The input of word-formation operations can be practically any word, morphologically simple or complex, of native Anglo-Saxon origin

or a loanword, even a fresh one, e.g. various variants of sudoku are called *killer sudoku, word sudoku* (or *wordoku*), *squiggle sudoku* (or *jigsaw sudoku*), *X-sudoku, sub doku, super doku, prime doku*, etc.

Normally there is a concomitant semantic change in the word that is the result of such operations. OxfordDictionaries.com describes a series of new additions, apparently four novel compound words, as follows:

> *Binge-watch* and *hate-watch* have also been added, and describe two approaches to watching television (that can be combined). *Binge watching* means watching multiple episodes of a series in rapid succession (and hit a usage peak in February 2014 when the second season of *House of Cards* was released in one go by Netflix). On the other hand, if you *hate-watch* a series it's for the joy of mocking or criticizing something you think is bad. You might even *live-tweet* the experience, if you're *tech-savvy*.

A brief introduction to word-formation phenomena is offered in 1.2. below.

As metaphor and metonymy will be discussed in more detail in 1.3., let us for the time being say that they are traditionally taken to be figures of speech in which words or larger expressions are used non-literally, i.e. they acquire additional meanings that can be more or less easily related to their so-called primary or basic meaning.

In the case of metaphor, the link between the two meanings typically has to do with some sort of conceptual or functional similarity or parallelism. It is operative in extending meanings of words belonging to both open and closed classes, as well as those words that form the core of the lexicon and straddle the two sets. Although such examples abound in English (e.g. the use of *front* in the complex preposition *in front of*, the noun *front* was used in 13th century in the sense of 'forehead', from 12th century Old French front 'forehead, brow', which in turn developed from Latin *frontem, frons* 'forehead, brow, front countenance, expression, etc.'), a couple of examples from less well-known languages that have to do with the number system will suffice at this point.

It has been observed that body parts can be extended to function as number words in many languages. Some Melanesian cases languages apparently lack a numeric base and speakers count simply by using words for, or pointing to relevant body parts in a fixed order. Oksapmin, a Highlands Papuan language, has a system that makes use of 14 points from the thumb of one hand to the nose and then back in 13 steps to the thumb of the other hand (starting with *tipun* 'thumb' for 1, over *ləwatipun* 'index finger' for 2, then to *bumlip* 'middle finger' for 3, etc. to *kin* 'eye' for 13, then to *lum* 'nose' for 14, and then to the other eye, *kin-tən* 'other-side

eye' for 15, until one reaches the other thumb, *tipun-tən* 'other-side thumb,' for 27 (Evans 2010: 61). It will be seen that these words are used in their literal sense, there is no metaphorization (note that counting proceeds by the pointing to the body parts, while speaking, or even without speaking).

But there also clear cases of metaphorical base for some numbers. Discussing the motivation in number systems, Heine (1997: 21) identifies the numeral 5 as "crosslinguistically the smallest recurrent base number, where 'base number' is that number from which counting starts over." In such quinary systems, the word for hand is very often used metaphorically for five, apparently motivated by the fact that there are five fingers on each hand. Thus 10 in Southeast Ambrym is *hexalu*, where the literal meaning of *he-* is 'hand' and *lu* is '2' (Parker 1970). In Nengone, the language of the Loyalty Islands, *sedoŋ*, literally 'hand,' is used for '5'. The words for 6-9 are formed by repeating the respective word for 1-4 after *sedoŋ ne* 'hand and,' e.g. *sa* '1' vs. *sedoŋ ne sa* '6'*, rewe* '2' vs. *sedoŋ ne rewe* 'hand and two', etc. (Lynch 1970).

The base number can occasionally be smaller than 5, e.g. some Sulawesi and Papua New Guinean languages use a quaternary system. The base number is 4, and these languages use the term *asu* and *aso*, the word for dog, from the Javanese *asu* 'dog' (Ryan 1972: 219). This is clearly a case of metaphorization of the animal name.

Finally, returning closer to English, let us consider the Indian English and Hindu unit *lakh* '100,000' (or, according to Indian digit grouping convention, 1,00,000). Evans (2010: 61) suggests that the Sanskrit word *lakṣa*, from which he claims *lakh* derives,

> … from the same root as the German word *lachs* "salmon" and its Yiddish and now English counterpart *lox*; the extension to 100,000 was based on a metaphor of huge numbers of swarming salmon.

