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Holistic Meaning and Cognition*

1. Introduction

This paper has two main aims, the first philosophical, the second tending towards the empirical. On a philosophical level the paper addresses the question of how to portray linguistic meaning. The discussion concerns two opposite views, the atomistic and the holistic, both of which approach linguistic meaning from totally different directions. The two views can be regarded as tacit assumptions in the background of linguistic semantics, although linguists do not always seem to acknowledge them. The study is motivated by the recent discussion among philosophers on the pros and cons of linguistic holism (see, e.g., Fodor and Lepore 1992, 1993; Heal 1994; Block 1995). It is more linguistically orientated than most of the other contributions to the subject, and it seeks to add to the debate not simply by taking a look at semantic holism but also by extending the idea of holism into the field of extra-linguistic reality. On a more empirical level the paper participates in the present discussion on idiomaticity. During the past ten years idioms have attracted increasing attention among linguists, especially those

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working in psychologically and cognitively oriented areas, and even a few special volumes, for example, Cacciari and Tabossi (1993) and Everaert *et al* (1995), have been devoted to them. The interest aroused has stimulated discussion on idioms also in work dealing with grammar from a wider perspective or with the cognitive aspects of figurative language in general (see, e.g., Gibbs 1994; Langacker 1995, 1997; Jackendoff 1997). This paper thus contributes to the debate by using idiomatic expressions as examples of how to illustrate the ways in which some of the traditional atomistic methods of representing linguistic meaning may be regarded as insufficient, while holism on the other hand seems to propose a more promising approach to depicting the semantic reality of complex expressions.

Consequently, this paper is structured as follows. I will begin by outlining the main tenets of atomism and holism and by discussing the basic theoretical implications behind the two views. This will be followed by closer considerations of such views, and I will argue for holism with the help of empirical evidence mainly derived from two sources. The claims made in Section Three are supported by results from psycholinguistic studies, while the arguments of Section Four are based on evidence from the study of cognition, especially from cognitive semantics. Before closing, I will then touch upon the cultural aspects of linguistic meaning.

Since the paper concentrates on theoretical questions, I will only briefly consider some of the empirical implications that the ideas presented here may point towards. By doing so I do not mean to claim that the empirical questions may be of lesser importance than the philosophical ideas I am dealing with; the reason is simply that it is beyond the scope of the present study to focus on them to any greater degree.

2. Atomism vs. holism: theoretical aspects

Semantic atomism and semantic holism provide us with two opposing ways of viewing linguistic meaning. According to the atomistic view, the meaning of each part, i.e., of each atom (usually

a word[1]), of a complex expression is understood as a separate, independent and more or less fixed entity. In figurative terms this means that atoms are depicted as individual building blocks in larger and more or less complete meaning-bearing entities such as phrases, sentences, or texts. The meaning of these larger constructions are, again, arrived at simply by adding together the meanings of their constituents, or atoms, one by one. The meaning formation therefore starts from the smallest possible meaningful elements and advances towards larger combinations of these elements — from morphemes to words, from words to sentences, from sentences to texts. An appropriate characterization of atomism is to call it the *building block theory* (Davidson 1984: 4).

Holism, on the other hand, approaches linguistic meaning from the opposite direction. It starts from the whole of language and moves towards the smaller units of meaning: sentences, words, morphemes. According to a moderate version of holism, language can be portrayed as a *network* where meanings depend on each other and relate to all other parts of the network. In principle, the meaning of each individual element is dependent on or derivable from the linguistic whole, i.e., the complete system of language. This means that the basic unit of linguistic meaning cannot be a single word as in atomism, since according to the holistic view there exists no such semantic entity as the meaning of an individual, isolated word. The central idea, usually attributed to Frege, is that words only have meaning in context. In Frege's original formulation the context equaled the sentence, but holism extends the idea further to the claim that "only in the context of the language does a sentence (and therefore a word) have meaning" (Davidson 1984: 22). This means that meaning always ultimately derives from the total network of language and has to be studied in relation to it (see also Quine 1960).

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[1] According to the traditional view, the basic atomistic meaning unit can sometimes be larger than a word. For example, certain fixed expressions such as idioms are usually regarded as atomistic, since traditionally they have been thought of as carrying a fixed and nondecomposable meaning.

Acceptance of moderate holism does not automatically lead to the rejection of compositionality. We can still think of the meaning of such units as words, phrases, and sentences, and even that of idiomatic expressions, as consisting of compositionally structured combinations which are formed of elements smaller than the configurations themselves. But we must not regard the meaning of these configurations as structured by simply adding the meanings of their constituent parts together. Rather, we picture them as meaningful wholes, or Gestalts, whose meaning is arrived at by comparing them with the rest of the semantic network. In this sense the whole is always prior to its constituents. To put it in figurative terms, moderate holism views language as a network where the relations between the different nodes are even more crucial to the meaning of linguistic expressions than the actual nodes themselves: none of the nodes can be separated from the others and explained in isolation from the rest of the network. As opposed to the atomistic building block theory, the moderate holistic approach could be termed the *network theory*.

The idea behind the network theory is discussed further in the next section, but I will illustrate it here with the following example:

(1) **A**: I thought John was married.
B: No, John is a bachelor.

(2) **A**: I thought John had finished his master's.
B: No, John is a bachelor.

