Linguistic motivation and its lexicographical application

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1. Introduction

The theme of this paper is the inclusion in dictionaries of various types of motivational information.

Following Lakoff (1987) motivational information (also referred to as **motivational principles** or **motivational links**) can be defined as *information categories that explain (or motivate) why it is natural for a lexical unit to mean what it means, or that explain why it is natural, or «makes sense», that a specific meaning is expressed by a certain lexical item, rather than another.* By giving an answer to the question *Why is something called X?* or *Why does the word Y mean «Z»?* explanatory/motivational information offers the necessary information to «make sense» of the listed senses and subsenses of lexical items.

Lakoff (1987:438) makes the psychological claim from the viewpoint of cognitive linguistics that it is easier to learn, remember and use a lexical item if one knows how it is motivated or what niche it occupies within the ecology of the lexicon. Ilson (1983:77-78), following Gove (1966:62-63), argues in similar vein, albeit from a lexicographical point of view, that if one construes etymological information as information that includes, but transcends, the search for sources and parallels, i.e. that it may be viewed as «information about how a word, phrase, or sense came to be as it is», then the inclusion of such information makes it easier for students to understand, learn and use arbitrary expressions.

The importance of motivational information for *all* categories of dictionary users becomes evident if one accepts that dictionaries of various types are not merely repositories of codified practice, but that they are also, broadly construed, used as pedagogical instruments. In this respect, dictionaries are not merely consulted to fill a temporary linguistic informational gap or to secure lexical knowledge temporarily in cases of uncertainty, but ultimately to learn what is considered to be lexicographically correct, making further reference to a dictionary for this purpose unnecessary. Learning and remembering lexical data with correct usage in mind can therefore be seen as one of the long-term purposes or justifications for most dictionary reference acts (cf. in this respect Kühn, 1990).

In the rest of this paper I will explicate the concept of linguistic motivation as expounded in Lakoff (1987) and explore its lexicographical relevance and application.

2. A linguistic perspective

2.1. Defining motivation

In linguistics the concept of motivation forms a part of a triad of concepts, of which transparency (compositionality, predictability or iconicity), and arbitrariness (non-iconicity) form the other parts. Lakoff (1987: 452,346) postulates the hypothesis that

human lexicons are not just massive random lists of expressions and associated meanings, but that in human conceptual and linguistic systems, most things, though not all, are neither arbitrary (i.e. unpredictable, opaque, non-transparent) nor compositional (i.e. fully predictable, transparent), but motivated, to some degree and in various respects. Motivating links, that make sense of the association between form and meaning units and between lexical senses, therefore, form an integral part of human lexicons.

Lakoff (1987) defines the concept of motivation in various ways. I will restrict myself, however, to two such definitions. In the first, the concept «motivated» is defined in the sense of «making sense of something» or «being explained by something» and it is defined relative to the existence or not of motivational links/information that motivate the meaning of a lexical item. In the second definition, being motivated is equated with being partially predictable.

The first definition runs as follows:

> «The relationship between A and B is *motivated* just in case there is an independently existing link, L, such that A-L-B «fit together». L *makes sense* of the relationship between A and B.» (Lakoff, 1987:448)

As formulated, this definition embodies the assumption that not all lexical units of a language are motivated in the above sense, i.e. the existence of arbitrariness is conceded.

The concept of a motivating link can be best explained with the aid of a few examples. Compare the following:

(1)

LINGUISTIC UNIT
   FORM(A): *halcyon days*

   |
   |
   |——┐
   | |
   | |
   MEANING(B):"calm days" |
                                                 |

   **MOTIVATIONAL LINK**
                                      Referring to the
                                     ancient belief that
                                      a KINGFISHER (a
                                    waterbird whose Greek
                                      name is halcyon)
                                    laid its eggs on the sea
                                   during a 14-day period of
                                     calm and good weather

(cf. **Longman Dictionary of English Idioms.**)

As the above analysis of the arbitrary expression **halcyon days** shows, the Greek name **halcyon** motivates the choice of **halcyon** in the set expression, and the meaning «calm» is motivated by the contents of the belief system; the meaning of **day** as «day» further illustrates that the set expression itself, contrary to some widely held definitions of set expressions (of which idioms form a subclass) is not as arbitrary or nontransparent as the mere listing of its conventional meaning would suggest. In fact, the relative transparency of the idiom, as located in the transparency of **day**, makes sense of the fact that the idiom itself can be included as a subentry under the headword **day**. This view ties up with the general observation of a number of papers on the semantics of so-called arbitrary lexical units (cf. Fernando and Flavell, 1981; Gläser, 1988, and Sornig, 1988), viz. that arbitrariness, or its opposite, transparency, is a matter of degree and that complete arbitrariness and complete transparency form the end-points of a continuum, rather than a strict dichotomy.

The following example from **Webster's Third New International Dictionary** (cf. Ilson, 1983:80) illustrates how a motivational link (how/why etymology) motivates the development of (or synchronic relationship between) the senses of a polysemous lexical item:

(2)   tank (A)

                       military vehicle (B) (fig.)
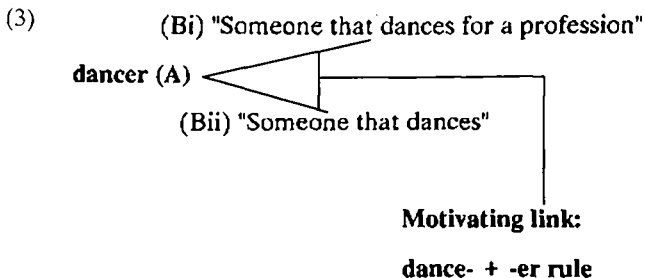
         MOTIVATIONAL LINK
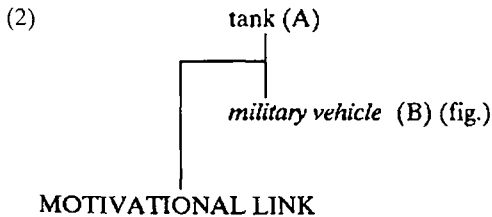
   (i) kind of container (lit.);
   (ii) (Sub-entry: 3 so called fr. the fact that during its orig. secret manufacture in England the hull was referred to as a water tank.)

