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(YET ANOTHER) TAXONOMY OF MOTIVATIONS

Abstract

The purpose of this article is to discuss the status of motivation as a principle of term formation within the theory of terminology and from a non-normative perspective. The question is raised whether it makes sense to taxonomise the concept of motivation. Some existing taxonomies are discussed and an extended model is proposed. The paper emphasises the functions of metaphorical and morphological motivation with respect to primary vs. secondary term formation. It is argued that the status of motivation must be discussed taking into account this essential distinction, allowing for compatibility of opposite views.

INTRODUCTION

The purpose of this article is to discuss the status of motivation as a principle of term formation within the theory of terminology. It has been pointed out by Roald (1986: 178) that to some extent, accounting for term formation has produced nothing more than a list of formation types also present in general language. We might informally refer to this fact as the "catalogue problem" of term formation. Accounting for term formation is a huge task and according to Humbley (this volume) it includes more than accounting for motivation. It is nevertheless a fact that discussions on the status of motivation have played an important part in discussions on term formation within 'old' and 'recent' paradigms from a descriptive as well as prescriptive point of view, including attempts to classify the phenomenon and to develop taxonomies that may in turn be used to account for term formation.

In this article I shall in particular address the following question:

1. Is taxonomisation of motivation possible, feasible and fruitful from a non-normative point of view?

It is important to note that motivation most often opposed to arbitrariness. On the basis of this dichotomy, the lexicon is divided into two broad sectors, that of 'motivated' vs. 'non-motivated' words. This is the case with many interpretations of Saussure, although not restricted to this tradition. No adequate classification – if at all useful or possible to establish – can stop at this stage, and it is demonstrated below that attempts have been made to solve this problem either by developing models that are more detailed or by taking recourse to the principle of gradedness. On the basis of existing models, a revised taxonomy of motivation types will be proposed. To arrive at this end, three additional questions will be addressed.

2. What is the relationship between motivation and term formation?

It seems that classifications of motivation types have not always been based on identical semiotic assumptions. Motivation is sometimes equated with transparency or iconicity of expression, sometimes with the relationship between concept and expression. The result of different approaches to term formation may be that different aspects are emphasized.

3. The status of motivation within diverging approaches to theory – do we find conflict, divergence, unification?

Whether or not motivation is considered a fundamental property of terminology may be a sign of demarcation between different approaches to terminology. In this respect, we could say that motivation is perhaps assigned a 'parametrical' function, that is, a symbol of main scientific positions. This is an important background for discussing the problem.

4. What is the relationship between terminology and parallel trends within general linguistics?

The observation referred to by question 3 is meaningful only with regard to the recent discussion between Wüster-oriented terminology that is often referred to as the 'tradition' on the one hand, and recent trends such as socio-cognitive terminology on the other hand, e.g. Temmerman 2000. Underlying this dichotomy we find structuralist vs. cognitive linguistics, but still, in a very broad sense.

In order to arrive at an answer to question 1 above and to arrive at a classification of motivation types derived from previous classifications by Drozd & Seibicke (1973) and Kocourek (1991), questions 2–4 will also have to be addressed. They are discussed in some detail with reference to some overall semiotic parameters¹.

WHY MOTIVATION?

For several reasons problems pertaining to motivation deserve increased attention.

a) The normative importance of motivation

Writings on motivation have often concentrated on the normative importance of the concept, emphasising such values as communicative efficiency, understandability, hence promoting democracy and access to knowledge. Although disputed and discussed with reference to its conflict with the principle of economy, this normative emphasis on motivation is present in writings on terminology within most camps and by most writers (cf. Myking 2008, ch. 2). Some examples:

The constituents of terms should represent the most important characteristics of the concept. (Felber 1984: 19)

Transparenz und Motivation der Fachausdrücke, Verständlichkeit und demokratische Aspekte des Abbaus von Informations- und Sprachbarrieren müssen dabei erhalten werden. (RaDT)

Non-negotiable: words formed must reflect characteristics of the concept to be named. (Antia 2005: 1)

Within Russian terminology, motivation is even seen as an alternative to definitions although this rather radical position is probably not generally representative:

full motivation of a term by means of its direct or indirect (implied) constituents actually plays the role of a definition, thereby making the latter absolutely superfluous. (Leitchik & Shelov 2003: 89)

In this paper it is argued that a normative aim is essential to terminology as a branch of applied linguistics. On the other hand, any theoretical principle must be assessed according to the tenets of descriptive linguistics, a task that is no less difficult than assessing the tenets of various schools or branches within the broad discipline of linguistics.

b) Morphology-biased definitions

Based on the Saussurean notion of relative motivation (compounds and derivatives, cf. below), it can be demonstrated that within terminology the emphasis has often been put on morphological, or, more specifically, on morpho-semantic, aspects. Motivated terms are transparent in terms of the relationship between compositional and actual meaning, as shown in the following quotations:

A term is motivated when a language user is able to deduce, at least partly, the meaning of the term from the analysis of its components. Words that respect the morphological laws are generally said to be motivated. (Sonneveld & Loening 1988: 2)

Si le seul contenu évoqué par la forme du terme n'est que celui du sens global, le terme est arbitraire (ex. pompe). Si, en plus du sens global, la forme suggère des éléments de contenu qui indiquent pourquoi la forme est employée pour désigner (symboliser) le sens donné, le terme est motivé (descriptif, ex. pompage [...]). (Kocourek 1991: 172)

This tradition may be said to be 'biased' in the sense and to the extent that other types of motivation are neglected, as claimed by authors representing recent trends in terminology (cf. below). There is a link between the concepts of 'morpho-semantic' and 'normative' that has generated criticism. In particular, it has been claimed that semantic motivation by means of metonymy and metaphor has been neglected.

c) A disputed status: structuralism vs. cognitivism

The concept of motivation has been a topic of discussion in linguistics for centuries. We can fit the problem of motivation vs. arbitrariness into the following simple scheme:

- Strict Saussurian/American structuralism, including generativism, emphasises arbitrariness.
- Cognitive linguistics and recent functionalism emphasise motivation.
- Prague-inspired structuralism and functionalism invest a large interest in motivation.