The two answers by B appear alike, but differ in meaning, because the subject complement, *a bachelor*, has a different meaning in each of them. According to moderate holism, the meanings of the complements can be pictured as configurations in the semantic network. Since the two complements differ in

meaning, their configurations must differ as well. In order to depict the distinction we have to take into account both the semantic nodes involved and the way they are related to other elements in the semantic network. When we consider answer (1) with the meaning of *a bachelor* as 'an unmarried man', we can arrive at its meaning in the following way. When the meaning of the complement is activated, we can think of the basic semantic node referring to *a bachelor* as receiving so-called primary activation in the semantic network. At the same time there are other nodes taking part in the same overall network, and their relationship to the basic node can be thought of as receiving secondary activation. As examples of such nodes closely related to the basic one we can at once think of its synonym, *an unmarried man,* its antonym, *a married man*, and a few others indicated in figure 1. The further the cognate nodes are from the basic node the weaker their activation in the semantic

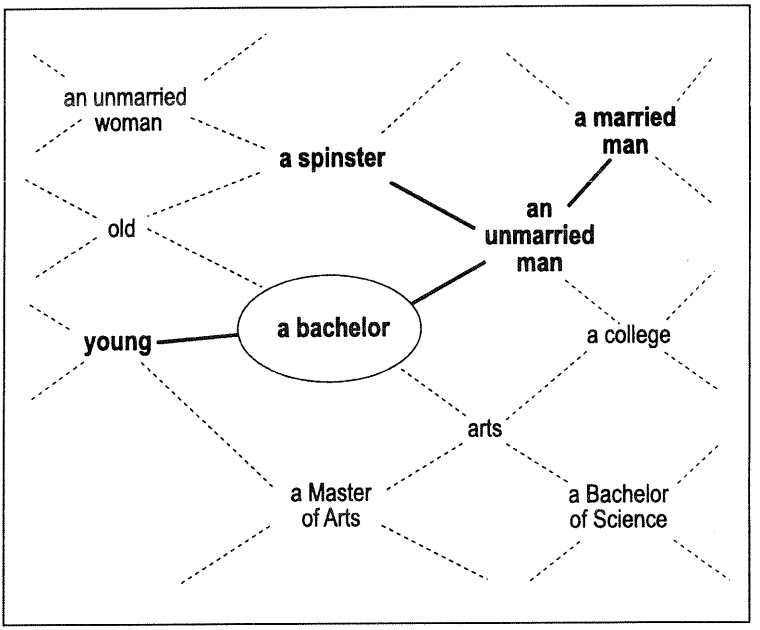

Figure 1. A simplified illustration of *a bachelor* with the meaning of 'an unmarried man' in the semantic network of language.

network becomes.

The meaning of the complement of sentence (2) by B is formed according to the same principles as that of the complement of sentence (1) by B, but naturally the structure of the semantic configuration is different, since *a bachelor* has the meaning of 'a Bachelor of Arts'. This time we can think of such cognate nodes as, for example, *arts, a Master of Arts, a Bachelor of Science* and *a college*, whose relationships to the basic node are secondarily activated when the meaning is portrayed.

To sum up, we can now consider the complements of the two sentences as both similar and distinct at the same time. They are similar because the primarily activated basic node in the semantic network of each of them is the same, and they are different because the secondarily activated cognate nodes diverge. As may be expected from the example, it is most unlikely that we can ever strictly determine the final configuration of the meaning of even a simple expression, because the nature of the semantic network is such a complex one.

In addition to moderate holism, there is also a radical version of holism, which could be called the *force field theory*. It pictures the semantic system of language as totally unpredictable with no *a priori* restrictions. According to this view, a combination of two or more particles in the system can produce any meaning whatsoever, and a change in one particle can influence any kind of meaning change in the totality. It has sometimes been suggested that holism automatically leads to this type of complete unpredictability of linguistic meaning, but this is not necessarily so. It is obvious that radical holism does not match the semantic system of any factual human language, since languages are by nature structured systems constrained by their grammar, and I know of no linguist who adheres to it. However, as far as I understand it, the view is endorsed by the French post-structuralist, or post-modern, philosophers (see Itkonen 1988). To some extent it is also built in the way that information is organized in the self-organizing semantic maps used in computerized models of semantic organization (see, e.g., Ritter and Kohonen 1989).

Although we may justifiably abandon radical holism, it ought to be remembered that it is not always easy to determine which are the constraints that the structure of a language sets on its semantic system, and this is the aspect that holism also in its moderate sense emphasizes. We can think, for example, of idioms with a proper name as part of their semantic content. Such expressions as *to do a Carl Lewis*, 'to run away fast', or *to do a Dan O'Leary*, 'to work diligently, especially as a uniformed police officer', show that almost any element in a linguistic system, even a proper name, can be a part of an idiomatic expression. In fact, proper names frequently occur in idioms, and in English they are used systematically with an indefinite article, as the examples above indicate (see, e.g., Clark and Gerrig 1983).

The way I have presented holism above is by no means the only possible, or canonical, one. In fact, philosophical and semantic holism comes in several versions, as Fodor and Lepore (1992), Heal (1994: 326-327) and Block (1995: 150-151) point out, and the notion can be defined in an extremely fine-grained manner depending on which aspect of it is regarded as the most significant one at any given time.