As explicated in the latter case, the figurative meaning of **tank** as «military vehicle» is motivated by the primary literal sense of the word, viz. «kind of container», and the why/how etymology provided in the subentry.

The nature and scope of the motivational information involved is further exemplified by the following example:

(3)   **(Bi) "Someone that dances for a profession"**

     dancer (A)

                 (Bii) "Someone that dances"

                                    Motivating link:

                                    dance- + -er rule

As indicated, the word **dancer** has two literal senses, viz. the primary meaning «someone that dances for a profession» and the secondary meaning «someone that dances». Both these meanings are derivable from the meaning of the stem morpheme **dance-** and the highly regular and productive morphosemantic rule in English for **-er** derivation (cf. the entry **-er** in **LDOCE**). Given the meaning of **dance** and the rule $(v \rightarrow n)$ *a person who*, the secondary sense is completely predictable (that is fully motivated). The primary sense, however, is only partially predictable as it contains the idiosyncratic (unpredictable) meaning component «for a profession», as illustrated by the example sentences added to the **-er** rule in LDOCE.

Given the broad definition of motivational information above, these examples illustrate that motivational categories can be historical or synchronic in origin, encode idiosyncratic-lexical information and/or highly regular (productive) processes, include so-called «linguistic» as well as «non-linguistic» information, as for example a certain belief, and have the status of being true or fictive in nature. The examples furthermore illustrate that both morphological simplexes (traditionally considered to be arbitrary) and morphological complexes can be motivated, and in varying degrees, i.e. partially or fully.

Morphosemantic rules like the **-er** rule encode a particular regularity that is valid for a whole morphological paradigm (e.g. **dancer, driver, trainer, waiter,** etc.) and it motivates the individual meanings of each of these members.

In cases like these, the concept of motivation is equated with being partially or fully predictable by some regularity. Lakoff intercepts this interpretation by his second definition of motivation, viz. *that something is motivated when it is neither arbitrary nor predictable* (cf. Lakoff, 1987: 346).

The term arbitrary is used to mean what has become an accepted interpretation of the Saussurean conception of the term, viz. that a lexical unit is arbitrary inasmuch as there is deemed to be no inherent or intrinsic or natural relation between a sign and its meaning, or, more precisely, between signifier and signified (Hutton, 1989: 64).

Lakoff (1987) interprets the concept «predictable» in a rather specific way, i.e. to mean that something is predictable if it is computable by means of a specific algorithm:

> «Algorithms permit one to state rules, or principals, that will compute an output given an input. One can interpret such computation metaphorically as «prediction». Algorithms are good for prediction (that is, the computation of outputs from given inputs). With respect to an algorithm, things are either predictable (that is, computable from an input) or they are arbitrary»

In the case of most morphological complexes, however, the compositional semantic value, which is derivable from the morphosemantic rule, underspecifies the full conventional meaning of the lexical item; conversely: the conventional meaning instantiates the compositional value, but it is not equal to it, being semantically more specific in meaning than the compositional meaning (cf. Langacker, 1987), and is, therefore, not fully computable or predictable by the morpho semantic rule. Morphological complexes will be considered motivated by the meaning of the stem morpheme and the morphosemantic rule that they instantiate.

The concept of predictability does not only apply to rules or regularities of the morphosemantic type, but also to the rules, principles or functions that capture regu-

larities on the semantic level. I refer here particularly to the selection of image-schematic transformations, productive conventionalized metaphors and metonymic functions that productively map or structure the subsenses of polysemous items. Cf. the discussion below.

Cases of semantic motivation include the broader class of semantically motivated structures as these pertain to relationships of similarity, resemblace or identity between meaning structures associated with the same form (or sets of forms in the case of lexical morphological paradigms) (cf. Lyons, 1977: 103).

The prototypical case of semantic motivation is the set of metaphoric expressions that are *qua* form unmotivated by their literal meaning, but motivated by the process of meaning transfer between their literal and figurative meanings, which can be explained in terms of some explanatory notion. In cases of secondary motivation, the relationship between form and meaning is always mediated by something else.

Compare in this regard the LDOCE entry for **heart** which list 23 subentries of which the greater part consists of idiomatic expressions with **heart** as a central component. The various metaphorical senses of **heart** (e.g., heart = *love*: lose one's heart to; *emotional disposition*: happy heart; *tenderness*: you have no heart; *the innermost, most central, most important or vital part of something*: the heart of the city/matter) are jointly or separately motivated by the primary literal meaning of the word and by our folk belief system (and not a medical one) of the concept «heart». This belief system is alluded to in the cryptic dictionary subentry 2 **«the same organ when thought of as the centre of the feelings, esp. of kind feelings (as the brain is the centre of thought)»**.

As Driven (1985) indicates, however, what happens in a case like this is that the heart is metaphorically construed as a container on the grounds of the metaphor THE HEART IS A CONTAINER, i.e. the heart is metaphorically understood as a container of various emotions, in which case it can then metonymically stand for various emotions. The metonymic mapping involved explains how each metaphoric interpretation of **heart** can substitute for a literal interpretation of the kind **take heart/courage** or **«to take one's heart/courage into your hands»**.

Dirven (1985) indicates that much of the meaning of the lexical unit **heart** is in fact metaphorically construed. Furthermore, the semantic motivatedness of **heart** and of the expressions containing it is a complex affair largely underspecified by dictionary entries for **heart**. The motivational links that motivate the various interpretations of **heart** and of expressions containing it, can be schematically summarized in the following:

(4)

<div align="center">

heart(A)
</div>

(Subsenses)   Bi......

                        Bii......

                        Bn......

<div align="center">

Motivating link:
</div>

(i) Literal sense («blood pumping organ»);
(ii) Metaphor (**THE HEART IS A CONTAINER**);
(iii) Belief system («The heart is the seat of psychological states, the seat of life»);

(iv) Metonymy (As a container of psychological states, the heart can metony-
mically stand for the psychological state).

Motivating metaphors and metonymic models or functions, like the morpho-
semantic regularities alluded to above, are for the most part not restricted to a single
expression, but underlie a number of such expressions.