In this sense, motivation and arbitrariness may be assigned a 'parametrical' status for different directions of linguistics. Simeone (1995) states that thanks to structuralism and generativism, motivation has been considered secondary to arbitrariness throughout most of the 20th Century, whereas today a state of equilibrium exists as a result of functionalist and cognitivist trends. Hence, the importance of motivation at different levels of language has been recognised to a higher extent. Very broadly speaking, as a point of departure we accept that Saussure's structuralist approach has been dominating throughout the 20th Century, stressing the importance of arbitrariness as the design feature of language. Similarly, we accept that motivation is a basic tenet of cognitive linguistics (e.g. Radden & Panther 2004). This very general picture provides the context for e.g. Temmerman's cognitively-based criticism of traditional Wüsterian terminology to which she attributes the label of 'arbitrariness' (Temmerman 2000: 44, see below). This is an important issue of discussion as it has normative implications as well: Motivation of expression is a basic tenet for most terminologists working in the Wüsterian tradition, whereas arbitrariness is recognised as the basic concept-term-relationship.

d) Indeterminacy, definition problems, confusion: What is the topic of discussion?

The term motivation seems to represent at least four concepts (cf. Myking 2008):

- a. The semiotic principle of non-arbitrariness, i.e. the negation of arbitrariness, cf. e.g. Saussure.
- b. The semiotic property of iconicity, whose importance is recognised in general (functional) linguistics and not restricted to the lexical level.
- c. The morphological (morphosemantic) property of transparency, which is widely accepted as a parameter of complex expressions within morphological theory.
- d. The onomasiological and normative property of reflecting conceptual characteristics, closely linked to (c) and considered important by most terminology boards.

Writings on motivation reveal the interdependence of psychological, morphological, and prescriptive aspects of the concept. Allegedly, a too narrow perspective is leading to reduction and exclusion of other motivation types. Such problems must be dealt with if taxonomisation is to be possible.

COGNITIVE CRITICISM OF THE TERMINOLOGICAL TRADITION

The best known criticism of traditional terminology is perhaps that of Temmerman 2000. I do not intend to give a full account of her position in this article, but among a number of other parameters, motivation is also addressed. Temmerman concludes that:

The use of figurative language like metaphorisation is one way of arriving at motivated naming. [...] Traditional terminology is phobic about this phenomenon. (Temmerman 2000: 44)

It is worth noticing that she speaks of "one way of arriving", not "the only way". If the terminological tradition has perhaps had a morphological bias, Temmerman is shifting the emphasis to an allegedly neglected motivation type, that of metaphor. This shift is of course also an indication of the more profound cognitive turn in linguistics, in which metaphor is considered an instance of concept formation and not just a property of the expression. Whereas in my view Temmerman's criticism of the 'tradition' is

too general, it is worth noticing that she is not addressing the same concept of motivation as the one found in traditional writings. Motivation in cognitive linguistics refers to concept formation and hence a motivated link between concept and expression, whereas motivation in the terminological tradition is to a higher extent a communicative parameter related to the expression alone. In my view, we also have to distinguish between primary and secondary term formation in order to get a better view of this problem, see below.

Criticism along the lines of cognitive linguistics (like Temmerman's) can, as a consequence, be interpreted as a reaction to the Wüsterian tenet of the two realms or "Reiche", i.e. the independent existence of concept and term (cf. Laurén & al. 1998). This alleged "arbitrariness paradigm" is opposed by the cognitivist insistence on motivation (motivated structures) as the main design feature of language. Perhaps the most important consequence is an increased attention to metaphor. In fact, in cognitive linguistics metaphor is considered the most interesting instance of motivation. Cognitivist approaches as a whole refute the view of expressions as arbitrary labels, and consequently, metaphor has to be the focus of interest in cognitivist inspired 'socio-cognitive' terminology. As stated in Myking (2001), this cognitive trend also advocates a non-normative and purely descriptive approach to terminology, yet another reason to refute the normative-morphological bias of motivation on the part of tradition.

TYPOLOGIES OF TERM FORMATION – ULLMANN AND DROZD & SEIBICKE

The classical structuralist classification of motivation, often quoted by terminologists, is Ullmann's (e.g.1972): "Three types of motivation": phonetic, morphological, and semantic motivation. The main merit of Ullmann's approach was to include semantic motivation in the Saussurean typology, as it "obviously works the same way" (Ullman 1972: 92), i.e. the literal sense underlying a metaphor provides a motivational basis in relation to which the motivatedness can be described. Ullmann also pointed to the problem of subjectivity: for a word to be motivated, it must be felt to be motivated.

Ullman's typology is supported and further developed by Drozd & Seibicke (1973: 129), distinguishing between two types of morphological motivation, regular vs. irregular morphological-semantic motivation (the latter seen as a product of demotivation or lexicalisation). Upon closer reading, the work of Drozd & Seibicke 1973 reveals an underlying dichotomisation of words into motivated and non-motivated, shown in this table (from Myking 1998: 333, page numbers refer to Drozd & Seibicke 1973):

MOTIVATED TYPES	NON-MOTIVATED TYPES
<i>Onomatopoeitika (130)</i>	
<i>Zusammensetzungen (67) Derivate (67, 129) externe [...] Syntagmen (133)</i>	
	<i>Moneme, Monomorpheme (67, 129), [Wörter] etymologischer Ursprung (de/en Stein/stone 67) terminologisierte Moneme (129) Abkürzungswörter (67)</i>
<i>metaphorische oder metonymische Übertragung (130)</i>	
<i>Neubildungen aus Fremd- oder hybride Bildungen (135)</i>	
	<i>Entlehnungen aus fremden Sprachen, Fremdwörter, Internationalismen (62, 129)</i>
<i>Nullmotivation, Demotivierung (54, 159)</i>	
<i>alogisch motivierte Termini (139ff.)</i>	