3. Atomistic and holistic views on idioms in the light of psycholinguistic evidence

In order to compare the differences between the atomistic and holistic views of meaning we can take a closer look at idioms, which — because of their peculiar character — provide an interesting touchstone for testing the two views. The meaning of the complete idiomatic expression is not something simply derivable from the components of the whole, but rather requires extra knowledge and interpretation.

If we consider idiomatic verb phrases such as *to kick the bucket, to take advantage of* or *to throw in the towel*, we see that they allow us two different semantic interpretations: their idiomatic word chains can be understood as either compositional or non-compositional. When the meaning is explained non-

compositionally, it means that each idiom is understood as a single meaning-bearing element with a single unanalyzable meaning. In other words, the expressions are understood as single words, the only difference being that they are a bit longer than words usually are. According to this view, *to kick-the-bucket* would be interpreted as a long word equivalent to the verb 'to die', *to take-advantage-of* as a long word equivalent to 'to exploit' and *to throw-in-the-towel* as a fixed word-like expression with the meaning of something like 'to accept loss'. The view can be referred to as the *idioms-as-long-words view* and, although it can be thought of as holistic from the syntactic perspective, semantically it is atomistic: it treats every idiom as an atomistic meaning block which is stored in the lexicon as an individual entity. This is more or less the view that Chomsky (1980: 150) puts forward on idioms, regarding them semantically "like lexical items" and sometimes "syntactically as if they were single words". That is why idioms require a specific idiom rule which assigns them the properties of single lexical items (see also Chomsky 1981).

The compositional view, on the other hand, explains the meaning of the example idioms *to kick the bucket, to take advantage of* and *to throw in the towel* as items which are not directly derived from, but are motivated by, their components. Idioms could thus be called analyzable. It means that even the smaller meaning-bearing elements inside the idioms have a bearing on the meaning of the whole, and even the syntactic structure and the origin of the idiom are, at least to some extent, significant for the meaning of the whole expression and the way it is understood. This view could be termed the *idioms-as-network view* because of the role that the total semantic network plays in producing the idiomatic meaning. When this view is studied with emphasis at the syntactic level, it could be regarded as an example of an atomistic approach to idioms, since it treats each idiom as a syntactic composition of its parts. However, on the semantic level the approach is holistic. It emphasizes the fact that idioms consist of several elements which have their positions in the overall semantic network of language and can only be interpreted as more or less

indeterminate Gestalts in that network. It is the positions of these elements and their relations to other elements in the semantic network that produce the meaning of the idiom. The meaning is ultimately defined by comparing the total idiomatic configuration with the rest of our semantic network, and therefore it is not a result of an atomistic combination of the so-called components of the idiom. This can be illustrated by the fact that the same words may come up in several different idioms, just as, for example, the verb *to throw* in the idioms *to throw in the towel, to throw a party* 'to have a party', *to throw up* 'to vomit, or to give up', or *to throw oneself into* 'to work very busily at'. In each occurrence, the verb carries a somewhat different meaning which can only be arrived at, if at all, by looking at the semantic totality.

Although the holistic network view of idiomatic meaning has been described above as compositional, it could as well, or even more appropriately, be called configurational in order to avoid the possible associations with the atomism and atomistic compositions which the term compositional may carry. The term configurational is also consistent with Cacciari and Tabossi's (1988) *idiom configuration hypothesis* which they propose as the model which the human mind uses for processing and representing idioms. The use of the term emphasizes the claim that idioms do not need to be represented in the lexicon as complete wholes but rather as configurations made up from their parts in different forms. To a large extent this also resembles the way Construction Grammar views language as consisting of variable constructions with systematic formal properties attributing to systematic differences in meaning. According to Construction Grammar, constructions are the basic units of language, an idea which emphasizes the significance of idiomatic expressions in the network of language and makes discussion of idiomatic meaning even more relevant as regards holism (see, e.g., Goldberg 1995).

The holistic, network view of idiomatic expressions is further supported by studies which have concluded that even idioms which have so far been regarded as extremely fixed may still accept syntactic transformations. An example of such an idiom is *by and*

large, meaning 'usually, mostly, considering everything together', which has traditionally been thought of as an expression that can only exist as a non-analyzable conglomerate in a positive context. However, as Glucksberg (1993) and Cacciari and Glucksberg (1991) have shown, *by and large* can also be negated, not only externally but even internally. They support their claim by the following examples:

(3) Tom: By and large, the economy seems to be doing well.
Ned: Not so by and large: Have you seen the latest unemployment figures? (Glucksberg 1993: 7.)

(4) Ned: By but not so large! Have you considered... (Glucksberg 1993: 7.)