What is to be regarded as semantically motivated in this sense, is of course de-
termined by how broadly or narrowly one construes one's semantic theory, i.e. by
what is delimited as being in the realm of linguistic semantics. In the broadest of
these theories, as in the case of the cognitive semantic framework in which Lakoff
(1987) operates, metaphorical expressions can be motivated by the fact that the
similarity links between their literal and metaphorical meanings can be explained in
terms of entities like cultural concepts and encyclopedic knowledge (cf. also Kee-
sing, 1979).

Conceptualized as such, basically any aspect of our synchronic knowledge base
can function as a motivating link, so that motivational information can be as diverse
in nature as the differing nature, scope, stability, etc., of the components that make
up our conventional, and thus mutual knowledge bases.

Linguistic knowledge, like motivational information, is itself considered part of
this broader knowledge structure: knowledge that is motivated by other knowledge
(Lakoff, 1987: 346-347), regardless of whether or not we acquire it consciously
through scholarship, or unconsciously through a process of primary/secondary lan-
guage acquisition.

2.2. Motivation and prototype categories

As in most variants of cognitive grammar (cf. Langacker, 1987; Geeraerts, 1989,
1990), Lakoff (1987) construes polysemous lexical items as prototype categories (or
«radial» categories), i.e. as categories that typically consist of a central sense plus one
or more non-central or peripheral senses between which a relationship of «family re-
semblance» (instead of strict identity) holds (Lakoff, 1987: 65,85). Typically these sub-
senses are literal and figurative (metonymic and metaphorical) extensions from the
central meanings.

Various subsenses may be developed from other subsenses so that category
chaining between the various subsenses comes into being. Some of these subsenses
may have become conventionalized, but with respect to some subsenses there may be
individual variation. These unstable subsenses do, however, come into existence on
the basis of the same mechanisms or motivational factors that characterize the con-
ventionalized chains of subsenses.

The non-central senses are conventionalized and have to be learnt (Lakoff,
1987: 85), i.e. given the central meaning one cannot predict which peripheral senses
are associated with a specific central meaning: learning a language constitutes in
part the learning of which subsenses or non-central senses are indeed associated
with the central sense in a specific language. The unpredictability of subsenses does
not, however, imply that they are random: possible subsenses are determined (i) by
the central meanings and (ii) the set of possible relationships (principles of exten-
sion/intralexical relationships), and are therefore motivated by (i) and (ii) (cf. La-

koff, 1987: 65). Lakoff, (1987: 91) regards all subsenses as being motivated by (i) the central senses and (ii) the set of general principles of extension. More specifically, subsenses are understood as variants of central senses, i.e. they are not understood purely in their own terms; they are comprehended via their relationship to the central sense (cf. Lakoff, 1987:91). Every member-to-member link is motivated, i.e. it represents an extension that is natural in view of linguistic, cultural, or cognitive factors. Class membership is not predictable in any absolute fashion: of the many extensions than could in principle be motivated, only a few happen to be established as part of the linguistic system (cf. Langacker, 1988).

In each language a number of these motivational links have become conventionalized. They characterize the relationships between the existing subsenses of a polysemous lexical item and they form the basis of synchronic lexical innovations/creativity (cf. Lakoff, 1987: 110-113).

According to Lakoff (1987: 537) languages are structured to maximize motivation. We would, therefore, expect polysemic categories to be prevalent since such structures have the effect of maximizing motivation. Polysemic categories have the function of reducing the arbitrariness of form-meaning correspondences (Lakoff, 1987: 537).

3. Motivational categories

If one synthesizes the motivational categories expounded by Lakoff (1987), Ilson (1983), Ayto (1988), and the general principles of semantic change as reinterpreted by Geeraerts (1983(b), 1985), a complex category of motivational information types evolves, all of which illuminate the motivated aspects of lexical units as form-meaning structures.

For ease of representation the category as a whole is divided into four subcategories, viz. phonological motivation, motivation by interlexical and interlingual relationships, morphological motivation and semantic motivation. These four categories are, however, not mutually exclusive as a number of the subcases of interlexical and morphological subcategories comprise categories in which lexical units are motivated by reference to other specific lexical units (in the same or different languages, by reference to the phonological or semantic properties of related words in different stages of a language, or by reference to the specific word from which another is morphologically derived).

3.1. Phonological motivation

Under this category resorts cases of primary motivation, viz. onomatopeia and sound symbolism. In the case of onomatopeic or imitative words (e.g. **bow-wow**) the wford form either presents the sound that it names or the word form has undergone some change to bring it nearer to the speaker's idea of the sound. In cases like these the words in their spoken form are naturally representative of the entity or action that they signify.

    (5)   a. crash, smack, crack, smash; buzz, hiss, click, whippoorwill («bird calls»);
            b. crow, growl, purr.

But, as Lyons (1977: 101,103) points out, there is some arbitrariness or conventionality even in these words since they are made to conform to the phonological systems of particular languages, rather than being directly imitative of what they stand for. Their degree of iconicity is therefore medium bound.

Onomatopeic words are, therefore, considered motivated in as much as it is possible to explain or justify the relationship between their form and meaning in terms of some extralinguistic fact (cf. the discussion above) which forms the motivational link (motivational information) that explains why these words mean what they mean or why a certain word form is chosen or considered to be an appropriate representation of its associated meaning. As an example of the treatment of onomatopeic words, one can consider the following:

(6)
crow..., v.i... Utter loud cry of cock; (of child) utter joyful cry; exult loudly... (OE *crawan*, cf. Du. *kraaijen*, G. *krähen*; imit.)
(The Concise Oxford Dictionary)

As indicated, the etymology of the word is described with the aid of the label **imit.(ative)** referring to the process of onomatopeia, the motivating link, viz. the sound made by the relevant animal, being described in the definition. In the case of most onomatopeic words it is indeed difficult, if possible, to separate definition and motivational information.

The following are examples of sound symbolism:

(7)   dither, dodder, quiver, slink (denoting movements of various kinds);
(8)   gloom, grumpy, mawkish, slatternly (denoting some physical or moral quality, usually unfavourable). (Lyons, 1977: 104)

Lyons (1977: 104) remarks that in cases like these the spoken word form is felt to be appropriate to the meaning of the lexemes of which they are forms, although the words do not actually denote sounds or the source of sounds. Dirven (1985: 89) remarks, however, that in the case of motion verbs like

(9)   swerve, swoop, swish, swipe, swift, swirl

the «sw» denotes the common meaning element «curved fast motion» which is motivated by the curved motion of the air stream in the mouth required for the production of the sound combination **sw-**.