Table 1: An interpretation of Drozd & Seibicke's view on motivated terms

This table is, apparently, a deliberate simplification of complex matters, and the position of Drozd & Seibicke is indeed complex. On the one hand, the quotations in the table indicate more or less implicitly that a dichotomy of motivated vs. non-motivated is possible:

Bekanntlich kann man entweder motivierte Termini (auch sprechende T.) oder nichtmotivierte Termini bilden (Drozd & Seibicke 1973: 54, emphasis by D & S)

On the other hand, however, they clearly state that the communicative merit of motivation, that of producing "sprechend" ('self-explanatory') terms, is not to be equated with the category of 'motivated' as such, but only with the outcome of morphological-semantic motivation – and then we are back to derivatives, compounds and phrases: "Die Motiviertheit ist aber nicht restlos mit der Durchsichtigkeit zu verwechseln" (Drozd & Seibicke 1973: 129), implying that "sprechend" is the same as regular morphological motivation:

Bei der regelmässigen Motivation ist es aufgrund der durchsichtigen Anreihungsbeziehung ohne Schwierigkeiten möglich, den Inhalt in einer Wortzusammensetzung oder -ableitung aufgrund von konstituierenden Inhaltsträgern abzulesen. Auf diese Weise werden die eigentlichen "sprechenden" Termini gebildet. (Drozd & Seibicke 1973: 130)

According to this reading there is, consequently, no strict implicit or explicit dichotomy after all, but rather an underlying tendency towards a more scalar approach that leads to a recognition of a full range of types according to varying pragmatic needs. If morphosemantically transparent terms have their merits in different contexts, the use of 'arbitrary' and morphologically simplex loans may also have their merits in other contexts. There is a fuzzy area between 'terms formed by motivation' and 'motivated choices of terms'. 'Unmotivated' term types (cf. table 1) such as acronyms and simplex terminologisations may well be used in texts as a result of motivated choices in which linguistic, cultural, and genre-specific norms interact.

If, to conclude, Drozd & Seibicke represent the terminological 'tradition', this 'tradition' cannot be accused for neglecting motivation as such, since they recognise metaphorisation as a fact of language. Drozd & Seibicke (1973: 131) point to alternative merits of metaphor such as unambiguity of interpretation, and we could also add Wüster's observation that metaphor serves language economy (Wüster 1985: 53). If it is true that the tradition has been 'biased' towards morphosemantics, as discussed above, this position is, to conclude, not without nuances.

TYPOLOGIES OF TERM FORMATION – KOCOUREK (1991)

Kocourek (1991) discusses motivation from a semasiological as well as an onomasiological point of view. One important consequence of Kocourek's approach is that term formation is equated with motivation. In his typology, motivation is compared to term formation, and the following model is given (Kocourek 1991: 175), shown in figure 1:

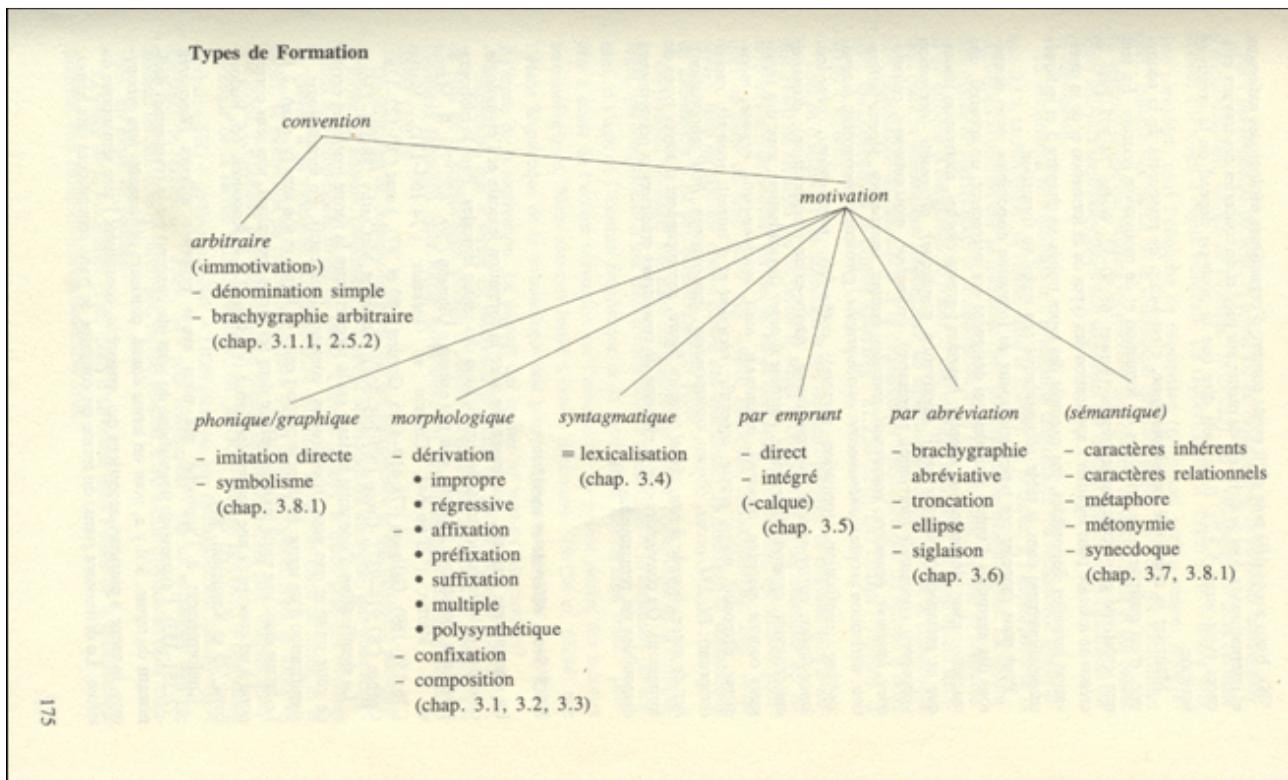


Figure 1: Motivation according to Kocourek (1991: 175)