Metonymy is traditionally taken to be a figure of speech that rests on the association or contiguity. As a matter of chance, metonymy also plays a role in some of the above examples. I have pointed out above that loanwords undergo a process of adaptation in the recipient language. Words of a language are often polysemous, i.e. have more than one meaning. However, when such a polysemous word of a donor language is borrowed by another language, it is usually adopted with a single meaning because it is supposed to close a single lexical gap, i.e. be associated with a single concept for which the word in the recipient language is missing. Croatian has taken over the word *like* as *lajk* (from which the verb *lajkati* is derived), but of course only in its most recent meaning 'to indicate one's enjoyment

of, agreement with, or interest in (website content, especially in social media).' Similarly, the recent Croatian loan *šerati*, from English *share*, is only used in the sense of sharing files, specifically photos, using the Internet. In other words, we may witness a narrowing down of a cluster of related meanings to just one. These related meanings may have arisen due to metaphorical or metonymic extensions (in the case of *like*, we may note the shift from meaning 'to take pleasure in, enjoy, find agreeable' to meaning something like indicating all this), and in the process of borrowing this metaphorical or metonymic link is so to say destroyed or undone.

Words may also shift their meanings over time. Speaking about the diachronic phenomenon of metonymic chains or serial metonymy Nerlich (2001: 1623) explains that:

> [i]n the case of radiation a word accumulated meanings around a core, that is, becomes polysemous; in the case of concatenation a word develops a polysemous chain of meanings, where the first links in the chain might be lost or forgotten.

Borrowing a word with just one of its several meanings can produce a result similar to such diachronic metonymic chains, i.e. in both cases we witness a sort of narrowing down of meaning. However, in the case of *alcohol* discussed above, we can discover several metonymic stages. At one point the meaning of the word is broadened so as to include reference to any type of sulphide powders, then it was further generalized so as to refer to all the fine powders. Paracelsus' idea that the process of sublimation was a kind of distillation made possible further metonymic extensions, first the subsumption of all of the instances of the production of fine powders such as sublimation, calcination, etc. under a broader term of distillation, and then the addition of the distillate of wine into the category, and at the end a gradual narrowing down of this cluster of meanings to just the 'alchololic distillate of wine, i.e. ethanol,' and from there extension to the reference to the type of substance in general, i.e. all types of alcohol, and from there to all the drinks containing alcohol.

Metonymy and metaphor often interact, one can precede the other, and what is more this can happen more than once. In the case of some quinary numeric systems discussed above, we have seen that the word denoting hand as a salient body part may be used metaphorically to refer to '5.' Note, however, that in such cases we mention a whole, i.e. the hand, but actually mean its five parts, i.e. fingers. So it is actually a PART FOR WHOLE metonymy that creates the conceptual ground that is prerequisite for the metaphor to work.

1.2 Word-formation: Overview of some basic concepts and phenomena

Since morphology as a linguistic discipline is traditionally defined as the study of word structure, it follows that words are structured, complex units. By segmenting portions of language until no forms are found within the resulting segments that have a constant meaning, we arrive at morphemes as smallest meaningful units in the composition of words:

(4) a. {catch}[2] + {ing}

b. {catch} + {er}

Morphemes are abstract units that are realized by morphs. Allomorphs are morph families whose members are positional alternants, i.e. they have identical meaning but are in complementary distribution, i.e. their appearance is conditioned phonologically, grammatically, or lexically. To bring out the distinction between regular phonological alternation, which is phonologically motivated, and other kinds of morphological alternation that lack a phonological basis, most linguists accept some version of Lass's (1984) unique underlier condition that states that every morpheme has a single underlying morphophonemic representation called underlying representation (or default form, base form, or underlier) from which all the various allomorphs (or alternants) of a morpheme are derived by applying one or more phonological rules (except in cases of suppletion).

Regular plurals of English nouns are formed by adding a morpheme that can be realized in three ways, depending on the final sound of the noun. In other words, the choice of the right allomorph is conditioned phonologically:

(5) morpheme: NOUN PLURAL
morph: {z}
phonologically conditioned allomorphs: /ɪz/, /z/, /s/

The allomorph [ɪz] is found after bases ending in voiced sibilant sounds [z], [ʒ, [ʤ], e.g. *horse* /hɔ:s/ – *horses* /hɔ:sɪz /. If the noun ends in a vowel or in a voiced consonant other than a sibilant it is realized as /z/, e.g. *bug*

[2] Morphemes in isolation are technically represented in braces, square brackets or capitals, e.g. [*catch*] or {*catch*}. Morphemes within words may be separated by stops, e.g. *mis.lay.ing*.

