Towards a functional-cognitive lexicology of nouns

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1. Introduction: relations between words and worlds

We use words to talk about things and ideas. The ease with which language users constantly accomplish this feat suggests to them that there must be a fairly simple link between words on the one hand, and the worlds of things and ideas on the other. Especially nouns, which typically stand for things and ideas rather than, say, actions or properties, appear to be no more than linguistic labels attached to things and ideas by convention.

It will presumably take a moment's reflection for most of the idealized competent but linguistically naive speakers to realize that, if anything, it is to **categories** of things and ideas that most nouns are related rather than **single** things and ideas. The lexemes *pen* and *pencil*, for example, do not denote individual pens or pencils but the classes of pens and pencils respectively. Yet even this is by no means the whole story. Clearly, nouns like *inflation* or *democracy*, for instance, do more than simply attach labels to classes of ideas: they help us not only to speak about certain bundles of ideas, but also to conceptualize these particular bundles in the first place. Would it be possible to conceive what inflation or democracy are without having words for these concepts? Probably not. In view of such examples it has been claimed that words represent neither individuals nor categories of things, but that categories or concepts of things and ideas only emerge because languages supply words to label them. In a radical interpretation of this viewpoint, the concepts of PEN, PENCIL, INFLATION and DEMOCRACY would be unthinkable if it were not for the existence of the words *pen, pencil, inflation* and *democracy*.[1]

All this suggests that nouns can do more than act as mere labels for things or classes of things. Speakers can benefit in a much wider range of ways from the use of nouns. This is especially true with respect to cognitive processing, i.e. with respect to how nouns help speakers to process linguistic (and perhaps even non-linguistic) information.

Not all nouns seem to supply the same types of services, however. For example, while it may be reasonable to think of abstract nouns like *inflation* as creating concepts,

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[1] This viewpoint is known as "nominalism" in philosophy and semantics (cf. Lyons 1977: 110ff.), a position strongly associated with the fourteenth century philosopher William of Ockham. Ockham attacked the so-called "realist" stance subscribed to, in various forms, by Plato and Aristotle, who claimed that words label readily packaged categories or universals called *ideas* by Plato and *forms* by Aristotle. Ockham, on the other hand, argued that things were individuals in their own right and not mere instantiations of universals.

this is clearly out of place with proper nouns (e.g. *Leonhard Lipka*), which do seem simply to attach linguistic labels to individuals after all.

Starting out from these considerations, my aim in this paper is to put forward some ideas on the kinds of cognitive functions nouns may have. Although related issues have of course been discussed in the neighbouring disciplines of philosophy and cognitive psychology, this is, to the best of my knowledge, a new field of inquiry in linguistics. As a consequence, this paper is of a fairly programmatic nature.

2. Cognitive functions of nouns

2.1 Naming, denotation and reference

All nouns can be said to name cognitive representations in the sense that they provide language users with linguistic labels for certain portions of their experience. This binary relation between linguistic forms and cognitive representations is of course captured in Saussure's model of the sign, and it makes up the basis of other models, too. As has been emphasized in Ogden & Richards' well-known semiotic triangle, the cognitive representations are of course related to something else; they are cognitive representations **of something**. This *something* can be any kind of entity imaginable, for example a person (*Leonhard Lipka*), an object (*Titanic*), a class of objects (*rope*), a type of event (*arrival*), a set of beliefs (*religion*) etc. In the semiotic triangle, this *something* is called *referent*, but this term must be treated with some caution. According to Lyons (1977: 174ff.; see also Lipka 1992: 47ff.), it is useful to distinguish between *denotation*, the relation of *lexemes* (as elements of *langue*) and their *denotata*, and *reference*, which is the relation between *expressions* (as elements of *parole*) and their *referents*. Lexemes as such do not have reference (but only denotation), unless they are used by speakers in speech acts of reference as parts of referring expressions (cf. Searle 1969: 72ff.). While this distinction is clearly valuable, it is not always necessary to be very strict about it, because there is often a fairly direct relation between the denotata of lexemes and the potential referents of expressions in which they occur. I will use the term *naming* as a neutral term subsuming the relations of denotation and reference.