Kocourek's model of motivation resembles that of Drozd & Seibicke in that it departs from a dichotomy, that of arbitrariness vs. motivation. Kocourek's approach apparently avoids simplification even more explicitly, since it does not restrict motivation to the types points out by Ullmann (morphological vs. semantic), and neither does it equate arbitrariness with convention. The model is also explicit in including a number of well-defined lexical categories under each class, and it is radical in the sense that the number of "motivated" types has been increased considerably to a maximum. Structuralist in its inspiration (similarly to Drozd & Seibicke), Kocourek's model takes a clear stand that motivation is the focal point of interest in dealing with term formation. The model also allows for motivation as a cross-linguistic phenomenon by including loans. This point is important because a source expression always provides a motivational model of reference which has some psychological reality to those creating a secondary target expression – a phenomenon termed secondary term formation by Sager (1990:80, see below).

Kocourek's (1991: 173) example, the simplex term *gas* motivated etymologically by Greek *chaos*, demonstrates that his approach also allows for gradedness and psychology post hoc as motivated phenomena: If language users have a graded and varying etymological knowledge of the linguistic model *gas*, the motivation of *chaos* will also be graded and varying. This point corresponds to Ullman's observation of subjectivity (cf. above) and is also valid for general word formation. In general, it is reasonable to state that Kocourek's model recognises the creative potential of the entire set of lexical resources, central as well as peripheral, and that a strictly synchronic view of motivation is difficult to apply.

The relationship between term formation and motivation is not, however, completely isomorphic, as some correspondences seem blurred. "Semantic motivation", for instance, does not refer only to metaphor or terminologisation as in the more traditional approach, but also to the use of distinctive semantic features in morphologically motivated compounds. In the English-Norwegian example *derrick* vs. *boretårn* (literally "drill tower", cf. table 3 below), the English term may be interpreted as a metonym and the Norwegian equivalent as a morphosemantically transparent term containing the distinguishing feature [USED FOR DRILLING]. The semantic motivation of *derrick* is global whereas it is partial in the Norwegian equivalent².

If we compare the approaches of Drozd & Seibicke and Kocourek, it is reasonable to conclude that structuralist approaches recognise that existing LSP lexicons are dominated by motivation and not by

arbitrariness, at least with regard to the overall quantitative picture: "La plupart des termes ne sont-ils pas motivés?" (Kocourek 1991: 177) "[...] il n'existe que peu de termes arbitraires (op.cit., 173)" , "In quantitativer Sicht kann man schon rein empirisch feststellen, daß in den meisten [Fach- und Wissenschaftssprachen] motivierte Termini vorherrschen" (Drozd & Seibicke 1973: 129).

REDUCING THE BARRIER BETWEEN TERMINOLOGY AND GENERAL LANGUAGE?

It is also worth noting that the above quotation by Temmerman should be viewed in its context, which is the following quotation by Rondeau:

Motivation. Voilà une qualité désirable, mais qu'il faut éviter de rechercher à tout prix. Au contraire, quand la motivation s'appuie sur des rapports sémantiques dérivés de la langue commune, elle peut être nuisible, car elle aura tendance à encombrer le néonyme de connotations qui n'ont rien à voir avec la notion à exprimer. (Rondeau 1984: 135)

To state that morphological term or word formation means formation from existing bases begs the question which (types of) bases. Rondeau's quotation refers to the traditional interpretation of motivation as replacing foreign words by native, be it for reasons of purism alone or the use of native lexical resources in order to bridge the gap between learned and popular vocabulary and thus reduce barriers of understanding and communication in society. In this respect, an emphasis on "sprechend" (cf. Drozd & Seibicke) in the normative/onomasiological sense is favorable because it is linked to regular morphological motivation since e.g. composition mainly favours the use of native and familiar elements. As discussed above, 'learned' word-formation also makes use of motivating bases, although in this case such bases are not taken from ordinary language. The dichotomy of 'motivated' and 'arbitrary' is not, consequently, equivalent to the dichotomy of 'native' vs. 'foreign/learned'.

If, further, a type of motivation exists that does not produce "sprechend" ('self-explanatory' terms, the implication is that "sprechend" ('self-explanatory') is a specific concept subordinate to a generic concept of "motivated". It is perhaps better to consider 'sprechend' or 'self-explanatory' as pragmatic properties rather than specific morphological concepts, and this would mean extending the notion of "motivated" from the linguistic to the psychological level. Kocourek's analysis (cf. above) of gas being motivated by chaos corresponds (conversely) to Drozd & Seibicke's observation about conscious zero-motivation:

Theoretisch wird angenommen, daß das Wesen der Motivierung darin liegt, daß im Entstehungsakt des Terminus jede Bildungsweise motiviert wird – selbst in solchen Fällen, wenn ein nichtmotivierter Terminus gebildet wird. In solchen Fällen ist es eben die beabsichtigte ausbleibende Motivierung, die den Motivierungsgrund darstellt [...] Als Motivierungsgrund der Wortbildungsweise sehen wir dann eine zielbewußte Demotivierung an. Auf diese Weise kann also die Demotivierung zum Wortbildungsprinzip in der Terminologie erhoben werden. (Drozd & Seibicke 1973: 54)

If in fact zero-motivation constitutes an important form of motivation, 'learned' word-formation on the basis of Greek or Latin elements is also motivation, and this point is explicitly made in Kocourek's model, cf. 'confixation' (Kocourek loc.cit.), and also gas < chaos, cf. above.

AN ATTEMPT AT COMPLEMENTARITY

The analysis of the concept of motivation in terminology reveals that there is a considerable degree of indeterminacy with respect to its status, and it is not very easy to make typologies of phenomena that are difficult to delimit at the generic level. The four dimensions mentioned above (a–d) have to be distinguished and at the same time interconnected before a revised typology can be made.