(5) Ned: By and large, people are well off these days.
Mark: By and not-so-large! Have you seen the figures of homelessness in America? (Cacciari and Glucksberg 1991: 231.)[2]

If we try to explain these examples from the atomistic point of view, the final two turn out to be very difficult to deal with, since the view requires that idioms be stored in the lexicon as inseparable totalities of their own, like any other non-composite expressions. Only the external negation in example (3) could be explained by an atomistic theory of meaning. After all, atomistic semantic units cannot be broken into parts so that it would be possible to put

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[2] I have been informed by Barbara Scholz (personal communication) that no native speaker of English would accept expressions like *by but not so large* or *by and not-so-large*. A few comments are in place. It is true that the examples in question are made up by Glucksberg and are, in other words, not based on any corpus; however, they have been tested and found acceptable by other native speakers as well. Scholz's reaction is also
natural; she saw the transformed idioms without context, and as Akimoto (1983: 26-27) points out, people often react negatively to possible idiom transformations, when they encounter them without context; when placed in proper sentences, they are readily accepted. We noticed the same effect when working on Niemi *et al* (1995) and testing the acceptability of possible idiom permutations in Finnish.

something in between those parts and still retain the original atomistic whole. Our lexicon would have to have entries not just for the idiom *by and large* itself but also for each of the varieties where the negation is placed inside the idiomatic phrase, i.e., *by but not so large* and *by and not-so-large*. This would mean that the capacity of our lexicon would have to be larger than is required if we accept the holistic view.

When treated holistically, the difficulties of the examples are overcome. We can portray each idiom as part of the total linguistic network, and ascertain that they allow both external and internal transformations easily. According to the holistic view, the transformations only change the linking relationships between the elements of the network, but do not require any extra entries in our lexicon. Our lexicon is satisfied with the entries that already exist in it.

In its most radical sense the atomistic view, which treats idioms as single lexical items, would predict that expressions like *to kick the bucket, to take advantage of* or *to throw in the towel* should have past tense forms **kick-the-bucketed, *take-advantage-offed* and **throw-in-the-toweled*, but this view is of course untenable. While interpreting these idioms an atomist must also acknowledge their syntactic structure. Not even a milder version, where irregular verbs would behave as regular verbs in the past tense forms of idiomatic expressions, is acceptable, as Newmeyer (1974: 341-342) points out:

> one says that one *broke the ice, hit the nail on the head, sang the same old song*, and *brought me down*, not **breaked, *hitted, *singed*, or **bringed*. (Newmeyer 1974: 342.)

There are in fact some special expressions that function contrary to the idiomatic phrases above. Kiparsky (1982, as cited in Pinker and Prince 1988: 112) mentions a few nouns in special contexts which are not inflected in the same way as they are in ordinary usage. For example, the plural of the name of a Toronto ice hockey team is *Toronto Maple Leafs*, not **Leaves*. However, as far as I can see,

names of this type are not true idioms, at least not in any prototypical sense. As such they are no more problematic from the atomistic than from the holistic point of view.

Recent psycholinguistic experiments have provided evidence suggesting that the meaning of figurative phrasal idioms of the type *to kick the bucket, to take advantage of* and *to throw in the towel* are not processed as non-composite blocks but rather as configurational units consisting of several words. Although the early experiments, which resulted in the *lexical representation hypothesis* (Swinney and Cutler 1979) and the *direct access hypothesis* (Gibbs 1980), took it for granted that idioms are stored in the mental lexicon as complete entities, the later results by, for example, Cacciari and Tabossi (1988: 677-680) suggest the opposite. Their *idiom configuration hypothesis* proposes that the processing of idiomatic expressions begins in the same way as the processing of any other word chain we encounter. In other words, the idiomatic meaning is not activated at the moment we begin to interpret a message. The activation begins when we reach the so-called *key* of the string, i.e., a point where the expression is recognized as a configuration matching an idiom. At that point the idiomatic interpretation is triggered and the sequence is interpreted as an idiom.

The key is often the most important part of the idiom and contributes more to its understanding than the other parts of the expression. Tabossi and Zardon (1993: 155-156) give examples of idiom keys: the numeral *seventh* in the idiom *to be in SEVENTH heaven* 'to be extremely happy' or the noun *castles* in the idiom *to build CASTLES in the air* 'to make impossible and imaginary plans'. These are the points where the idiomatic meaning of the expression becomes available to the receiver, although the literal interpretation and completion of the string still remain possible. There are no particular formal properties assigned to the key, and in principle any of the elements of the expression could function as the key to the idiom. This is why the key needs to be defined separately for each idiom, since it varies between different expressions of the same type. Moreover, it may vary even between different occurrences of

the same idiom, depending on, for example, the contextual and pragmatic factors of each utterance.

The notion of idiom key considerably resembles the notions of the *recognition point* and the *uniqueness point* of a word, which are frequently used in the field of lexical processing. Sometimes it has even been equated with them (see, e.g., Flores D'Arcais 1993: 81), but as Tabossi and Zardon (1993: 155) point out, clear distinctions need to be made. The key of the idiom refers to the point beyond which "sufficient information is available to the listener to signal the presence of an idiom", but the literal interpretation is still not excluded. At this moment the expression must already be semantically interpreted. The recognition point and the uniqueness point exist, however, on a different level. They both refer to the moment after which there is only one alternative for the completion of the string. What is required is not that the string be semantically interpreted but only that its lexical identity be recognized. At this point there is no need for semantic interpretation. This is probably the most crucial difference between the two lexical notions and the notion of idiom key. Furthermore, the recognition point and the uniqueness point also differ from each other: the recognition point depends on contextual factors while the uniqueness point applies to a word in isolation. Where the context permits, the recognition point may precede the uniqueness point, although usually they co-occur. The recognition point and the uniqueness point of a word are most approriately specified in terms of all or nothing, while the specification of the idiom key is rather a matter of degree. After the key the expression has a very high probability of being interpreted idiomatically, although there are other possibilities available as well. The probability here refers to language use, and, according to Tabossi and Zardon (1993, 156), native speakers are very sensitive to recognizing which fragments of their language are more likely to occur in idioms than others, despite the possible intrinsic similarities between the elements.