3.2. Motivation by interlexical and interlingual relationships

The following cases fall under this category:

(i) **etyma** (the sources of words in earlier stages of the same language and in other languages);
(ii) **cognates** (words in other languages related in form to the word being defined) which assist the user in determining of the cognates in two languages

what common areas of meaning they cover and whether or not they completely differ in meaning;
(iii) **borrowings and loan translation** (calques).

In dictionaries information on these three categories are also supplied as part of the etymological information. Compare in this respect the following shortened examples from **A Dictionary of South African English**:

(10)
a. **boom**... Tree [*Afk. fr. Du boom* Tree *cogn. ger. Baum*];
b. **bonsella**... A present, gratuity... [*Zu. ibhanselo* a gift *(ukubansela vb.) Xh. ukubasele* to give a present, token of gratitude].

Cf. in this regard also the more complex set of etymological information supplied at **bid** in **The Shorter Oxford English Dictionary**.
As these examples indicate, a complex network of motivational information is offered that explains the meaning and/or form differences or parallels.

3.3. Morphological motivation

Ilson (1983) groups the following cases under this subcategory:

(i) **morphological analyses of lexical units in terms of their constituent structure** (e.g. of *inflammable* as [inflame + -able]; not as *[in- + -flammable]), or

(11)
Dutch elm disease... (Dutch + elm disease; from the pioneering studies of this disease by Dutch plant pathologists)

which immediately relates a new word for a user to familiar words which contain the same morphemes, or points out incorrect interpretations of a word (e.g. that **inflammable** does not mean 'not flammable'), i.e. that it disambiguates or removes the disguises morphemes undergo in automatic variation.
Examples of the latter type abound in a dictionary like **Webster's Third**. Compare the following:

(12)
(a) **motophone**... [L. *movere, motum*, to move + phone];
(b) **Politburo**... [‹Russ. *Politcheskoe Buro*, political bureau];
(ii) **morphological analyses of lexical units in terms of processes of word formation** (eg. blends like *brunch* from 'breakfast' and 'lunch'; elliptical forms/clipping like *flu* from 'influenza').

A dictionary like **Collins English Dictionary** lists, for example, the following:

(13)
porter... (... shortened from *porter's ale*, apparently because it was a favourite beverage of porters.). (cf. Ilson, 1983: 80)

On the basis of the material in Gove (1966), Ilson (1983: 78) elaborates this list extensively to include the following:

(a) **alterations and modifications** (e.g. *Cajun* from *Acadien*);
(b) **anagrams and inversions** (e.g. *mho* from *ohm*);
(c) **analogical formations** (e.g. *businesspeak* by analogy from *newspeak*);
(d) **back formation** (e.g. *peddle* from *pedlar*);
(e) **contractions** (e.g. *e'en* from *even*);
(f) **eponymous etymologies**, taken from proper names (e.g. *watt* from *James Watt*);
(g) **euphemisms** (e.g. *golly* from *God*);
(h) **folk etymology** (e.g. *Jerusalem artichoke*, Where *Jerusalem* is derived by folk etymology from It. *girasole*); metanalysis or (folk) re-division (e.g. *an apron* from *a napron*);
(i) **the sources of initialisms** (abbreviations and acronyms (e.g. U from *Universal* (or *Unrestricted*) Exhibition);
(j) **reduplication** (e.g. *wishy-washy*).

Typical lexicographic practice in cases like these is simply to list the specific lexical item or expression from which the entry word is derived. The morphological processes themselves are, as far as I could ascertain, hardly ever mentioned. In all these cases, though, the base lexical units or expressions plus the relevant morphological procedure function as the motivating link that explains the synchronic meaning-form structure at hand.

Of importance in cases like these, is also the rule-boundness of these processes or the regularities and subregularities involved and the levels on which they operate, as these account for the mapping functions involved. To illustrate: abbreviations are for the most part not formed on an arbitrary basis, but according to some set of rules. These rules pertain, however, to the phonological or orthographical level and not to the meanings of the related items.

Despite the fact that in most of these cases only formal changes are involved, i.e. that the derived forms have the same meaning as the base forms, the morphological procedure plus the source form-meaning structure explain why the word synchronically has the meaning it has, or why a certain sense is associated with a specific word form. As Room (1986), for example, argues, folk etymologies come into existence as a result of the desire to make a meaningless word meaninfgul in one's own language, the transition from the foreign word to a better known variant being in most cases justified on the grounds of formal resemblance or identity.

In research on semantic change it has been shown that the extension of a category might be influenced by the developments/changes in a neighbouring or contrasting category. Geeraerts (1988: 662-663; 1986: 38-41) isolates a number of so-called interlexical influences that determine semantic change. These comprise, for example, ellipsis (**private soldier** → **private**); phonetic and semantic similarity between homonyms (e.g. Dutch **verweer**); phonetic similarity (as a basis for transfer of

meaning) (e.g. Dutch **rantsoen** in the meaning «portion»); borrowing of senses across language boundaries (e.g. Afr. **ângstig** (= «anxious» from Eng. anxious); parallel polysemic semantic development in lexical items related as synonyms, antonyms or hyponyms. In cases like these, as those above, individual lexical items motivate the parallel development of senses in other lexical items. Some of them may be the result of the application of certain morphological procedures (e.g. ellipsis), but most of them do not and should, therefore, rather be included under category 3.4.

In most dictionaries information of the (partial) semantic regularities and semantic redundancies amongst lexical units is restricted to the codification of (i) productive morphosemantic rules, and (ii) the description of the most salient of the senses of productive stem morphemes. Compare in this regard, for example, the following entries: **-ade** and **-ate** in **LDOCE**, **Bi-** in the **Shorter Oxford English Dictionary** and **-phyllous** and the combination of phrases under **motor** in **Webster's Third**.

Morphosemantic rules like those above are actually very limited descriptions of the semantic interpretation processes involved or of the Gestalt (conventional) semantic values of these morphological complexes as they are not explicitly related to the various postulated functions according to which the compositional value of complexes are computed (cf. e.g. Lees, 1960; Levi, 1975; Aronoff, 1976; Downing, 1977; Selkirk, 1982). These include, for example, general semantic functions like PART-WHOLE, WHOLE-PART, COMPOSITION, PURPOSE, PROFESSION.