Extending motivation from linguistics to psychology is no radical step, as already Ullmann's observation about subjectivity (cf. above) refers to a psychological fact. Cognitive linguistics nevertheless broadens the perspective from structure to extra-linguistic factors, such as intentions and context. This point is also made in the definition by Radden & Panther (2004) within the framework of cognitive linguistics. The line of thought from Drozd & Seibicke to cognitivism in this respect becomes strikingly clear:

A linguistic unit (target) is motivated if some of its properties are shaped by a linguistic source (form and/or content) and language-independent factors. (Radden & Panther 2004: 3)

Reducing 'structuralism' to 'Saussurian structuralism' is, on the whole, perhaps a little simplistic. Even Saussure recognised the importance of 'relative' (morphological) motivation. If generativism, in a broad sense, is considered a branch of structuralism, it is perhaps true that motivation is neglected. But the functional approach of the Prague school is also structuralism, and within this school the interest in motivation is evident. Drozd & Seibicke as well as Wüster and the Russian/Soviet school of terminology can be seen as branches of structuralism, and their interest in the topic of motivation is evident and important. The same applies to Wüster, even if apparently he did not use the term 'motivation' but spoke of other functional parameters such as 'Merkhilfe' and 'einprägsam' ("Die selbständige Merkhilfe der Begriffsform soll möglichst groß sein", Wüster 1966: 111).

My own position vis-à-vis these problems has been and still is one of complementarity, as discussed in the works by Laurén & al (1998, 2008). One way of arriving at a clearer understanding is to analyse the dichotomy 'motivation' and 'arbitrariness' on different levels, and to separate the near-synonyms of motivation and iconicity, cf. figure 2:

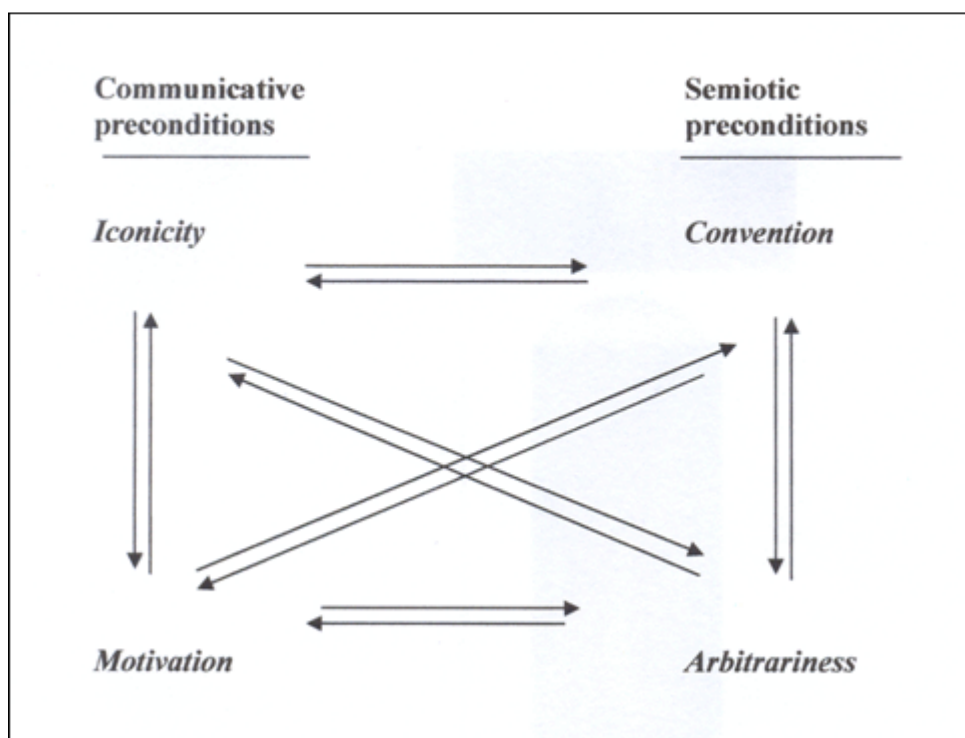


Figure 2: A general model of Semiotic and Communicative preconditions (Laurén et al. 2008: 105. English translation by JM)

This means that

- Arbitrariness is valid and fundamental in order to account for normative measures as well as for the phenomena of translation, revision, and term assignment
- Arbitrariness and motivation are scalar concepts; they should be considered two extremes subordinated to the principle of convention (cf. Kocourek 1991).
- It is important to establish a distinction between motivation and iconicity (cf. Laurén & al. 2008: 89–92). Iconicity should be defined as an instance of motivation, not as identical to motivation

On this basis, motivation can be defined in a way closely parallel to Radden & Panther's definition:

Motivation: Projicering af en del af indholdssiden ind i udtrykssiden, således at udtrykssiden gør det muligt at associere indholdssidens viden med allerede eksisterende viden. [Motivation: The projection of a part of the content into the form, thereby enabling the receiver to associate his or her knowledge of the concept with his or her existing knowledge.] (Laurén & al. 2008: 89, translated by JM)

By means of the keyword 'associate' (Da. *associere*), this definition explicitly includes the psychological dimension, emphasises gradedness, and expresses no morphological bias. Developing Drozd & Seibicke's inclusion of psychological phenomena such as deliberate intention, a clear link can be made to cognitive linguistics indicating that motivation is a complex phenomenon composed of language-internal and language-external factors in complex interplay. Some consequences are, among others:

- The iconic power of forms of representation is user- and context-dependent. For instance, metaphors and initialisms require more background knowledge than morphological devices such as compounds and phrases.
- Motivation is inference-based (according to Wolfgang Dressler as quoted by Myking 1998: 335; cf. relevance theory). In the case of scarce linguistic material (e.g. simplex and/or metaphorical terms), more background knowledge is required to make the necessary inferences: overshoot requires more inferences than does fishing tool, cf. table 3 below. In the case of abundant material (compounds and phrases), perhaps less background knowledge is needed, but still, background knowledge cannot be reduced to zero³.
- New terms always carry some sort of motivation (Drozd & Seibicke 1973; Kocourek 1991), and this old statement is still valid. As pointed out by these authors, this amount of motivation may be induced psychologically, i.e. post hoc, by users of the term as well as by means of etymological analysis.
- Motivation is never static: any lexical type may acquire a motivational meaning or lose it (Drozd & Seibicke 1973; Kocourek 1991); this old statement is still valid and closely linked to the previous statement.