Cacciari and Tabossi's configuration hypothesis has three interesting features. First, it requires that each lexical element be represented in the lexicon in one form only and there is no need for

marking that form as either literal or idiomatic. Second, it treats idioms equally both with and without literal interpretation. And third, it makes no demands about the idiom having a specific form in order for it to be recognized as an idiom. This means that, regardless of which part of the expression occurs first, the idiomatic interpretation is launched as long as the key of the string is reached and the configuration is activated. This, again, accounts for idiomatic transformation and syntactic parsing of the expression.

The idiom configuration hypothesis represents the holistic portrayal of idiomatic meaning and linguistic meaning in general, since it puts the emphasis on the relationships between the different elements inside the expressions instead of only looking at the elements themselves. Its advantages are that it requires no extra information in our mental lexicon about whether specific lexemes are idiomatic or literal or whether certain expressions can have both an idiomatic and a literal interpretation. Thus the holistic view sets no extra constraints on either interpretation.

The idiom configuration hypothesis is further supported by studies of Flores D'Arcais (1993) and Peterson and Burgess (1993). In his psycholinguistic experiments Flores D'Arcais shows that when we interpret a linguistic message the idiomatic part of the input also undergoes full syntactic analysis, i.e., parsing, while we are processing it. This is the case even with familiar idiomatic phrases which we recognize as idioms before the expression has reached its end and which as such require no syntactic analysis in order to be understood (Flores D'Arcais 1993: 97). Peterson and Burgess (1993: 213) confirm the results by experiments which suggest that "the processing of idiomatic and literal strings is largely indistinguishable in terms of the syntactic representations that are derived". This means that in terms of syntax we do not in fact treat idioms as fixed lumps of information. It is only at the semantic level of interpretation that we find certain configurations forming idioms, and this of course allows us to explain the possible transformations that idioms may undergo. The model of interpretation based on Peterson and Burgess' results is called the *syntactic-semantic autonomy model.*

All in all, it seems that at least in the case of idiomatic expressions many of the problems in accounting for their meanings are overcome when they are viewed as semantically holistic entities. To what extent this is true for the rest of the language remains a matter for further research.

4. Meaning and basic human experience

So far I have discussed linguistic meaning as if it were an essential part of human cognition. Thus I have related linguistic meaning to non-linguistic human reality and inconspicuously extended the idea of semantic holism beyond the limits of language into the realm of human cognition. This is based on a conscious choice. Naturally, there is also another way of portraying linguistic meaning which derives from the objectivist orientation so deeply rooted in the Western philosophical tradition, as both Lakoff (1987) and Johnson (1987) maintain. The objectivist theory of meaning treats meaning as an abstract phenomenon, thus neglecting the role of human beings in the process of creating it. As I see it, this way of treating linguistic meaning is not plausible, since linguistic meaning is not something independent of human beings; on the contrary, it is a phenomenon essentially dependent on us. As far as we know, there is no evidence of any other species on this planet with a form of communication even closely reminiscent of human language in its versatility, complexity and richness. Language, in other words, is something that cannot be conceived of as independent of human beings and human cognition.

What is important about linguistic meaning is that it requires understanding, on the part of both the producer and the receiver. As Johnson (1987: 174; 1989: 111, 116) repeatedly emphasizes, "a theory of meaning is a theory of understanding". We cannot think of language without someone interpreting it, and there certainly is no linguistic meaning without understanding; the linguistic signs or sounds as such do not carry any intrinsic meanings. The meaning is imposed on them by the human beings who use the language, either sending a message or interpreting it. This requires a rational, and

perhaps even a self-conscious, agent, which means that the theory of linguistic meaning is at the same time a theory of rational agents.

One of the main tenets of Lakoff and Johnson (1980; see also Lakoff 1987, Johnson 1987) states that, although we rarely become aware of it, one of the essential elements motivating the meaning of our linguistic expressions is human experience, especially the human bodily experience. The fact that we happen to be unfeathered bipeds moving in an upright position shapes our basic concepts and makes our linguistic meanings distinct from those of crawling king snakes or underground worms, if they were to have any. In Lakoff's (1987) and Johnson's (1987) terminology the type of meaning formation with emphasis on bodily experience is called the *embodiment of meaning*, and it is not a property of human language alone but of any human function that requires understanding. One of the consequences of embodiment is that the link between human cognition and human experience becomes nonarbitrary.