Naming is the most simple of the cognitive functions of nouns. It is like sticking a label to an object. However, for this simplicity of cognitive processing to be possible, the cognitive representation to which the linguistic label is attached must meet certain requirements. It must be labellable, so to speak. To find out what this means, it may be useful to look at the 'labellability' of concrete things first. For real objects to be labellable, they must be concrete (you cannot attach a lable to ideas); they must be solid, or at least graspable (you cannot stick a lable to water); and they must have perceivable boundaries so that the label can be seen to be valid for the whole thing (you cannot stick a label to a single rail and assume it is valid for the whole railway network). In short, labellable things must lend themselves to a perception as unitary and individual *gestalts*. As was found out by the Gestalt Psychologists (e.g. Wertheimer, Köhler and Koffka; see the references in Ungerer & Schmid 1996: 58, note 12), good gestalts adhere to the

so-called gestalt principles, most notably the principles of closure, continuation, proximity and similarity (see Ungerer & Schmid 1996: 33f.). The railway network, for example, complies with the principles of continuation and similarity, but misses out with regard to closure and proximity.

When we try to transfer these findings to cognitive representations, it is clear that these are neither concrete nor solid. Nevertheless I believe they can be viewed as gestalts – **con**ceptual gestalts rather than **per**ceptual ones, however. When we focus our mind on certain ideas, thoughts or concepts, we will experience them as closed and integrated mental structures. Especially when ideas are named by words, as is the case with nouns like *inflation* and *democracy*, they seem to have such gestalt properties. I cannot support this claim with empirical evidence yet, but I hope it will be plausible enough to be acceptable as a working hypothesis.[2] More about this will emerge as this paper unfolds, especially in section 2.6 on the notion of hypostatization. Let us assume, then, for the time being, that just like real concrete objects, cognitive representations must have gestalt properties in order to be labellable by linguistic forms.

If this is indeed plausible, the next question - a difficult one - is obvious: where do these properties come from? Most of the rest of this paper will deal with this question. What seems to be clear at this point is that the answer depends on the kind of entity a cognitive representation is a representation of, i.e. on the referent of a word, or more precisely, on the ontological status of the referent. If the referent is an individual with a good gestalt, then it will be fairly easy to name the corresponding cognitive representation, because it is easy to form a mental representation of one such individual. If, on the other hand, the referent does not have these properties by virtue of its ontological nature, for example, if it is no individual (like water) or not even concrete (like time), simple naming is impossible and other cognitive processes have to be carried out to produce a labellable gestalt.

With these hypotheses concerning the cognitive underpinnings in mind, I would now like to turn to the lexicological perspective. The first question from this point of view is whether there are any nouns in the English lexicon which do no more than name cognitive representations of single individuated and bounded gestalts. The answer, of course, is *yes, there are*. The prime cases of such nouns are proper nouns. Typical proper nouns act as linguistic labels for mental representations of individual persons (*Leonhard Lipka*), animals (*Rover, Kissy*), buildings (*Eiffel Tower, Tate Gallery*) and, more rarely, of other kinds of artefacts (*Titanic, Discovery*). All the referents of these nouns display the required gestalt properties, and therefore it is easy to form gestalt-like mental representations of them. Additional cognitive processes do not seem to be necessary for establishing a relation between linguistic form, cognitive representation and referent.

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[2] Perhaps some readers will accept, in support of this hypothesis, that as early as 1977, Lakoff talked about *linguistic gestalts* to capture the idea that grammatical constructions are more than the sum of their parts. Later, in Lakoff & Johnson (1980: 81ff.) and Lakoff (1987: 486f. *et passim*), linguistic gestalts turned into *experiential gestalts*, which are thought of as "ways of organizing experiences into *structured wholes*" (Lakoff & Johnson 1980: 81; emphasis original).