The purpose of motivation in neonymy may be described in the following way: motivation should make the neonym easily understandable and meaningful within the context in which it is intended to function, by means of interaction and interplay of linguistic and extra-linguistic mechanisms. These mechanisms may vary from context to context (domains can be viewed as contextually bound), and different motivations may be needed in different contexts.

This is by no means a completely new position. Ullman (1972: 93) had already pointed to the fact that for a word to be motivated, it must be felt to be motivated. If this position holds true, there is no reason why motivation should not be extended to include a wide variety of types other than compounds and derivatives along the lines pointed out by Kocourek 1991 and demonstrated in his model (cf. above). It does not, however, make the classification task proper any easier, as we shall very soon have to account for a variety of psychological phenomena, including the problem of post hoc analysis. To give a full account of such problems would exceed the limits of this article.

PROPOSAL: THREE MAIN TYPES OF MOTIVATION

The discussion so far has demonstrated the difficulties of establishing a consistent and all-embracing definition of motivation, a problem that has been resolved by taking recourse to the principle of gradedness. If we return to question 1 in the introduction, the task of making classifications might, as a consequence, be seriously questioned: For what purpose do we need classifications? Do we really need them, especially when the inevitable problems of inconsistencies and fallacies are taken into account?

One obvious answer would be that gradedness often provides a more adequate and complete understanding of a phenomenon in question, but, nevertheless, that taxonomies are often required for analytical purposes (contrastive, diachronic etc.). After all, classification is part of any scientific approach. Semiotic parameters and word-forming mechanisms must, consequently, be connected in one way or another. Kocourek's model is a first attempt in this direction, and I attempt a further step by suggesting a revised taxonomy of motivation types based on Kocourek's model, cf. figure 3 below.

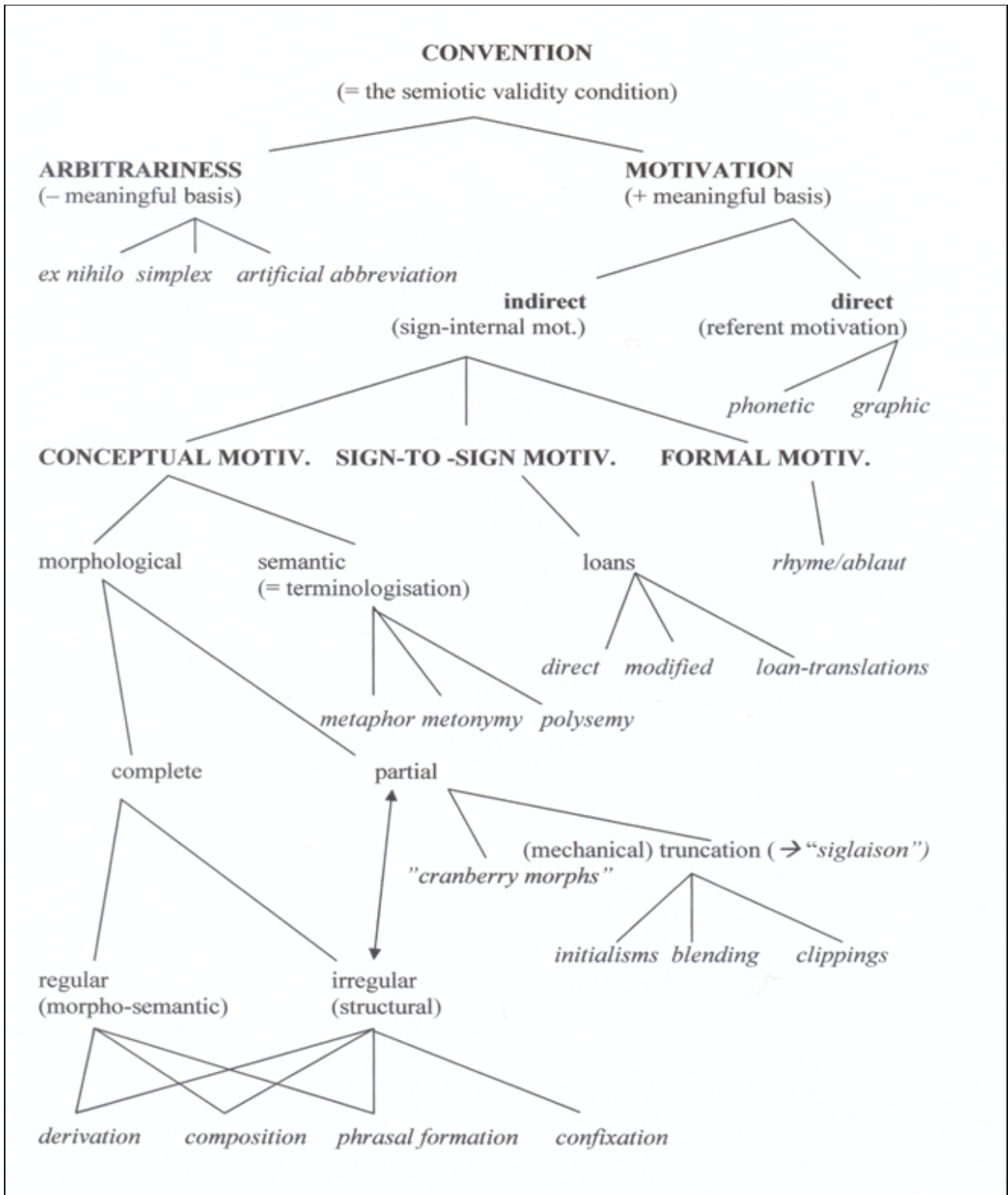


Figure 3: An extended taxonomy of motivations (cf. Myking 2008: 344. The double arrow indicates an instance of possible overlap.)