There are types of linguistic expressions which are more easily than others regarded as reflecting the experiential, embodied basis of meaning. As one example of this, Lakoff and Johnson (1980: 15-17) give a long list of orientational metaphors which have their basis in the physical, spatial orientation of human beings. The meaning of idioms like *to come down with* 'to catch (an infectious illness)', *to drop dead* 'to die suddenly' and *to be on top of* 'to be in control of' is traced back to the way human beings interact with the world. When struck by an illness, we are forced to lie down; when we die, we are physically down; the one who is winning a fight is usually on top. Expressions like the ones above are further based on the so-called conceptual metaphors, i.e., metaphorically shaped concepts that human beings use to structure the world. The conceptual metaphors behind the example idioms above are,

respectively, HEALTH IS UP, SICKNESS AND DEATH ARE DOWN, HAVING CONTROL IS UP.[3]

The holistic aspect of embodied meaning is emphasized by the fact that our language in a systematic manner reflects the way we interact with the physical reality. The conceptual metaphors are systematically structured, and there is a tendency, already noticed by Kronasser (1952), to systematically use concrete expressions of a certain area in order to describe abstract phenomena of another. For example, Sweetser (1990: 24-48) points out that expressions of vision are very often used to describe intellectual capacities, expressions of physical manipulation are used to describe mental manipulation, and expressions of auditory sense are used to delineate obedience; to *see* or *grasp* something is to understand it, i.e., to get hold of it mentally, and to *hear* something can be used to acknowledge what one is being told or ordered.

Of course, it should also be remembered that grounding abstract linguistic meanings on bodily experience is not the only way of producing new meaningful concepts, although this is the aspect usually emphasized in the field of cognitive semantics: we also make use of unembodied, highly abstract and imaginary expressions while producing new concepts. The point is, however, that when we use them, we usually tie them to our everyday experience in a natural way with the help of "imaginative structures" such as "metaphors, metonymies and radial categories" (Johnson 1989: 116). Thus, even in this case the semantic motivation is systematic, and the overall semantic network can, in a sense, be regarded as holistically structured.

The idea of embodied meaning presupposes that there is no correspondence between the world and the language; it is rather in the realm of the human mind where the two meet. The mind constructs a reality which consists of language and other aspects of human cognition including our interpretation of the external world

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[3] The capital letters indicate that the expressions refer to conceptual metaphors as opposed to pure linguistic metaphors.

in a way that makes sense to us. The relationship between language and the world is not a one-way relationship between language and the world or *vice versa* but a coherent totality functioning in both directions. At the semantic level we cannot really distinguish between the external world and the human mind (with language as an essential part of it); we have to accept that the two are essentially interrelated and form a coherent totality. Naturally this means that a language and its conception of the world cannot be separated, and to a certain extent the conceptions that different languages create of the world vary. The variation, however, is not arbitrary (i.e., in contrast to what the Whorfian doctrine in its strictest sense claims) but constrained by our biology. As both Kay and McDaniel (1978) and Kay and Kempton (1984) in their studies on color perception acknowledge, our cognitive abilities are not totally predetermined by the structure of our native language. On the contrary, the foundation of our linguistic categories rests largely on human biology, which sets the limits within which the categories can be created. It is only after we have created the categories and use them in describing our world that our cognitive abilities start to reflect the "distortion" effects caused by our native language.

The fact that linguistic categories are not arbitrary and have their foundation in human biology is reflected in the way that human language, on the whole, is strongly motivated. This was already noticed by Saussure, although he is usually associated with the opposite claim that the relationship between the signifier and the signified is totally arbitrary. It is true that Saussure (1915: 131-2) does not claim that language is motivated by the external world in the same embodied sense as, for example, Lakoff and Johnson do, but he does point out that although the signs are in principle arbitrary most of them are at least partially motivated within the structure of the particular language they belong to. For example, the numbers *dix* 'ten' and *neuf* 'nine' are unmotivated as such, but their combination *dix-neuf* 'nineteen' is motivated as a combination of the two numbers. Other examples of partial motivation are derived words such as *farmer* and *reformatory*; *farmer* consists of an unmotivated root *farm* and an ending *-er* which together produce an

agent working the farm, and *reformatory* consists of several arbitrary morphemes whose combination can be regarded as motivated. What the notion implies is that there are syntagmatic and associative relations, which together motivate the fact that certain signs exist in certain forms and not in any arbitrary form whatsoever. Even the way we use certain nouns as verbs can be seen as motivated. For example, the verb *to hand* in the phrase *to hand someone a book* can be regarded as motivated as soon as we realize how it relates to the meaning of the noun with the identical form.

5. Cultural aspects of language

As argued above, linguistic meaning is partly based on biological factors, and what is biological is common to all human beings as a shared heritage. However, this is not the whole story, otherwise all human languages would be alike. In addition to its biologically shared features language also has its social and cultural aspects. It is used in communication between people, and therefore it must have publicly accessible qualities which are shaped by the people using it. This means that different cultures and different societies are likely to create languages which are, at least to some extent, distinct.

A good example of the relationship between culture and language is once again provided by idioms, which are often motivated by our everyday culture. In this sense they include features which are culture-specific and in some degree vary between different cultures, even within the same linguistic community at different times. Examples of this can be seen in idioms motivated by song lyrics, book titles and movies which are popular in the culture of a certain language community. As cultures change in the course of time, idioms are bound to change as well. Glucksberg (1993: 23) refers to this aspect of idiomatic meaning as the *allusional content*. For example, such modern day idioms as *to spin one's wheels* 'to exert effort in a job without making any progress', *to blow a fuse* 'to become extremely angry', *the wrong*

side of the tracks 'the less outwardly pleasant part of town where the poorer people live' or *J. Random Hacker* 'a mythical figure like the Unknown Soldier, the archetypal hacker nerd' require knowledge of our modern culture and its habits and conventions, and could not have been made up in ancient Greece or Rome, at least not with the same meaning as they have today.