Furthermore, the referents of these types of proper nouns are unique entities, and this presumably also facilitates naming. This property is reflected linguistically in the fact that proper nouns are hardly ever used in the plural, even though most Christian names (*Barbara, Charles*), last names (*Jones, Miller*) and names for animals do have the potential to identify several different individuals. Conceivable contexts for plural uses would be *the Millers* (in reference to the whole family) and *all Barbaras, come to my desk* (in a classroom situation in which the teacher is eager to identify the author of a love-letter signed *Barbara*).

The uniqueness of referents is the crucial characteristic of other types of proper nouns, whose referents are otherwise doubtful with regard to their gestalt properties: names of locations (*Trafalgar Square, Oxford, Snowdon*), countries and regions (*England, Yorkshire*), institutions and organizations (*Royal Academy, U.N.*), companies (*Tesco, Boots*), and brands (*Kleenex, Mars*). In these cases, the historical, cultural and economic importance of the referents facilitates the association between names and referents. Brand names are an interesting exception to the uniqueness principle, because they are obviously used for a huge number of individuals. The crucial difference to all common nouns – which are also related to classes of things rather than individuals – is that the individuals named by brand names tend to be completely identical. A conceptualization as gestalt, presumably based on the perception of one single exemplar of the product, is therefore perfectly natural.

The fact that proper nouns do no more than name unique individuals has a semantic consequence which has not escaped the attention of philosophers (see e.g. Searle 1969: 170, Kripke 1972: 276): proper nouns have no concept attached to them, they have no denotation but only serve to determine their reference.[3] Of course, this rule is not without exceptions (cf. Kryk-Kastovsky, this volume): names of particularly famous entities, especially persons but also places, can become so deeply entrenched in the collective memory of a speech community that they acquire concepts. Names like *Shakespeare*, *Marx* or *Oxford* actually mean something to us, they do not only have reference. If this were not the case, names could hardly serve as bases for metaphors (*he is a true Napoleon, she is the new Grace Kelly*), metonymies (*have you read Shakespeare?*), and even suffixations (*Marxist, Chomskyan*). These are clearly secondary processes, however, not typical of the class of proper nouns. 'Normal' proper nouns establish direct reference to their referents, without the mediation of a concept.[4]

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[3] This claim is also supported by neurophysiological evidence. Müller & Kutas (1996), for example, recorded event-related potentials (ERPs) in the brains of people listening to sentences beginning with common nouns and proper nouns. They found that two components of the ERP waveforms were larger for proper nouns than common nouns. The authors interpret this finding as a neurological reflection of the fact that proper names have no conceptual meaning. It can only be mentioned in passing here that the difference between abstract nouns and concrete nouns also has significant reflections that are open to neurophysiological test methods (cf. Weiss & Rappelsberger 1996).

[4] According to a group of philosophers, most notably Saul Kripke (1972: 322) and Hillary Putnam (1983: 71f.), there is another class of nouns which should be treated with the

2.2 Categorization

All nouns except proper nouns (and to some extent natural kind nouns; see footnote 4) do not refer to single individuals but denote classes of entities. It is only in referring expressions of the kind *the boy over there* that common nouns refer to single individuals. But even in such uses, common nouns do not refer to the individuals as such (as would be the case in *look, there's **Len** over there*). Referring expressions with common nouns refer to individuals as members of categories – in the example above, for instance, to an individual as a member of the category BOY.

If I may briefly return to the labelling metaphor, it seems only natural to assume that one cannot stick one label to several individuals. In real life, if one intended to stick a label to a whole set of things, one would presumably put them into some sort of container, say a box or an empty jam-jar, and then stick a label onto the container. Arguably, something very similar takes place with common nouns. Since the linguistic label *boy* (as a *lexeme* rather than *word*) is indeed attached to all boys, they must have been put together in a container in the first place. The containers used by the cognitive system for that purpose are commonly referred to as *cognitive categories*. Whenever language users process common nouns, their minds work with cognitive categories. These are mental representations of sets of entities which are largely collected on the basis of some sort of conceived similarity between them. I can only use the word *dog* to refer to both my neighbour's Pekinese and my friend's Alsatian if I have successfully carried out the task of regarding these different individuals as instances of one single category. And I can only use the word *car* to refer to a rusty old Mini Cooper and a shiny new Jaguar if I have categorized them. Only card-carrying realists (see footnote 1 on page 213 above) would claim that I can simply attach the appropriate linguistic labels to these individuals, because they are mere instantiations of the universals of doghood and carhood anyway. I find the idea more convincing that categorization is necessarily involved in the use of common nouns.[5]