The point of departure for the proposed taxonomy is Kocourek’s next-to-top level dichotomy of arbitrariness and motivation as hyponyms of convention. ‘Convention’ is seen as the semiotic validity condition, ‘arbitrariness’ refers to formation lacking a meaningful basis, whereas ‘motivation’ covers all types of formation for which a meaningful basis can be identified. The level of motivation is then covered by three major types:

- Conceptual motivation --> morphological & semantic formation, according to tradition.
- Sign-to-sign motivation --> cross-linguistic bases, loans, according to Kocourek 1991.
- Motivation by form --> phonaesthetic phenomena; again according to tradition.

The model is structural and static, and the problem of how to deal with the dynamic and creative aspects of term formation remains unsolved. The present article does not permit a broad account of all details and arguments leading to this typology, and therefore I have to refer to Myking 2008. For taxonomic purposes, the model is intended, however, to provide a more detailed account of term formation than previous models.

It is also important to notice that this kind of taxonomisation addresses motivation from the semasiological point of view only – it does not deal with motivation in the functional, normative, and onomasiological senses, nor with 'motivated choices'. We are trying to classify term-forming mechanisms with regard to motivation, not the degree of motivation that can be attributed to particular terms. The point is, however, that correlations of the semasiological and the normative approaches should be made on the basis of reliable taxonomies.

A first glance at the proposed model indicates that the motivation types sign-to-sign and form appear marginal because they do not seem to cover a wide range of lexical types. This is only partly true, considering the important role of loans interacting with morphological procedures, for instance when a source term is transferred and then replaced by a morphologically complex target term. In a model of this kind, the scientific importance of one single motivation type, such as metaphor, may appear limited when included in a complex set along with a number of other types. The main focus is, after all, on conceptual motivation, encompassing morphological as well as semantic motivation. The main differences with regard to communicative function and to paradigmatic importance can be referred to this contrast and this section of the model. As demonstrated by the discussion above, this opposition is in fact the essence of the problem. The main reason for this is that they both affect two main functions of terminology formation – the function of concept formation and the function of concept transfer. Both functions are served by term formation, primary vs. secondary term formation respectively. This interdependence requires some additional comments.

PRIMARY VS. SECONDARY TERM FORMATION

One important reason behind conflicting views on motivation is the position of morphological vs. semantic motivation with respect to their functions within primary and secondary term formation. When assessing the importance of a motivation type, a number of pragmatic considerations must be taken into account. First of all, as mentioned above, it is important to recognise that the message conveying the potential of motivation types varies, and that different forms of representation have different iconic power vis-à-vis different user groups and within different (technolect) domains. We may put forward the following suggestion and hypothesis:

- The potential of motivation is dependent, to a large extent, upon the main functions of primary vs. secondary term formation. The two main types of term formation exploit the potential of motivation in different ways, corresponding to two interdependent, but conceptually different needs – cognition vs. communication.

The pragmatic distinction between primary and secondary term formation is attributed to Sager (1990):

Primary term formation accompanies concept formation and is therefore monolingual [...]
Secondary term formation occurs when a new term is created for a new concept and happens in two distinct situations:

- 1) as a result of monolingual revision of a terminology, e.g. for the purpose of producing a standards document, or
- 2) as a result of knowledge transfer to another linguistic community which is carried out by means of term creation (Sager 1990: 80)

Primary term formation is linked to *conceptualisation* and emergence of new knowledge, and thus to metaphorical motivation, since we accept that metaphorical concept formation is perhaps the primary way of arriving at new knowledge (cf. Temmerman 2000).

Secondary term formation, on the other hand, is linked to terminology revision and transfer. Such communicative needs largely affect the expression level and are perhaps best served by morphological motivation. Morphological motivation is more context-resistant (unmarked, "objective") and this permits a safer interpretation of characteristics; cf. maxims of clarity, relevance, manner, and quality (cf. Laurén & al. 2008, Ch. 7, 8). To quote the pair of derrick vs. Norwegian boretårn once more, the latter focuses on the main function to be performed by the apparatus and does not evoke any connotations about persons carrying the name of Derrick. This is nothing more than the traditional insight provided by writers within the 'tradition'.

Whereas primary term formation accompanies concept formation and lacks any previous linguistic model, according to Sager (op. cit.), secondary term formation is "designed and engineered", and there is always "the precedent of an existent term with its own motivation". Secondary term formation is, as a consequence, not possible without motivation, but this motivation may in some instances be 'negative', such as when it becomes a norm to deliberately avoid transferring the source model to the target language. This is one mechanism leading to 'demetaphorisation', as indicated below.

The two types of secondary term formation, revision and transfer, have one factor in common, that of deliberate human effort, and there is no need to exclude either type from the discussion, even if the plurilingual type has been at the focus of discussion so far.