It is not always easy to tell from which specific culture the cultural influences behind our idioms derive, and there are in fact several layers of cultural influences that motivate the semantic content of our idioms. For example, biblical idioms such as *to hide one's light under a bushel* 'to hide one's talent or ability', or *to give up the ghost* 'to die', are part of the widespread Western culture, and in one form or another they can be found in several languages. To the native speaker of any of these languages they are so familiar that without knowledge of the Bible their origin remains concealed. In today's society, where so much emphasis is placed on the media, the cultural influences become even more difficult to detect, since they travel so fast that their original starting point can sometimes only be guessed at. It is, for example, not extraordinary to hear present-day Finnish youth using the Finnish translation equivalent of the idiom *to go off at a tangent* 'to change suddenly from one course of action or thought to another' with no idea that the expression derives from English. Naturally there are also idioms, like the British *to come home with the milk* 'to come home early in the morning after partying all night', which are so deeply rooted in the specialties of a certain culture that they are unlikely to be easily assimilated into the language of another culture, and if that happens, it is not difficult to detect their origin.

Sometimes our knowledge of the motivation behind certain idioms is lost because of the changes in our culture; the meanings of the idioms seem to become arbitrary. However, when we go back in time and study the etymology of these seemingly arbitrary idioms, it is often possible to find good reasons for their existence. Their use was motivated at the time they were made up, although the motivation might be generally unknown and inaccessible to the present-day speaker. Good examples of idioms of this type are *by*

and large, which today seems unmotivated but has its origin in English nautical terminology, and *to kick the bucket*, which originally referred to the way pigs were hung from a beam (known in Norfolk as the bucket) by their hind legs when they were slaughtered (Smith 1943: 191, 201). Also the Dutch metaphor *met spek shieten* 'to tell a tall story, to boast' (literally 'to shoot with bacon') is unmotivated for the present-day Dutch speaker but has its motivation in the way enemy ships were shot at with bacon and other fatty substances (Geeraerts 1995: 66).

6. Concluding remarks

In addition to discussing semantic holism from the point of view of language alone, I have tried in this paper to extend the holistic view beyond the limits of language into areas of extra-linguistic reality. In other words, I have regarded the semantic structure of a language as essentially dependent on the cognition and culture of the people who use it. Language is, after all, an experiential, interactional and public phenomenon strongly motivated by the extra-linguistic elements of human life.

As a consequence of this view it may be suggested that it is sometimes useful for those dealing with linguistic meaning to approach their object from a wider perspective than a purely linguistic one. Some of the problems with which semantics is concerned may in fact be solved by taking a look either at the way our cognition is structured or at the way our language intermingles with the world. It is not simply the intra-linguistic phenomena that motivate the meanings of our expressions, but the motivation often derives from our cognitive or cultural reality.

When we consider holism on a purely linguistic level, one of its crucial consequences is that it is not possible to find fixed and once-and-for-all determined meanings. As linguistic meaning is dependent on the semantic network of the whole language, it always remains somewhat indeterminate and approximate. In our everyday linguistic analysis this fact should not, however, be overemphasized. In practice we are usually compelled to proceed in

small steps based on generalizations, while trying to capture the fundamental aspects of linguistic meaning. In this process too rigid a commitment to holism could be detrimental. Often it suffices to acknowledge that no matter how hard we try, the description of the linguistic meaning we end up with is at best an approximation.

References

Akimoto, Minoji (1983) *Idiomaticity*. Shinozaki Shorin: Aoyama Gakuin University.

Block, Ned (1995) An Argument for Holism. *Proceedings of the Aristotelian Society*, Vol. XCV: 151-169.

Bobrow, S. and S. Bell (1973) On Catching on to Idiomatic Expression. *Memory & Cognition* 1: 343-346.

Cacciari, Cristina and Sam Glucksberg (1991) Understanding Idiomatic Expressions: The Contribution of Word Meanings. In G. B. Simpson (ed.), *Understanding Word and Sentence*. Pp. 217-240. Amsterdam: North-Holland.

Cacciari, Cristina and Patrizia Tabossi (1988) The Comprehension of Idioms. *Journal of Memory and Language* 27: 668-683.

Cacciari, Cristina and Patrizia Tabossi (eds.) (1993) *Idioms: Processing, Structure, and Interpretation*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Chomsky, Noam (1980) *Rules and Representations*. New York: Columbia University Press.

Chomsky, Noam (1981) *Lectures on Government and Binding*. Dordrecht: Foris.

Clark, Herbert H. and Richard J. Gerrig (1983) Understanding Old Words with New Meanings. *Journal of Verbal Learning and Behavior* 22: 591-608.

Davidson, Donald (1984) *Inquiries into Truth and Interpretation*. Oxford: Clarendon Press.

Everaert, Martin, Erik-Jan van der Linden, André Schenk and Rob Schreuder (eds.) (1995) *Idioms: Structural and Psychological Perspectives*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Flores D'Arcais, Giovanni B. (1993) The Comprehension and Semantic Interpretation of Idioms. In C. Cacciari and P. Tabossi (eds.), *Idioms: Processing, Structure, and Interpretation*, pp. 79-98. Hillsdale, NJ: Lawrence Erlbaum Associates.