All common nouns involve the categorization of cognitive content. Only a small proportion of them, however, involve **no more** than categorization (and naming). The only good candidates for this kind of nouns are the so-called *basic-level nouns* like *woman, elephant, mouse* and *flower* in the domain of living organisms, and *car, vase, knife, rope* and *pen* in the domain of artefacts (on the notion of *basic-level categories* see, e.g., Rosch et al. 1976, Lakoff 1987: 31ff., 46ff., Taylor 1995: 46ff., Ungerer &

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theory of direct reference. They claim that just like proper nouns, natural kind terms have no concepts connected to them. The meaning of these words, they say, is not determined by their denotation (the term more often used by philosophers is *intension*), but by their ranges of referents (*extension*), and by objective physical laws.

5 Whether categorization is a **precondition for** the use of common nouns or an **immediate consequence of** their use is a question that I do not venture to address, not even in a programmatic paper like this one. I will be satisfied by the general idea that categorization is a necessary corollary and accompaniment of the use of common nouns.

Schmid 1996: 60ff.). I intend to show in the later sections of this paper that all other nouns include cognitive processes in addition to naming and categorizing.

Why can basic-level nouns function on the basis of naming and categorization alone? Why do they, of all nouns, not require additional cognitive processes? The reason is that the cognitive categories corresponding to basic-level nouns are based on particularly salient real-world similarities. As was found out by Rosch et al. (1976), basic-level categories are located on a middle level of specificity, where the individuals collected in categories are maximally similar to each other, while being maximally distinct from neighbouring categories. The objects collected in superordinate categories like FURNITURE (e.g. beds, wardrobes and chairs) are too different from each other to lend themselves readily to common categorization. The members of neighbouring subordinate categories (e.g. DESK LAMP, BEDSIDE LAMP), on the other hand, are so similar to each other that their separation in different categories is not immediately suggested either. Basic-level categories strike an ideal balance concerning category-internal similarities between objects and category-external differences between them.

The intra-categorial similarity of the members of basic-level categories has an important consequence. It allows for the formation of perceptual gestalts that are based on the outer appearance of category members, and the creation of category prototypes (cf. experiments 3 and 4 in Rosch et al. 1976: 398ff.). As a result, the creation of a gestalt-like cognitive representation is fairly effortless, because this representation can be anchored in the gestalt properties of the prototypes. In metaphorical terms, the linguistic label can simply be attached to the prototype, which can then act as a cognitive representation of the best examples of the category. Since this seems to be easy for our cognitive system, cognitive linguists have claimed that basic-level nouns provide us with a particularly direct cognitive access to the real world (cf., e.g., Lakoff 1987: 46ff., Ungerer & Schmid 1996: 60ff., 107f.). They can be considered as the 'basic' way of referring to persons, animals, plants and artefacts.

As psychologists and cognitive linguists have noted, there are a number of empirical linguistic reflections of this special status of basic-level nouns: they are acquired earlier by children than other types of nouns; they come to mind first in neutral contexts; they tend to be short, monomorphemic native words; and they seem to be the basic linguistic and cognitive building-blocks for productive processes in the lexicon such as word-formation, metaphor and metonymy (see Schmid 1996 and the references given there for more details on these points).

2.3 Highlighting and perspectivising

Despite their 'basicness', basic-level nouns by no means constitute the bulk of the nominal lexicon of English and other languages, not even of the so-called concrete nouns with which I have so far been concerned. The majority of concrete nouns involve more than naming and categorizing. Languages provide their users with many different possibilities of conceptualizing the entities in the real world. Even one single person may not only be described as, say, a *woman*, but also as a *human being*, a *person*, a

mother, a *daughter*, a *doctor,* a *lady*, a *girl*, a *beauty* or a *genius*. Only the first of these nouns is a clear example of a basic-level noun. Even *mother* and *daughter*, in spite of their indisputable 'basicness', should not be considered as basic-level nouns, I think, because they are relational concepts. What do all these nouns do, then, besides name and categorize? They allow speakers to highlight particular aspects of a person and to evoke a certain perspective on her. In short, all these nouns share the potential to fulfill the cognitive function of perspectivising.