'DEMETAPHORISATION': A MOTIVATED PHENOMENON

The previous points can be summarised in the following way, cf. table 2:

PRIMARY TERM FORMATION	SECONDARY TERM FORMATION
cognition	communication
generation of new knowledge	transfer of existing knowledge
spontaneous term formation	conscious and deliberate term formation
no previous model	existing model
metaphorical motivation	morphological motivation

Table 2: Main features of primary vs. secondary term formation

On this basis, the following predictions can be made: In a bilingual set of terms in which one of the languages is the language of secondary term formation, the source/primary terminology is likely to be less characterized by regular morphological motivation than its equivalent target/secondary terminology. Conversely, the target secondary terms are likely to be characterized by a higher frequency of morphological motivation, a fact that can be explained by normative and conscious efforts in term creation. The process of transfer is a motivating, langue-independent factor (cf. Radden & Panther 2004) leading to "demetaphorisation", i.e. a process whereby metaphorical terms are replaced by more transparent morphological compounds, precisely because in this process, the main characteristics are focussed and connotations omitted. Cf. the following examples from the domain of oil exploration and drilling:

SOURCE TERM (English)	TARGET (Norwegian)	TERM	LITERAL TRANSLATION
<i>bean</i>	<i>reduksjonsventil</i>		"reduction + valve"
<i>Christmas tree</i>	<i>ventiltre</i>		"valve + tree"
<i>derrick</i>	<i>boretårn</i>		= ellipsis of <i>drilling derrick</i> "
<i>doghouse</i>	<i>vaktbu</i>		"watch + cabin"
<i>fatigue</i>	<i>materialtrøtthet</i>		"material exhaustion"
<i>jacket</i>	<i>plattformfot</i>		"platform + foot"
<i>kelly</i>	<i>drivrør, rotasjonsrør</i>		"drive + pipe", "rotation + pipe"
<i>kick</i>	<i>tilbakeslag</i>		Literally . "backlash"
<i>monkey board</i>	<i>tårnplattform</i>		" derrick platform"
<i>moonpool</i>	<i>kjellerdekkshull</i>		"cellar + deck + hole"
<i>mousehole</i>	<i>rørkoplingshylse</i>		"pipe + joining + hole"
<i>overshot</i>	<i>fiskeredskap</i>		Cf. <i>fishing tool</i>
<i>rathole</i>	<i>drivrørshylse</i>		"drive + pipe + hole"
<i>roughneck</i>	<i>boredekkarbeider</i>		"drilling floor worker"
<i>roustabout</i>	<i>dekkarbeider</i>		"(drill) floor worker"
<i>wild cat</i>	<i>undersøkingbrønn</i>		Cf. <i>exploration well</i>

Table 3: Secondary term formation and demetaphorisation

The phenomenon exhibited by the above data probably applies to any technolct, although neither in a deterministic nor even statistically dominant way. However, the pragmatic and cultural significance of this tendency underlies discussions on secondary term formation in many languages and in many writings on terminology. To the extent that the tendency is significant, demetaphorisation should be considered a motivated feature of secondary term formation. Typological and normative explanations have been suggested, but the tendency is better explained as the product of an iconic drive created by the transfer context.

Whether or not this suggestion is feasible can only be established by means of empirical and typology-based research, but it should be borne in mind that a large degree of asymmetry exists between any two parallel and equivalent terminologies that are compared. To account for metaphor in a typological perspective, separate and equivalent sets of primary term formation are needed. This is a requirement not easily met.

SOME CONCLUDING REMARKS

If the two important subtypes of conceptual motivation, morphological vs. semantic motivation, constitute the core of the problem of creating a meaningful taxonomy, it follows that large parts of the model proposed here are neutral with respect to 'paradigmatic' discussions between directions of terminology.

As regards sign-to-sign or cross-linguistic motivation, it can be concluded that the existence of secondary term formation demonstrates that motivation cannot be adequately dealt with within a strictly monolingual context. This type of motivation is indeed complex and at the same time interacting with conceptual motivation in a large number of cases. A secondary term exhibiting the morphological structure of a compound is at the same time conceptually as well as cross-linguistically motivated, and it is often difficult to decide which motivation is the most important, cf. Norwegian *froskemann* < English *frogman*. Two other instances of cross-linguistic motivation, Latin nomenclature and abbreviations, which in this model have been classified as partial morphological motivation, are more resistant to motivational change than are metaphors, i.e. they are more often transferred directly or with minor adjustments.

As regards the third main type, formal motivation, the model indicates a status equal to that of conceptual motivation, although there is very little evidence in research that could at present refute Drozd & Seibicke's (1973: 129) statement that this type is insignificant in LSP and terminology.

It may be questioned whether models such as Kocourek (1991) or the present model really solve the "catalogue problem" mentioned in the introduction to this paper – term formation as a set of lexical categories that are not exclusive to terminology and LSP. On the other hand, focussing on motivation types instead of lexical types is making a generalisation that addresses the driving forces behind lexical growth rather than its outcome. Nevertheless, any taxonomy or classification will have to prove its significance first of all by fulfilling descriptive needs and not by striving towards the ambition of resolving the overall indeterminacy of the concept of motivation.

Since the discussion has ranged over different aspects of motivation and since the issue of different views on motivation has not, so far, been investigated in detail, there seems to be no need to over-emphasise the 'parametrical' status of motivation, that is, in the sense that motivation be a sign of demarcation between directions of terminology. My view is that there seems to be agreement on the importance of motivation at a very general level, and that the choice of object of study is often a matter of personal inclination and of the contextual setting of terminology in which the researcher finds himself or herself.

There is, finally, no logical implication arising from the proposed model for the study of secondary term formation to be a normative task. Investigating the merits of motivation in secondary term formation might require different methodologies than do research in primary term formation, although this is by no means self-evident. Temmerman states that her investigations based on cognitive linguistics are based on primary term formation (in casu: English), but she also states (Temmerman 2000: 235) that cognitive research in secondary term formation is needed. In order to advance further towards a unified view on motivation in terminology, this suggestion should be supported. Such effort might unify the two seemingly antagonistic but in fact compatible perspectives of this discussion: cognitive terminology might include functional perspectives on metaphor, and traditional terminology might benefit from a description of compounds and derivatives from the cognitive perspective.

¹This article is based on previous work: The main topics of dichotomisation are discussed in Myking 1998, the main ideas of which are elaborated in Myking 2008. The essential semiotic definitions are given in Laurén & al 2008.

²The English term is in fact formed by ellipsis of drilling derrick and the semantic motivation of the generic term derrick by the proper name of Derrick is perhaps accessible only by etymological analysis.

³ This may not always be the case, as lengthy terms may result from a high level of abstraction and used only in expert-to-expert communication (Margaret Rogers, personal communication).

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