3.4. Semantic motivation

Lakoff (1987) gives detailed attention to the category of semantically motivated categories. These comprise the following:

3.4.1. Belief systems

Belief systems include myths like those that we typically hold, for example, of animals like (certain types of) birds, cats, horses and pigs, and the common folk theories like those that we have of the physiological effects of emotions like anger, pride and love.

Belief systems, which are structured as propositional models, can either function as input to metaphoric and metonymic mappings, or they can also motivate certain meaning extensions of lexical items.

On the lexical semantic level, such a belief system is, for example, included in the following entry for **cat** proposed by Ayto (1988: 53), where the belief system (in italics) itself motivates not only the metaphoric extension of the literal meaning of cat to humans, but also a number of morphologically related derivatives and idioms. The belief system that motivates these metaphoric extensions provides a source of coherence for the various expressions which would otherwise have to be explained individually as exceptions, extensions and highly marked usages of the lexical items involved.

(14)

cat 1 feline quadruped kept as a pet or for mouse-catching. *Cats are often viewed as either soft and docile* (se PUSSYCAT) *or as aggressive, spiteful, and*

malicious (see also CATTY, WILDCAT); *they are thought of as being very skilful at escaping danger or death, as being able to see well in the dark, and as being aloof and self-contained; they are thought of as moving lithely and gracefully, agilely, and often stealthily* (see CAT BURGLAR); *they are sometimes taken as a type of non-human understanding and intelligence.*

The silly cat (= malicious woman) is always criticizing people, behind their backs.

He's had more lives than the proverbial cat. *(Cats are said to have nine lives.)*

What this entry does not show, however, is the fact that there is a general mechanism at work in this specific example that is also instantiated by the metaphorical extensions of various other words denoting animals (e.g. **fox, dog, pig, donkey, monkey**, etc.), viz. our interpretation of animal behaviour in terms of human behaviour (personification) and the reverse of this process, i.e. interpretation of human behaviour in terms of animal behavior.

3.4.2. Conventional imagery

Image schemas are a part of the mental imagery which figures in language and commonsense reasoning. Americans, for example, have images of Marilyn Monroe, Richard Nixon, horses, cats, prototypical members of categories, social stereotypes, paragons, etc., that figure in goodness-of-example judgements. These images are a prerequisite for effective communication in a language group; to a large extent they are conventional and some of them culture specific.

As image schemas form a central part of the stereotypical meaning associated with a linguistic item, they are represented verbally in dictionaries by the definitions of the literal senses of lexical items.

One aspect of their linguistic import lies in the fact that they are central to the formation of new idioms and of making sense of existing ones. Lakoff's thesis (cf. Lakoff, 1987: 447) is that there is associated a conventional, unconscious but elicitable image of this kind with most of the category of so called «imaginable idioms» (e.g. **simmer down, blow off steam, flip one's lid, keep one's anger bottled up**) that motivate, to a large extent, the meaning of these idioms. These images have the important cognitive function that they make sense of these idioms and therefore make them easier to understand, learn, remember and use (cf. Lakoff 1987: 451).

The transparency of idioms also makes sense of the fact that idioms, although defined in some frameworks as essentially non-transparent, are indeed included as subentries under one of their constituent elements, thereby giving recognition to the fact that they are indeed semantically related to the rest of the primary and subsenses of polysemic categories. As a further example of the motivated nature of some idioms, consider for example the definition of idioms like **dash the cup from someone's lips, not be someone's cup of tea** and **someone's cup is full (or runneth over)** as explained under the entry **cup** in the **Oxford Dictionary of Current Idiomatic English**.

The motivational information associated with idioms is treated mostly and derogatorily termed as folk etymologies. The motivational information does not necessarily correspond to the real historical facts, but it represents the kind of moti-

vational information that people automatically and unconsciously come up with and which they consider to be psychologically, though not historically real.

Osselton (1988:245) proposes that the awareness of the literal sense of a complex lexical unit (which is equated with the image associated with a lexical item) be built into dictionary entries, as for example in

(15) network arrangement... *recalling that of a net.*

The motivating force of mental imagery itself points to the necessity of some rethinking about the justification for the inclusion of illustrations in dictionaries, especially in cases where certain set expressions and metaphorically derived subsenses are motivated by such images and by the nature of the illustrations included (i.e. whether or not they accord with our conventionalized or stereotypical images).

3.4.3 Image-schematic transformations

Image-schematic transformations (e.g. **path → end of path focus**) encode the relationship between various literal subsenses of polysemic items.

Image schema transformations are one of many kinds of cognitive relationships that can form a basis for the extension of the literal meaning of a lexical unit (Lakoff 1987:106). Typical examples of image-schematic transformations are for example. *Path focus* ↔ end-point focus; mulitplex ↔ mass). It can be shown that these transformations exist independently and are non-ad hoc, that is that they motivate various instantiations, and that they are motivated by the visual and kinesthetic experiences that constitute our image schemas. Lakoff (1987:440-443) gives the following examples:

(16)
i. a. Sam walked *over* the hill (path)
    b. Sam lives over the hill (end of path)
ii. a. Harry walked throug the doorway (path)
    b. The passport office is *through* that doorway (end of path)
iii. a. Sam walked *across* the street (path)
    b. Sam lives *across* the street (end of path)

The motivational information in this case constitutes the regularity embodied in the transformation. Image-schematic transformations that rule meaning extensions on the literal level form a part of a broader category of literal meaning extension principles. Included in this category would be, for example Robins' (1987) correspondence of the *de dicto* and the *de re* interpretations of meaning extensions, those alluded to in Perssons (1988), for example, that for most verbs in English there is a (zero) derived noun meaning «an act or instance of V» (cf. **can-can; pocket: to pocket**), and some of the literal meaning derivations discussed in Lehrer (1989) that do not fall under metonymical mappings.

We are still dearly in need of research on principles that motivate on the literal level these aspects of semantic broadening and semantic narrowing, i.e. principles that specify for categories of lexical items the possible, predictable and idiosyncratic aspects of the broader processes of semantic broadening and narrowing.

3.4.4. Conventional metaphors

A large number of idiomatic expressions are derived by means of metaphorical transfer and their synchronic meaning is motivated by an underlying metaphorical model.