Several subclasses of nouns which allow speakers to carry out this function can be distinguished. **Superordinate nouns** can be used to highlight fairly general properties of concrete entities. In the domain of living organisms, attributes like 'is human' (*person*), 'is animate' (*animal*) or 'raises offspring with milk' (*mammal*) can be highlighted. In the domain of artefacts, it is most frequently a function or purpose of entities that is highlighted (*clothes, weapon, vehicle*; cf. Wierzbicka 1985: 261ff. for a more differentiated view on superordinates). More specific functional properties are highlighted by **functional nouns** like *policeman, tutor* or *supervisor*. Functional nouns are a special type of **subordinate nouns**, which can highlight specific attributes of concrete entities such as parts (*armchair, thatched-roof cottage*), locations (*kitchen-chair, bedside lamp*), habits (*bombardeer beetle, rattlesnake*) and many others. **Relational nouns** highlight relations between entities. Examples are the nouns *mother* and *daughter* mentioned above, but also nouns like *head (of), group (of), part (of), corner (of)*. And finally, **attitudinal nouns** reflect the speakers' attitudes towards certain people or things, as for example in *lady, beauty, genius, sweetheart, hooligan, stuff* or *rubbish*.

The fact that perspectivising nouns are not the 'basic' means of referring to things is reflected in their morphological properties. While basic-level nouns tend to be short and morphologically simple words, perspectivising nouns, with the exception of relational ones, tend to be polymorphemic results of word-formation processes, mainly of the processes of compounding and suffixation.

2.4 Conceptual partitioning

My discussion so far has been built on the assumption that the ontological nature of the denotata of words has an influence on the ease with which cognitive representation – which are then eligible as targets of linguistic labels – can be formed. The more gestalt properties entities have by virtue of their ontological natures, the more they will lend themselves to the formation of gestalt-like cognitive representations. In spite of the differences between them, all the nouns discussed so far share an obvious but crucial feature that facilitates the formation of a gestalt-like cognitive representation: they are *concrete* nouns. This is a shorthand way of saying that their denotata are physically observable individuals or substances with some kind of stable existence in space and across time. In his well-known tripartite ontological framework, Lyons refers to such entities as "first-order entities", and to the nouns denoting them as "first-order nouns" (1977: 442, 446).

It goes without saying that not all nouns in the English lexicon are of this type. In addition to first-order nouns, Lyons has second-order and third-order nouns. Second-order nouns, e.g. *situation*, *event*, *arrival* or *birth*, refer to entities which are neither individuated nor endowed with a temporally stable existence. This does not mean that they are abstract nouns – at least not in the sense in which concrete nouns are concrete – because their denotata are also physically observable. What is 'abstract' about them, however, is that they are transient entities which "in English, are said to occur or take place, rather than to exist" (Lyons 1977: 443). In contrast, third-order entities are "such abstract entities as propositions, which are outside space and time" (Lyons 1977: 443).

As far as the prerequisites for the formation of labellable cognitive representations are concerned, second-order and third-order entities differ from most first-order entities in one important respect: they are not individuated entities by their ontological nature, like things or persons, but they are more similar to substances in that they have no inherent boundaries. They do not adhere to the gestalt principle of closure. Unlike substances, however, they do not even have a stable existence in time and space. As a result, the use of second-order and third-order nouns involves cognitive processes in addition to naming, categorizing and perspectivizing.