Fodor, Jerry and Ernest Lepore (1992) *Holism: A Shopper's Guide*. Oxford: Blackwell.

Fodor, Jerry and Ernest Lepore (eds.) (1993) *Holism: A Consumer Update*. Amsterdam: Rodopi.

Geeraerts, Dirk (1995) Specialization and Reinterpretation in Idioms. In M. Everaert, E-J. van der Linden, André Schenk and R. Schreuder (eds.), *Idioms: Structural and Psychological Perspectives*, pp. 57-73. Hillsdale, NJ: Lawrence Erlbaum Associates.

Gibbs, Raymond W. (1984) Literal Meaning and Psychological Theory. *Cognitive Science* 8: 275-304.

Gibbs, Raymond W. (1994) *The Poetics of Mind: Figurative Thought, Language and Understanding*. Cambridge: Cambridge University Press.

Glucksberg, Sam (1993) Idiom Meanings and Allusional Content. In C. Cacciari and P. Tabossi (eds.), *Idioms: Processing, Structure, and Interpretation*, pp. 3-26. Hillsdale, NJ: Lawrence Erlbaum Associates.

Goldberg, Adele E. (1995) *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago: University of Chicago Press.

Heal, Jane (1994) Semantic Holism: Still a Good Buy. *Proceedings of the Aristotelian Society*, Vol. XCIV, Part 3: 325-340.

Itkonen, Esa (1988) A Critique of the 'Post-Structuralist' Conception of Language. *Semiotica* 71: 305-320.

Jackendoff, Ray (1997) *The Architecture of the Language Faculty*. Cambridge, MA: MIT Press.

Johnson, Mark (1987) *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*. Chicago: University of Chicago Press.

Johnson, Mark (1989) Image-Schematic Bases of Meaning. *Reserches sémiotiques/Semiotic Inquiry* 9: 109-118.

Kay, Paul and Willett Kempton (1984) What is the Sapir-Whorf Hypothesis? *American Anthropologist* 86: 65-79.

Kay, Paul and Chad K. McDaniel (1978) The Linguistic Significance of the Meanings of Basic Color Terms. *Language* 54: 610-646.

Kiparsky, Paul (1982) Lexical Phonology and Morphology. In I.S. Yang (ed.), *Linguistics in the Morning Calm*, pp. 3-91. Seoul: Hansin.

Kronasser, Heinz (1952) *Handbuch der Semasiologie: Kurze Einführung in die Geschichte, Problematik und Terminologie der Bedeutungslehre*. Heidelberg: Carl Winter Universitätsverlag.

Lakoff, George (1987) *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago: University of Chicago Press.

Lakoff, George (1993) The Contemporary Theory of Metaphor. In Andrew Ortony (ed.), *Metaphor and Thought*, 2nd edition, pp. 202-251. Cambridge: Cambridge University Press.

Lakoff, George and Mark Johnson (1980) *Metaphors We Live By*. Chicago: University of Chicago Press.

Langacker, Ronald W. (1995) Raising and Transparency. *Language* 71: 1-62.

Langacker, Ronald W. (1997) Constituency, Dependency, and Conceptual Grouping. *Cognitive Linguistics* 8: 1-32.

Niemi, Jussi, Kirsi Hiltunen, Jukka Mäkisalo, Marja Nenonen, Esa Penttilä and Janne Tynkkynen (1995) Suomen kielen idiomien morfologiasta ja syntaksista: syntaktisen jähmeyden analyysia. [On the morphology and syntax of Finnish idioms: An analysis of syntactic flexibility.] Manuscript. Department of Linguistics, University of Joensuu.

Peterson, Robert R. and Curt Burgess (1993) Syntactic and Semantic Processing During Idiom Comprehension: Neurolinguistic and Psycholinguistic Dissociations. In C. Cacciari and P. Tabossi (eds.), *Idioms: Processing, Structure, and Interpretation* pp. 201-225. Hillsdale, NJ: Lawrence Erlbaum Associates.

Pinker, Steven and Alan Prince (1988) On Language and Connectionism: Analysis of a Parallel Distributed Processing Model of Language Acquisition. *Cognition* 28: 73-193.

Quine, Willard Van Orman (1960) *Word and Object*. Cambridge, MA: MIT Press.

Ritter, Helge and Teuvo Kohonen (1989) *Self-Organizing Semantic Maps*. Report A8. Otaniemi: Helsinki University of Techonology.

Saussure, Ferdinand de (1915) *Course in General Linguistics*. Translated by Wade Baskin. New York: McGraw-Hill, 1966.

Smith, Logan Pearsall (1943) *Words and Idioms: Studies in the English Language*. Fifth edition. London: Constable.

Sweetser, Eve (1990) *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure*. Cambridge: Cambridge University Press.

Swinney, David A. and Anne Cutler (1979) The Access and Processing of Idiomatic Expressions. *Journal of Verbal Learning and Verbal Behavior* 18: 523-534.

Tabossi, Patrizia and Francesco Zardon (1993) The Activation of Idiomatic Meaning in Spoken Language Comprehension. In C. Cacciari and P. Tabossi (eds.), *Idioms: Processing, Structure, and Interpretation*, pp. 145-162. Hillsdale, NJ: Lawrence Erlbaum Associates.

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