Lakoff and Johnson (1980) and Lakoff (1987) adhere to the interactional view of metaphor (cf. Lakoff, 1987: 380-415). Metaphor is defined as *the essentially cognitive process by means of which some unknown, abstract or ill-understood domain (the target domain) is interpreted in terms of a better known, understood or concrete domain (the source domain)*. Metaphor as a process is thus a mapping of the source domain onto a target domain, e.g. words denoting spatial dimensions **(up, long)** are mapped onto words denoting temporal dimensions **(a long night, time is up)** or emotional dimensions **(I'm feeling up today)**. Domain mappings from the concrete to the abstract, from the human to the non-human, from living entities and objects to the non-living form part of this general process.

In keeping with dualistic metaphor theory a double reference is attributed to metaphoric expressions: «the literal sense of the metaphorical expression is not completely deleted, but instead remains as a semantic background for the figurative meaning and creates a semantic conflict with it» (Nöth, 1985: 3). As Rudzka-Ostyn (1985: 234-235) puts it: the literal meaning constitutes a sense frame against which sense deviations or extensions are recognized —metaphoric extensions being the furthest removed from the literal meaning, making the distinction between literal and metaphoric meaning extensions not a dichotomous but a scalar relationship.

Langacker (1987: 18) rightly points out that metaphorical meaning extensions do not differ in nature from other kinds of meaning extensions, and that strict adherence to dichotomies like literal vs. figurative language not only results in conceptual problems (as amply illustrated and analysed by Ayto, 1988, Nuccorrini, 1988, and Osselton, 1988), but also to the neglect of transitional examples. It is customary, for example, to stick rather rigidly to the dichotomous distinction between live and dead metaphors, without due consideration to the status of conventional metaphors and the processes whereby live metaphors become conventionalized and thereby part of the linguistic norm.

As Nöth (1985: 6) notes, dead metaphors retain a potentially revivable image which goes unnoticed in our everyday use of language, the revivability itself being manifested in the devices of remetaphorization or resurrection of a dead metaphor. As he notes further, metaphor (by definition) presupposes semantic transparency (by contrast with simple polysemy), given that the recognition of metaphoric uses depends on the recognition of a tension between the literal and the figurative meanings of expressions.

According to Lakoff, the conventionalized metaphorical subsenses of lexical units are motivated by (i) their literal meaning and (ii) the metaphorical mappings from the literal (or more generally: the source domain) to the metaphorical (or target domain). For example: the literal meaning of **up** («move vertically») serves as source domain for the metaphorically derived subsense «increase», the metaphorical meaning being motivated/sanctioned by the non-*ad hoc* unifying, language specific metaphor:

> (17) MORE («increase»/target domain) IS UP («move vertically»/source domain):

The choice of verticality as source domain, is, however, itself motivated (cf. Lakoff, 1987: 276), given competing alternatives: verticality is a cognitive domain that any normal human being understands directly as a result of the forces of gravity. The UP-DOWN schema structures all of our functioning relative to gravity. The UP-DOWN schema correlates with a further aspect of our daily experience: whenever we add more of a substance to something, the level goes up; if we remove a substance the level goes down. The regular structural correlation between these two domains of our experience therefore motivates the choice of the relevant source domain VERTICALITY to comprehend QUANTITY; the details of the mapping are motivated by the details of the structural correlation sited above.

As Nöth (1985: 11-12) remarks, metaphorical iconicity can be based on qualitative or on structural similarities. Qualitative similarities are not only visual; they can also be perceived by means of other sensory channels. Similarity can even be perceived between distinct perceptual fields. Synaesthetic metaphor, for example, is a very productive process of meaning extension, the term denoting the process whereby one sensory stimulus may evoke a stimulus in a different sensory organ. Dirven (1985: 99) lists examples like the following:

(18) **warm colours, loud perfume, sweet music.**

Lakoff and Johnson (1980) and Lakoff (1987) give a detailed analysis of some of the (synchronic) conventional metaphors that motivate the metaphorical meanings of large sets of metaphorical compounds, set expressions and idioms. As Lakoff (1987) indicates with respect to the meaning of a word like **anger**, much of it is comprehended metaphorically. However, dictionaries barely give a description of the metaphors that motivate these metaphorical mappings. Lakoff and and Johnson (1980: 115-116) already noted that although we understand a concept like «love» in terms of metaphors like LOVE IS MADNESS and LOVE IS A JOURNEY there is no reference in definitions to meaning components referring to «journey» or «madness» so that these definitions give no indication of how the concept itself is understood in a specific culture. Nor do lexicographers utilize the structural relations between the separate metaphors to structure these entries in a way that would make sense of them to the user: in **Roget's Universal Thesaurus**, for example (cf. Lakoff, 1987: 380), about 3,000 entries (most of them idioms) are listed under the entry **anger**. Most of these have somehow or other to do with the concept of anger, but the dictionary itself doesn't tell the user how, i.e. it does not explicate the cohering metaphoric model underlying a large number of these expressions, nor are these expressions organized according to the cohering metaphors. The same critique could, for example, be levelled at the random listing of set expressions and idioms in COBUILD under the entry **heart**.

Given this, Ayto (1988: 50) argues for the inclusion in dictionaries of the productive metaphors of a language:

«Every word in a language is potentially a metaphorical Spaghetti Junction, and dictionaries have to provide signposts to tell the user which of the possible exits have actually been taken by the language.»

Nöth (1985: 11-12) remarks in this regard that the iconicity of metaphors implies similarities whose perception depends to various degress on *cultural codes*: metaphors are not natural and universal, but rather culturally determined.

What analyses of abstract concepts like «anger», «love» and «pride» reveal (cf. Lakoff, 1987; Lakof and Johnson, 1980; Kövecses, 1986; and Rudza-Ostyn, 1989), however. is that a large number of these set expressions instantiate various metaphors that interlink in various ways, suggesting that the lexicographer could, through his analysis of these cohering models, structure entries in thesauri and those of poly-semous categories in a way that would reveal this model, and, thereby, make sense of these expressions for the user. What I have in mind here is exemplified by Dirven's (cf. Dirven, 1985: 108) reanalysis of the sense structure of **heart**, which can be con-trasted with the random listing of expressions under the COBUILD entry **heart**.