The noun *conversation*, a second-order noun, can serve as a first illustration of what I am talking about here. This noun does not denote a class of concrete individuals but a class of events which take place in space and time. Whereas the referents of such first-order nouns as *chair*, *apple-tree* or *baker* are individuated by nature and have clear-cut boundaries, the boundaries of conversations can be difficult to determine. When friends spend an evening around the dinner-table, no one will be able to say when one conversation began and when another started. As a consequence of this vagueness of the boundaries,[6] speakers cannot simply collect entities in categories, but they must also impose boundaries on the otherwise more or less continuous flow of events and activities they experience. When someone refers to a conversation in an utterance like *I had an interesting conversation with Len last night*, the use of the noun *conversation* has the effect that the event is conceptualized as having more or less clear-cut boundaries. In addition to categorization, references to entities of this type thus involve a cognitive process which can be called conceptual partitioning (cf. Talmy 1991, Schmid forthc.: ch. 16.1).

Which kinds of entities require this process? As a rule of thumb, conceptual partitioning is at work with all nouns whose denotata are not pre-individuated and bounded by their ontological nature. One can even claim that nouns denoting concrete entities with vague boundaries, e.g. *knee*, *wave*, *fog*, *mountain* or *valley*, rely to a certain extent on the process of conceptual partitioning, because the use of these nouns suggests

[6] The kind of *vagueness* I am referring to here must not be confused with the notorious *fuzziness* of the boundaries of prototype categories mentioned earlier. Fuzzy category boundaries are related to the question 'does entity X (e.g. a bat) belong to category Y (e.g. BIRD) or not?'. *Vagueness*, as I am using the term here in line with what is proposed in Ungerer & Schmid (1996: 16), refers to doubtful boundaries of things or events in (concrete or abstract) reality, and not to the conceptual categories of the mind.

the existence of clear boundaries which do not exist in extra-linguistic reality (see also Quine 1960: 126, Lipka 1992: 52).

The effect of conceptual partitioning is much stronger in other areas of the lexicon, however. First of all, event nouns like *conversation* must be mentioned here. Other examples are *game, lunch, meeting, arrival, birth* and *death*. All these nouns partition off certain chunks from the myriads of things that go on in the world at a certain time and categorize them in certain ways.

Place nouns like *area, region* or *mile* and time nouns like *moment, second* or *day* are other relevant domains of the lexicon. As is well known, the cognitive domains of space and time correspond to scalar dimensions which have no objective inherent structure. Therefore, there are only few extra-linguistic guidelines for the formation of cognitive representations. Only when proper nouns are used to refer to individual locations (*Trafalgar Square, Hyde Park*) or, in connection with numerals, to points or periods of time (*Friday, 12 June 1998*) are the boundaries of the references pre-determined, either by more or less objective real-world boundaries (in the locative references) or by deeply entrenched cognitive models which supply the dimension of time with an almost objective 'inherent structure'. So these nouns need to make only a small contribution to conceptual partitioning. This is different with the place and time nouns mentioned at the beginning of this paragraph. These nouns are geared to being used as conceptual partitioners. The nouns *mile* and *moment* as in *they walked ten miles* or *can you hang on for a moment?*, for example, can be regarded as conceptual partitioners which single out specific portions of the domains of space and time respectively.

Finally, all genuinely abstract nouns, i.e. third-order nouns in Lyons' terminology, rely of course on the process of conceptual partitioning, because the worlds inside human minds are not pre-individuated and pre-structured at all. There is no pre-arranged, more or less objective organisation comparable to the division of concrete matter into individual organisms and objects, which could help people to disentangle the jungle of ideas in their minds. What they can do, however, to bring some order into this chaos is to rely on the inter-subjectively shared abstract concepts which are represented and lexicalised as words in the language(s) they speak.

This recognition marks an important turning-point in the present paper. Up to this point, it seemed perfectly natural to think of words as labels for ideas of things. In the case of abstract nouns, however, this does not make sense any more because it is difficult to separate the delimitation of ideas from the words that label them. Nouns of this type actually seem to contribute to the evolution of mental structures. Teachers, especially in such abstracts fields as linguistics, have witnessed the process when students are beginning to impose a mental structure on the mess in their minds, once they are supplied with words to partition off and label specific ideas. Not only technical terms in all specialized fields, be it linguistics (*conversion, zero-derivation, transformation*), physics (*dynamics, ionization, induction*) or music (*ritardando, counterpoint, fugue*), but also everyday abstract nouns like *inflation, communism*, or even emotion concepts like *love* and *passion* have this function: they help people to single out specific portions of the universe in their heads and focus their attention on them.