/bʌg/ - *bugs* /bʌgz/. Finally, in all other cases, i.e. if the final sound is a voiceless sound other than voiceless sibilants /s/, /ʃ/ and /tʃ/, it is realized as /s/, e.g. *desk* /desk/ - *desks* /desks/.

Allomorphs can be grammatically conditioned, e.g. the verb *weep* exhibits a different form when it is followed by a morpheme signalling the past tense (which is also used to form the past participle): *wep.t*. Finally, the phenomenon of allomorphy can be lexically conditioned, i.e. by the lexical unit to which a morpheme is added, e.g. some nouns such as *ox* and *kibbutz* require special allomorphs of the plural morpheme, {*en*} as in *ox.en*, and {*im*} as in *kibbutz.im*, respectively. Similarly, when we add the morpheme {ion} to {destroy} /dɪ'strɔɪ/, the latter appears in a different form: {destruct}, i.e. the complex word is *destruction* /dɪ'strʌkʃn/.

Types of morphemes can be distinguished according to the following criteria:

i. their meaning/function: lexical vs. grammatical/functional

ii. independent status: free vs. bound

iii. relative position

A morpheme that signals more abstract grammatical relations or functions is called grammatical or functional morpheme. The number of such morphemes in a language is much smaller than the number of lexical morphemes, which carry substantial semantic content. The set of grammatical or functional morphemes is typically a closed set, while the set of lexical or semantic morphemes is open in the sense that new members can be (and are) added over time.

Regarding their status as independent words, morphemes can be free or bound. They are free if they can stand alone in a sentence, i.e. if they can function as a word. Most lexical morphemes in English are free, e.g. *chair, grasp, fresh*, etc. Some of the grammatical morphemes are also free, e.g. prepositions like *in, at, up, over*, etc., or articles. Morphemes are bound if they cannot function as words, but must be joined with at least one other morpheme to form a word, as for example the plural ending of nouns, *cat.s*, or *bird.s*. Bound morphemes can be lexical or grammatical. Grammatical bound morphemes are always affixes, while lexical bound morphemes can be affixes or roots.

A root is in morphological theory the irreducible core of a word, with absolutely nothing else attached to it, it is the part that is always present, possibly with some modification, in the various manifestations of a lex-

eme, e.g. *walk* in *walk*, *walks*, *walking*, *walked* and *walker* in English or the Croatian *žen-* 'woman' in *žena* 'woman-FEM+SG+NOM,' *žene* 'woman-FEM+PL+NOM' or 'woman-FEM+SG+GEN,' etc. A stem is the part of a word that is in existence before any inflectional affixes have been added, e.g. *cat* in *cats*. Base is any morphological unit whatsoever (consisting of a single morpheme, or being itself a complex consisting or more than one morpheme, existing as an independent word, or just as a bound part of a word), to which affixes of any kind can be added or which can be added to another base in compounding.

It is clear that the Croatian root above is bound, while the English one is free. However, not all lexical roots in English are free. There are bound lexical morphemes that are not affixes, but roots, mostly Latinate or Greek forms such as *-duct, -spect, -fer, bapt-*, etc. There are also isolated native bound roots, such as *cran-* as in *cranberry*, *mul-* as in *mulberry*, *twi-* as in *twilight*, or *cob-* as in *cobweb*. These morphemes, sometimes referrred collectively as *cranberry* morphemes in literature, are found in one complex word only.

Finally, the third criterion applies only to affixes. According to their position relative to the stem or base, two major classes can be distinguished: prefixes and suffixes. The former precede, the latter follow after the stem or base, e.g. *un-* is a prefix in *unpack*, while *–age* is a suffix in *package*.

The major types of morphemes emerging from the above divisions can be summed up as in Figure 1 below.