3.4.5. The functions that map metonymically derived senses of lexical items

Metonymy refers to *the general cognitive process whereby one well-understood or easy-to-perceive aspect of our conceptualization of something is used to stand either for the thing as a whole or for some aspect or part of it* (Lakoff, 1987: 77,84.) In common cognitive tasks representatives of categories (like social stereotypes, typical examples, ideal cases. paragons, generators and salient examples) often substitute for the whole of which they are parts.

According to Lakoff (1987: 77 ff.), metonymically derived subsenses of lexical units are derived from other senses of a lexical unit by a set of conventionalized metonymic functions that motivate these subsenses. These metonymic functions en-code some or other background condition (e.g. that institutions are located in places), and they are structured in a «stands-for» relation (e.g. PLACES(A) STAND FOR INSTITUTIONS(B)), which encodes how A and B are related in conceptual struc-ture. As a result they motivate metonymically derived senses (e.g. in sentences like **Washington** (= «the State Department») **says**...; **Pretoria** (= «the Government of South Africa with main office in Pretoria, the state capital) **announced**..., etc.), be they conventionalized or local (i.e. dependent on specific context as for e.g. when **ham sandwich** is used in context to refer to the customer who ordered a ham sandwich; cf. Nunberg, 1978; and Lehrer, 1989: 2).

Norrick (1981) gives a detailed analysis of a number of these metonymic func-tions, e.g. «type of», «cause of», «possessor of», «source of», «act and instrument» (drill), «actor and act» (cook), «part-whole» (sails for ship), «location and occupant» (White House), etc. (cf. Lehrer, 1989: 2).

Lakoff (1987: 77 ff.) argues that these functions form an «open list». Lexico-graphically viewed, however, what is of interest is those language-specific sets of metonymic functions that motivate conventionalized metonymically derived sub-senses of lexical units, as these become the target for inclusion in dictionaries.

Nunberg (1978) and Norrick (1981) analyse a number of cases where metonymic extensions are natural to expect and they show that certain of these functions are ex-tremely productive. Lehrer (1989) shows extensively, though, that in spite of their ap-parent regularity, one cannot, given these functions, predict which metonymic sub-senses have indeed become conventionalized.

3.4.6. General characteristics

As a conclusion to this section it must be noted that the category of motivational information types is itself prototypically structured, and then in the sense:

— that it is not always possible to distinguish rigidly between the various categories, and
— some subcategories are more representative of motivating categories (e.g. cases of onomatopeia, regular morpho-semantic derivatives, metaphorical and metonymical mappings vs. cases of etyma and cognates).

Furthermore:

— form-meaning structures can be motivated by more than one motivational category, and
— they can be motivated in differing degrees.

4. Restrictions on the inclusion of motivational information

It is an accepted fact in linguistic semantic frameworks that much of the form-meaning-pairing of lexical units is in fact arbitrary in the sense discussed above, and that no motivational links may exist. A number of restrictions have, however, been proposed on the inclusion of motivational information in cases where they do exist.

Ilson (1983: 81), for example, outlines two possible approaches: universality, i.e. inclusion whenever available, or selectivity, i.e. inclusion only when it will enlighten rather than mislead. In the case of the learner's dictionary Ilson (1983: 81) chooses the latter option. In this case Ilson (1983: 79) reverts to Gove's (cf. Gove, 1966: 62-63) rule of thumb, viz. that the degree of opaqueness or non-transparency of the lexical unit be the limiting factor:

«Combinations of elements whose identity is unmistakeable are normally to be given no ety(mology)... But when there is a need to explain why this particular combination of elements is used with a particular meaning (in other words when a 'why' ety is needed), such a combination may be etymologized...»

A compound like **blackbird** therefore needs no motivational link, but idioms, like **halcyon days**, are prime candidates as the relation of conventionalized meaning to the sum of the meaning of their parts is opaque (cf. Ilson, 1983: 79).

According to Lakoff (1987: 448) the meanings of a lexical item is motivated (irrespective of whether it is compositionally complex or not) when it can be shown that its conventional meaning can be related to a non-*ad hoc* and unifying principle (Lakoff, 1987: 107), i.e. idiosyncratic motivational links cannot be postulated to handle individual cases. Each motivational principle must therefore be justified on the basis of other cases, these cases then being unified by such a unifying principle. As Lakoff (1987: 107) points out, however, the criterion of adequacy might be too strong, simply because of the various lexical idiosyncrasies that permeate much of

the lexicon and the lack of motivation for specific meaning structures. He rejects, however, the point of view that no motivation, other than *ad hoc* motivation exists. This hypothesis is itself motivated by another, which Lakoff subsumes under the concept of the «ecology of the human mind» where «ecological» is used in the sense:

> «...of a system with an overall structure, where effects cannot be localized —that is, where something in one part of the system affects things elsewhere in the system. Motivation depends on overall characteristics of the conceptual system, not just local characteristics of the category at hand.» (Lakoff, 1987: 113).

In accordance with a weaker variant of the criterion of adequacy he adopts the strategy of determining which semantic structures do indeed make sense to the speakers of a language and to account for these in terms of independently motivated principles.

Lakoff (1987: 147) also rejects a dichotomous all-or-none approach to motivation, i.e. that a semantic structure either is or is not motivated in the above sense, as cases of partial motivation also exist as illustrated by compounds which are not completely compositional. As an example like **topless bar** would illustrate, the meaning of the constituent parts does determine in some way or other aspects of the whole conventionalized meaning of this compound, that is they motivate the conventional meanings, but given the meaning of the parts it is not possible to predict the conventional meaning of the whole.

5. Lexicographical practice

As the examples from dictionaries of various types have made obvious:

— motivational information is included on a grand scale in dictionaries of various types, especially as etymological information;
— a number of alternative strategies exists for the encoding of motivational information (e.g. motivational information can be incorporated as separate entities such as morphological information or etymological information, as part of definitions, usage notes, illustrations, example sentences and through cross-referencing).

There are, however, a number of aspects and subcategories of motivational information that are not regularly included in dictionaries, either as part of the entries or as part of the prefatory material to the main part of dictionaries. These include, for example:

— the concept of motivation;
— a discussion of the general mechanisms or structuring principles that function as motivating links (e.g. the compositionality theses, the functions determining the interpretation of morphological complexes, language and

culture-specific belief systems, the principles of meaning extension, which include the productive, conventionalized image-schematic transformations, metaphors and metonymic functions).