2.5 Reification, hypostatization, and concretization

Both in actual usage (as *words*) and as abstract *lexemes* in the lexicon of a language, second-order and especially third-order nouns do even more than that, however: they also contribute to the reification of chunks of experience, a cognitive process through which transient and abstract entities acquire thing-like qualities. Again one could claim that even the concrete nouns mentioned in the last section, *knee, wave, mountian* etc., have this effect. Although the real-world boundaries of knees, waves and mountains are all but clear-cut, the use of the words *knee, wave* and *mountain* do not only suggest the existence of boundaries but they suggest that the denotata of these words are 'things' in their own right, endowed with the major hallmarks of things, viz. singularity and substance. When they are referred to with the words *knee* or *wave*, knees are primarily not conceptualized as what they really are, viz. parts of legs, or spaces or links between bones, and waves not as transient formations of water, but both are thought of as things.

This combined illusion of clear-cut boundaries and a thing-like, substantial nature is called *hypostatization* or *hypostasis* in the philosophy of language and in linguistics (Leisi 1975: 26, Lipka 1977: 116ff., Lipka 1992: 16). As Lipka notes, the notion of hypostatization corresponds to Leech's idea of the "concept-forming power of *the word*" (Leech 1981: 32; my emphasis), i.e. of all words, even basic-level nouns, for example. With nouns of this type, however, the concept-forming power of the word is largely superimposed by the attractive naive view that a word is simply attached to a thing or a class of things like a label. The fact that there **must** be a cognitive representation which mediates between word and referent is neglected by this naive view, and therefore the effect of hypostatization remains largely unnoticed. With second-order and third-order nouns, on the other hand, the effect is much more striking and noticeable, because these nouns do not stand for individuated objects or for concrete things at all.

In the case of abstract notions, reification necessarily also involves concretization. For linguists, for example, deep structures, zero-derivations or presuppositions may be just as real and concrete 'things' as cars and horses – perhaps sometimes even more so. This is described in a concise way by Lipka (1977: 161f.). Discussing the effect of hypostatization on the process of lexicalization, he remarks that

> Die Hypostasierung ruft beim Sprecher einer Sprache den Eindruck hervor, als müsse ein sprachliches Zeichen immer auch nur einen einzigen ganzheitlichen Referenten bezeichnen. Gestützt durch Fälle wie *Handtuch, raincoat*, in denen dies wirklich der Fall ist, erscheinen auch andere Lexeme wie *holiday, presupposition, transformation* und *lexicalization* [...] als einheitliche Sprachzeichen für einheitliche außersprachliche Phänomene. (Lipka 1977: 161f.)

Abstract nouns do not only delimit and reify conceptual entities much more than second-order nouns do, but they actually seem to create such entities. The ideas emerge together with the words instead of being out there anyway, ready to be named. Returning to the question of the 'labellability' of cognitive representations, this would mean

that with abstract nouns, it is ultimately the word itself that helps the mind to supply a cognitive representation with illusory gestalt properties and to enhance its labellability.

The best examples of concepts that owe their existence to words in this way are the notorious "notational terms" (cf. Enkvist 1973: 17 and, especially, Lipka 1992: 5 *et passim*). These technical terms render the lives of students of linguistics (and other humanities) so miserable, because they can signify whatever their inventor or conscientious user intends them to signify. As Lipka (1992: 5) shows, even such an innocuous noun as *dictionary* can have different meanings depending on the language user and his or her intentions. If the abstract domain of linguistics was pre-structured in a way similar to that of the concrete world, this would hardly be possible.