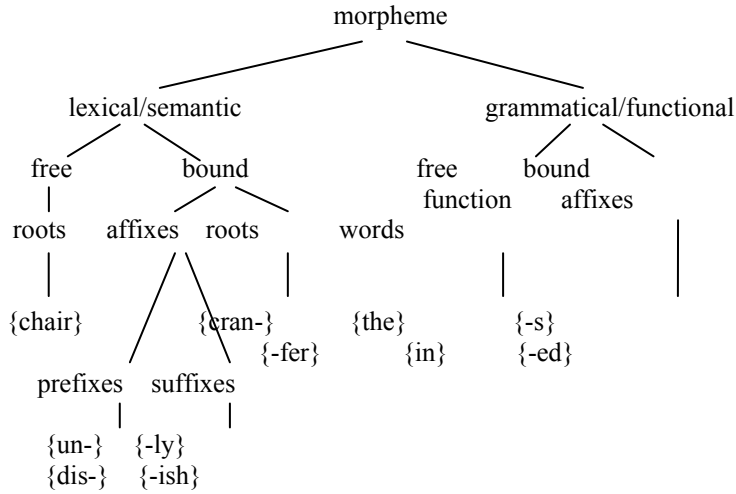

Figure 1. Types of morphemes.

There are also some more special types of affixes defined with respect to their position relative to the stem or base. These are not found in every language, and even when they are present in the morphological system of a language, they may play a less important role than suffixes and prefixes.

Infix is a general term for an affix that is inserted into the base, effectively splitting it into two parts, i.e. producing a discontinuous stem or base. Infixes are very common in Austronesian and Austroasiatic languages, e.g. Khmer has seven infixes (Lewitz 1976). One of the less productive ones, *-b-*, is used to nominalize adjectival or verbal bases (mostly monoyllabic ones):

(6) *riən* 'to learn, study' - *rbiən* 'learning, knowledge'
caa 'to draw a line, carve, groove, to plow' – *cbaa* 'garden, plantation'

In Hua, a Papuan language spoken in the Eastern Highlands of Papua New Guinea, the negative marker *-ʔa-* appears before the final syllable:

(7) Hua Negative formation (Haiman 1980a)
zgavo - zgaʔavo 'not embrace'
harupo - haruʔapo 'not slip'

Apparently, some Spanish diminutive forms of personal names can be analysed as containing the infix *-it-*:

(8) *Carlos – Carl**it**os*
*Victor - Vict**it**or*

Two types of infixes are found in English slang. One is *-iz(n)-* occurring in hip-hop slang (Viau 2002):

(9) *house - hizouse*
bitch - bizitch
soldiers - sizoldiers
ahead – ahizead
shit - shiznit

The infix is placed before the stressed vowel. In hip-hop music, *-iz-* infixation can be used to change the meter, emphasis, or rhyme of a prosodic phrase, but the process may be used for obscuring profanity (e.g. *di-*

zamn for *damn*) or expressing "a hint of joviality" (e.g. *Whassup in da hizzouse?*) as well as marking the "insider" identity.

The second type of infixation involving the insertion of *-ma-* after a trochaic foot in American English slang is referred to as Homeric infixation (Yu 2004, 2007), illustrated in:

(10) *educate – educa**ma**te*
*complicated – compli**ma**cated*
*saxophone - saxo**ma**phone*

Homeric infixation is a morphological construction that has recently gained currency in Vernacular American English, one of the factors contributing to its popularity is the TV animation series, *The Simpsons,* particularly the speech of the main character Homer Simpson. The infixing *-ma-* most likely emerged out of an accidental convergence among the different filler-word constructions in English, a set of vague, nonsense, filler words English speakers may use when they cannot recall a word, name, or phrase to fill the gap, as in *Put the thingamabob/thinkamajig on the whatsit.*

In addition to these two types, there is a similar phenomenon invariably called *tumbarumba* or expletive infixation, illustrated in:

(11) a. *kanga-bloody-roo*

b. *abso-blooming-lutely*

c. *abso-bloody-lutely*

d. *guaran-damn-tee*

The term *tumbarumba* stems from the fact that the name of an Australian town, *Tumbarumba*, undergoes such infixation, along with a couple of other words in a poem by John Patrick O'Grady (1907-1981), an Australian poet ("The Integrated Adjective or Tumba-bloody-rumba"). The expletive is always added immediately before a stressed syllable (either primary stress or secondary) but never before an unstressed syllable:

(12) a. *kanga-bloody-roo* vs. **kan-bloody-garoo*

b. *abso-blooming-lutely*, *abso-bloody-lutely* vs.**ab-bloody-solutely*, **absolute-bloody-ly*