The inclusion of motivational information in synchronic dictionaries is, however, for the most part dictated by two of the tenets of structuralist lexical semantics, viz:

(i) that arbitrariness, or the lack of primary iconicity, is one of the design features of language, and of lexical units in particular (cf. Lyons, 1977: 70 ff.), and

(ii) that the lexicon is a finite and unordered list of lexical entries and redundancy rules (cf. Dirven, 1985: 95), or, more crudely formulated, that the lexicon is a repository for (lexical) idiosyncracy, given the acceptance of a trade-off between grammar as a body of generalizations over lexical units and the dictionary as a description of lexical-specific idiosyncracies (Mufwene, 1983: 19).

These two assumptions jointly manifest themselves, for example, in two rather common characteristics of monolingual dictionaries, viz. (i) the maximization of the arbitrariness of lexical meaning, which results in the mere listing of (sub)senses, and (ii) in the exclusion of information on the structured aspects of lexical meaning. With the exception of the inclusion of morpho-semantic regularities (e.g. as discussed in dictionary entries for productive affixes and stem morphemes), most dictionaries exhibit a characteristic lack of, or inconsequent description of the semantic regularities, subregularities, redundancies and rule components that partially characterize the internal meaning structures of polysemous lexical units and those of structured sets of lexical items (cf. Dirven, 1985).

From the nature of motivational information itself, there follows, however a number of deducible pragmatic-functional considerations that argue for their inclusion in a variety of dictionary types. These include:

— the implicit, unconscious nature of the synchronic information that justifies that it should indeed be explicitly formulated;
— the non-*ad hoc* nature of much of the data, i.e. the fact that it unifies/underlies whole sets of lexical units and expressions, which motivates its inclusion as regularities in dictionaries and its use as structuring principles for dictionary entries in both the alphabetically structured dictionary and the thesaurus;
— the language and culture-specific nature of the information which justifies its inclusion in monolingual dictionaries aimed at the foreign language learner and the translation dictionary.

There is of course another facet of motivational information that is of importance here, viz. the structuring of dictionary entries to maximize usability in accordance with general learning/cognitive principles. Scholfield (1979: 59) argues, for example, that the selection of information categories and the contents thereof should be informed by the way in which speakers informally learn and communicate with each other, a technique reververted to by *COBUILD* definitional phrases.

Arguments against the inclusion of motivation information, especially of the more regular/rule-governed types, that argues for their inclusion in dictionaries. As Lehrer (1989:36) points out, the inclusion of motivational information/principles or rules in the theoretic lexicon are justified on the grounds that (i) the relevant principles and rules are only partially productive, thereby necessitating a descriptive approach whereby all conventional and special senses of lexical items plus these partially productive rules or principles, be they redundant or not, are listed in the lexicon, and (ii) on the grounds that the motivational principles explain the occurrence and interpretation of new senses, such as **porched** and **cabinet** in the following:

(19) a. The newspaper boy *porched* the newspaper.
   b. I have to *cabinet* the china.

The latter itself is a very strong argument in favour of the inclusion of motivational information in dictionaries as knowledge of such principles and rules:

(i) should enable the dictionary user/language learner to compute the senses of the novel uses of lexical items, and
(ii) to adduce whatever systematicity or regularity of semantic extension there might exist in tightly structured semantic fields.

The random listing approach is not only a byproduct of the alphabetically ordered dictionary as this is also practice in thesuari. As Lakoff (1987: 380 ff.) indicates in his analysis of the concept «anger», a dictionary like **Roget's Thesaurus** randomly lists nearly 3,000 entries (most of them idioms) of which a large number somehow or other have to do with the meaning of **anger**. But the dictionary itself does not give a description of the highly conventional metaphors or the cohering metaphoric «models» that motivate the meaning of these idioms, nor is there any attempt to utilize the structural relations between the separate metaphors to structure the entry in a way that would make sense of it to the dictionary user. I have proposed above that the random listing approach of monolingual dictionaries be offset by (i) incorporating motivational information, and (ii) by the structuring of subsenses of polysemous lexical items according to the underlying types of motivational categories.

As a result of the lack of motivational information in translational dictionaries, polysemy is represented as something essentially arbitrary and idiomatic, something, in other words, that just has to be learnt. The language and culture-specific nature of motivational information does, however, justify its inclusion in monolingual dictionaries aimed at the foreign language learner and in the bilingual dictionary.

Polysemic categories in two different languages may overlap extensively but also differ along various of the parameters of category-constituting dimensions. Analysing and contrasting the internal structures and extensions of categories reveals that they might fail to overlap because of:

(i) differences in what is taken as the central, prototypical sense, and
(ii) differences in the nature and extent of the meaning chains which radiate out from the central sense, including thus the motivational links that motivate the relationships between the senses and subsenses. (Taylor, 1989: 302-303)

It would, therefore, make sense to highlight in some way or other the way lexical categories differ in two languages with respect to both the motivational information and the differences in the structuring of their senses according to the mechanism/relations (literal mappings/functions, metaphorical and metonymic). This sort of encoding of correlations can start off with the lexicographer's restructuring of the internal structure of a lexical category of the sort exemplified in Dirven (1985) (cf. **cup** and **sweet**) which can then form the basis for the ordering of the relevant entry in the monolingual foreign learner's dictionary, and which can then be taken as a basis for the ordering of the translation equivalents in the bilingual dictionary.

7. Conclusion

As I have argued above, the inclusion of motivational information in various dictionary types can be justified on both theoretical and pragmatical-functional grounds. The cognitive-linguistic approach of Lakoff (1987) and current lexicographical assumptions and practices complement and overlap with each other in various respects and in various degrees, so that the cognitive linguistic theory of motivation not only sanctions or theoretically validates much of current lexicographical practice, but also serves as an evaluation matrix to judge it for adequacy. Conversely, the delimitation and description of motivational information not only sanctions or theoretically validates much of current lexicographical practice, but also serves as an evaluation matrix for the empirical/cognitive scope and validity of the linguistic theory. In this way, linguistic theory itself makes «sense» of much of lexicography theory and practice.

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