Finally, let me briefly draw attention to an interesting subgroup of abstract nouns, with which I have dealt in great detail in Schmid (forthc.). I use the term *shell noun* for these nouns. Typical examples are nouns like *fact, thing, idea, case, problem, situation, event, aim* and *opportunity*. The distinctive characteristic of these nouns is that the hypostatization effects they have are only ephemeral (Schmid 1997). To show what this means, one can compare them to other abstract nouns: the portions of experience that are hypostatized by abstract nouns like *love*, *democracy* or *inflation* are fairly stable; despite differences in subjective conceptions of these notions and their actual manifestations, the mental phenomena that can be referred to by the use of these words are highly similar across different utterance situations. This is not true of shell nouns. It is most likely that what I am referring to when I say *this problem can be solved* to a student in my office bears no similarity to what I am referring to when I address the same utterance to my wife two hours later. The portions of experience singled out by the noun *problem* on the two occasions depend almost completely on the linguistic and situational context. The only aspect that remains stable is that I represent the particular state of affairs that I am referring to as being undesirable.

The main function of shell nouns is thus to provide speakers with nominal shells (hence the term) for complex pieces of information (second-order or third-order entities). These pieces, the 'shell contents', change from one context to another. Usually they are expressed in the near vicinity of the nouns, either as complementing clauses (e.g. *the fact* + *that*-clause or *an opportunity* + infinitive clause) or as antecedents of anaphoric references accompanying the nouns (e.g. *I have not finished my term paper yet. - That's a big problem*). Since I have described the types, uses and functions of *shell nouns* in great detail in Schmid (forthc.), I will not dwell on them here any longer.

3. Summary and outlook

From a functional-cognitivist perspective, the nominal lexicon of English is a tool-kit containing a variety of instruments which are specifically designed to assist in various kinds of mental operations. On one end of the scale, proper nouns are fairly simple tools, perhaps comparable to hammers, which speakers can use to attach labels to single individuals. Abstract nouns and shell nouns on the other end of the scale can be likened

to voltmeters or even Geiger counters, because they help us to register and control phenomena that we cannot grasp or see. They are highly sophisticated tools facilitating various types of processes such as concretising, reifying, conceptual partitioning, categorizing and labelling. The full range of cognitive functions and of types of nouns which perfom them is summarized in the table below.

(Sets of) cognitive functions	**perfomed predominantly by**	**examples**
labelling	proper nouns	*Leonhard Lipka, Rover, the Eiffel Tower, London, Titanic*
categorizing, labelling	basic-level nouns	*water, milk, gold, wood woman, man, beetle, snail rope, car*
categorizing, highlighting/ perspectivising, labelling	superordinate nouns subordinate nouns functional nouns relational nouns attitudinal nouns	*cutlery, weapon, vehicle;* *kitchen-chair, bedside lamp;* *policeman, tutor, supervisor;* *head, group, part, corner;* *hooligan, sweetheart, rubbish*
categorizing, partitioning, reifying, labelling	event nouns place nouns time nouns	*conversation, lunch, birth;* *area, region, mile;* *moment, day, second;*
categorizing, partitioning, reifying, concretizing, labelling	abstract nouns	*inflation, communism, freedom, love, passion; conversion, transformation; dynamics, ionization, induction; ritardando, counterpoint, fugue*
categorizing, temporary partitioning, temporary reifying, temporary concretizing, labelling	shell nouns	*situation, event, action, move; fact, problem, idea, news*

Table 1: Summary of a proposal for a cognitive-functional lexicology of nouns

Given that this paper is of a fairly tentative and programmatic nature, it is of course an interesting question whether this proposal is open to falsification by empirical observations or experimental evidence. I think it is. I have already drawn attention to some aspects which seem to be accessible to systematic empirical investigations. Nouns involving fewer complexities in the cognitive system are also likely to be morphologically less complex than sophisticated ones. They are also more likely to be native Germanic words rather than loanwords from Romance or other languages. And they are more

likely to be acquired early by children when they learn their mother-tongue. The unsystematic evidence that I have collected so far clearly points in these directions. Systematic investigations of data from dictionaries and corpora must obviously be the next step, then. As far as experimental evidence is concerned, a testable hypothesis would be that cognitively more complex nouns like abstract nouns or shell nouns take longer to be processed than for example basic-level nouns in classic tasks like sentence verification. The fact that even neurophysiological differences between some types of nouns have already been found to exist (cf. footnote 3 on page 216 above) clearly encourages such research.

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